

# Sacramento Municipal Utility District Operations, Maintenance, and New Construction Habitat Conservation Plan EIR

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Draft Environmental Impact Report • January  
2022 State Clearinghouse No. 2018092030

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# **Sacramento Municipal Utility District**

## **Operations, Maintenance, and New Construction Habitat Conservation Plan EIR**

### **Draft Environmental Impact Report**

State Clearinghouse No. 2018092030

**January 2022**

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**List of Abbreviated Terms**

°C	degrees Celsius
°F	degrees Fahrenheit
2017 Scoping Plan	2017 Climate Change Scoping Plan
2-15 Guidance	Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments
AB	Assembly Bill
ACWA	Amador County Water Agency
AD	anaerobic digestion
ADOE	Archaeological Determinations of Eligibility
af	acre-feet
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act of 1972
AMM	Avoidance and Minimization Measures
AOCs	Abnormal operation conditions
AQMD	air quality management district
BMP	best management practices
BP	Before Present
BTUs	British thermal units
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CAFÉ	corporate average fuel economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal	calibrated
Cal/OSHA	California Division of Occupational Safety and Health
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
Cal-EPA	California Environmental Protection Agency
California Environmental Quality Act Guide	Guide to Air Quality Assessment in Sacramento County
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBSC	California Building Standards Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CCT	Central California Traction
CDFW	California Department of Fish and Wildlife
CEQA Guide	SMAQMD's Guide to Air Quality Assessment in Sacramento County
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act

CEA	California Endangered Species Act
CEC	California Energy Commission
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
Council	Delta Stewardship Council
Covered Activities	strategy for avoiding, minimizing, and mitigating potential impacts to Covered Species resulting from SMUD's various operation, maintenance, and new construction activities
CPP	Cosumnes Power Plant
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CVFPP	Central Valley Flood Protection Plan
CWA	Clean Water Act
dB	decibels
dBa	A-weighted decibels
Delta Reform Act	Sacramento–San Joaquin Delta Reform Act of 2009
Delta	Sacramento River–San Joaquin River Delta
Delta	Sacramento–San Joaquin Delta
Diesel PM	Particulate matter exhaust from diesel engines
DNA	deoxyribonucleic acid
DOC	California Department of Conservation
DPC	Delta Protection Commission
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EA	Environmental Assessment
EDCAQMD	El Dorado County Air Quality Management District
EDCWA	El Dorado County Water Agency
EIR	environmental impact report
EIS	Environmental Impact Statement
EMF	Electromagnetic fields
EMI	electromagnetic interference
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zones
FHWA	Federal Highway Administration

FMMP	Farmland Mapping and Monitoring Program
FR	Federal Register
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	geographic information system
GWP	global warming potential
HAPs	hazardous air pollutants
HCP	Habitat Conservation Plan
HDD	horizontal directional drilling
Hot Spots Act	Air Toxics Hot Spots Information and Assessment Act of 1987
HPOF	high-pressure oil-filled
HRI	Historic Resources Inventory
HUC	Hydrologic Unit Code
HUC-10	10 digit hydrologic units
Hz	hertz
I-	Interstate
In/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
ISP	isolator/surge protector
ITP	incidental take permits
IVM	Integrated Vegetation Management
kV	kilovolt
lb/day	pounds per day
LCFS	Low Carbon Fuel Standard
L <sub>dn</sub>	Day-Night Level
LDR	low density residential
L <sub>eq</sub>	Equivalent Continuous Sound Level
LHMP	Local Hazard Mitigation Plan
LID	Low Impact Development
LiDAR	light detection and ranging
L <sub>max</sub>	Maximum Sound Level
LOS	level of service
LRA	Local Responsibility Areas
LUST	leaking underground storage tank
LX	Percentile-Exceeded Sound Level
Metro Fire	Sacramento Metropolitan Fire District
MMTCO <sub>2e</sub>	million metric tons of carbon dioxide equivalent
mPa	micro-Pascals
MPO	metropolitan planning organization
MRZ	Mineral Resource Zone
MTCO <sub>2e</sub>	metric tons of carbon dioxide equivalent
MTIP	Metropolitan Transportation Improvement Program
MTP	Metropolitan Transportation Plan
NAAQS	national ambient air quality standards

NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plans
NCP	National Contingency Plan
NERC	North American Electric Reliability Corporation
NHTSA	National Highway Traffic Safety Administration
NO	nitric oxide
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO <sub>x</sub>	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRHP	National Register of Historic Places
O&M	Operation and maintenance
OEHHA	Office of Environmental Health Hazard Assessment
OES	California Office of Emergency Services
OES	Sacramento County Office of Emergency Services
OHP	California Office of Historic Preservation
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Park	Rancho Seco Recreational Park
PCAPCD	Placer County Air Pollution Control District
PCOE	Placer County Office of Education
PCCP	Placer County Conservation Program
PCWA	Placer County Water Agency
PM <sub>10</sub>	respirable particulate matter with aerodynamic diameter of 10 micrometers or less
PM <sub>2.5</sub>	fine particulate matter with aerodynamic diameter of 2.5 micrometers or less
Porter Cologne Act	Porter Cologne Water Quality Control Act
PPV	peak particle velocity
PQP	Public/Quasi Public
PRC	Public Resources Code
RCRA	Resource Conservation and Recovery Act of 1976
RMP	risk management plan
RMS	root-mean-square
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RTP	regional transportation plan
RWQCB	Regional Water Quality Control Boards
SacOES	Sacramento County Office of Emergency Services
SACOG	Sacramento Area Council of Governments
SAFE Rule	Safer Affordable Fuel-Efficient Vehicles Rule

SB	Senate Bill
SCS	Sustainable Communities Strategy
SCUSD	Sacramento City Unified School District
SCWA	Sacramento County Water Agency
SF <sub>6</sub>	sulfur hexafluoride
SFHA	Special Flood Hazard Areas
SGA	Sacramento Groundwater Authority
SGMA	Sustainable Groundwater Management Act of 2014
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJCOG	San Joaquin Council of Governments
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act of 1975
SMUD Bank	Sacramento Municipal Utility District Nature Preserve Mitigation Bank
SMUD	Sacramento Municipal Utility District
SO <sub>2</sub>	sulfur dioxide
Special Flood Hazard Areas	Flood Insurance Rate Maps that designate 100-year floodplain zones
SPL	sound pressure level
SR	State Route
SRA	State Responsibility Area
SSHCP	South Sacramento Habitat Conservation Plan
STIP	Statewide Transportation Improvement Program
SVAB	Sacramento Valley Air Basin
SVP	Society of Vertebrate Paleontology
SWA	Sacramento Regional Solid Waste Authority
SWMP	stormwater management plans
SWPPP	storm water pollution prevention plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
TIP	Transportation Improvement Program
TMDL	total maximum daily load
TPZ	timberland product zones
TPZ	timberland production districts
U.S. EIA	U.S. Energy Information Administration
UAIC	United Auburn Indian Community of the Auburn Rancheria
US	U.S. Highway
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA SCS	U.S. Department of Agriculture Soil Conservation Service
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

USGS	U.S. Geological Survey
VdB	vibration decibels
VMT	vehicle miles traveled
Williamson Act	California Land Conservation Act of 1965
WMP	Wildfire Mitigation Plan
WPWMA	Western Place Waste Management Authority
WQCP, commonly referred to as basin plans	Water Quality Control Plans
WRCC	Western Regional Climate Center
WRSL	Western Regional Sanitary Landfill
Yolo HCP/NCCP	Yolo Habitat Conservation Plan/Natural Communities Conservation Plan
YSAWMD	Yolo-Solano Air Quality Management District
ZEV	zero-emission vehicle

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## Executive Summary

This environmental impact report (EIR) evaluates the impacts associated with implementation by the Sacramento Municipal Utility District (SMUD) of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP), subject to state and federal endangered species incidental take authorizations, and the impacts of the issuance of those authorizations (Project). The proposed Project takes a regional approach to evaluating the impacts of operating and maintaining electrical and gas infrastructure in SMUD's service area (primarily in Sacramento County) and the reasonably foreseeable indirect effects caused by the Covered Activities authorized by streamlined environmental permitting, while minimizing effects of proposed Project impacts. Implementation of the proposed Project would provide a framework to protect, enhance, and restore the natural resources affected by the Covered Activities. Within this framework, the proposed Project would achieve conservation goals and comply with state and federal environmental regulations while streamlining existing processes for review and permitting of SMUD's activities.

This EIR was prepared pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] 21000–21178.1), and CEQA Guidelines (14 California Code of Regulations 1500 et seq.). SMUD is the lead agency for CEQA compliance, and consideration of this EIR and potential Project approval.

SMUD is applying for incidental take permits (ITP) from both the U.S. Fish and Wildlife Service (USFWS), pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act (ESA) of 1973, as amended, and from the California Department of Fish and Wildlife (CDFW), pursuant to Section 2081(b) of the California Fish and Game Code (CFGC) and the California Endangered Species Act (CESA). The ITPs would authorize take of seven state and federally listed species (i.e., Covered Species), listed in Section ES.2.3, *Covered Species*, incidental to otherwise lawful activities (i.e., Covered Activities).

SMUD has prepared a HCP to support issuance of the requested environmental permitting. The proposed HCP is a 30-year plan designed to protect and contribute to the recovery of Covered Species and natural communities in the HCP Plan Area, described in Section ES.2.4, *Proposed Project Components*, as mitigation for impacts expected to occur from SMUD's various operation, maintenance, and new construction activities. The proposed HCP is intended to support and inform the issuance of ITPs from USFWS and CDFW.

This EIR evaluates the potential impacts of ITP issuance by USFWS and CDFW, implementation of those ITPs, and approval and implementation of the proposed HCP (see Chapter 2, *Project Description*, for a detailed description of the proposed Project). This EIR also discloses reasonably foreseeable impacts associated with implementation of Covered Activities. The purpose of the EIR is to inform agency decision makers and the public regarding the anticipated significant environmental impacts of the proposed Project, potential measures to mitigate these significant impacts, and reasonable alternatives that could reduce the significant environmental impacts of the proposed

Project to a less-than-significant level. The EIR will be used by SMUD to comply with CEQA. CDFW is expected to rely on the EIR's evaluation of the environmental effects of the proposed Project in its role as a responsible agency. CDFW is responsible for considering only the environmental effects that fall within its permitting authority under CESA.

## ES.1 CEQA Compliance

CEQA requires state and local agencies to disclose and evaluate the environmental implications of their actions through the preparation of appropriate documents. It also aims to prevent significant environmental impacts of those actions by requiring agencies, when feasible, to avoid or reduce significant environmental impacts through the adoption of feasible mitigation measures.

CEQA applies to all discretionary activities proposed to be carried out or approved by California public agencies. SMUD is the CEQA lead agency, and it has determined that an EIR must be prepared for the proposed action because implementation of the proposed HCP, and incidental take resulting from implementation of the Covered Activities may result in a significant impact on the environment. This EIR has been prepared to facilitate CEQA compliance. If SMUD approves the proposed Project analyzed herein, it must first certify that the final EIR complies with CEQA.

In addition to lead agencies, responsible and trustee agencies have roles in the environmental review process. A responsible agency under CEQA is a state or local public agency other than the CEQA lead agency that has discretionary approval over at least some portion of a project. A CEQA responsible agency's obligations are more limited than those of the lead agency, in that the responsible agency is responsible for considering only the effects of those activities involved in a project which it is required by law to carry out or approve. A CEQA trustee agency is a state agency that has jurisdiction by law over natural resources affected by a project that are held in trust for the people of California. As the proposed Project is expected to result in take of CESA-listed species, CDFW is a responsible agency under CEQA as an ITP (CFGC 2081(b)) for the state-listed Covered Species will be needed to complete the proposed Project. CDFW is a trustee agency under CEQA because it has jurisdiction by law over the natural resources that are the subject of the EIR.

## ES.2 Permit Area, Plan Area, and Project Components

The Permit Area, Plan Area, and proposed Project components are described briefly below. For a detailed discussion of these topics, see Chapter 2.

### ES.2.1 *Permit Area*

The Permit Area encompasses SMUD's facilities within its service territory, which is primarily Sacramento County and a small portion of Placer County in California. The Permit Area also includes SMUD's gas pipeline in Yolo County, SMUD's transmission line in Placer County, small portions of Amador and San Joaquin Counties where SMUD has

electrical facilities. The total size of the Permit Area is approximately 577,554 acres (Figure ES-1). The Permit Area is the area in which SMUD is requesting authorization from USFWS and CDFW for incidental take of Covered Species under the ESA and CESA resulting from Covered Activities, which include all activities and projects that may result in the take of species covered by the proposed HCP.

### ES.2.2 *Plan Area*

The Plan Area is the area within which SMUD would implement conservation measures to mitigate potential impacts on Covered Species resulting from Covered Activities (Figure ES-1). The Plan Area includes the Permit Area and the following conservation/mitigation banks and other HCP Plan Areas that SMUD may partner with to accomplish the Conservation Strategy.

- Nicholas Ranch Valley Elderberry Longhorn Beetle (VELB) Conservation Bank
- River Ranch VELB Conservation Bank
- French Camp VELB Conservation Bank
- Bryte Ranch Conservation Bank
- Clay Station Mitigation Bank
- Yolo HCP/Natural Community Conservation Plan (NCCP) Plan Area
- Western Placer HCP/NCCP Plan Area
- Natomas Basin HCP Plan Area

### ES.2.3 *Covered Species*

The proposed HCP proposes coverage for seven federally listed species, which include two plants, three invertebrates, one amphibian, and one reptile. The state 2081(b) Permit can include only Covered Species currently listed under CESA as endangered, threatened, or candidate plants or wildlife, or as rare plants. If a Covered Species currently listed only under the ESA also becomes listed by the state during the Permit Term, take coverage under CESA would apply only if the CESA ITP is amended. The proposed HCP includes conservation measures to protect all seven Covered Species.

- Slender Orcutt grass (*Orcuttia tenuis*)
- Sacramento Orcutt grass (*Orcuttia viscida*)
- Vernal pool fairy shrimp (*Branchinecta lynchi*)
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)

- Vernal pool tadpole shrimp (*Lepidurus packardii*)
- California tiger salamander (*Ambystoma californiense*)
- Giant garter snake (*Thamnophis gigas*)

#### ES.2.4 Proposed Project Components

The proposed Project takes a regional approach to evaluating the impacts of operating and maintaining electrical infrastructure in SMUD's service area (primarily in Sacramento County) and related activities (Covered Activities) authorized by streamlined environmental permitting, while minimizing effects of proposed Project impacts across the resources spectrum. Implementation of the proposed Project would provide a framework to protect, enhance, and restore the natural resources affected by the Covered Activities. Within this framework, the proposed Project would achieve conservation goals and comply with state and federal environmental regulations while streamlining existing processes for review and permitting of SMUD's activities.

For purposes of this EIR, the proposed Project consists of the following.

- Issuance of ITPs by CDFW and USFWS and their implementation by SMUD
- Implementation of the proposed HCP

The proposed Project was developed by SMUD in consultation with USFWS and CDFW and is intended to address the conservation needs of Covered Species by avoiding and mitigating impacts expected to occur with implementation of Covered Activities. The Covered Activities are widespread and varied, comprising operation and maintenance (O&M) of existing SMUD facilities, construction of new facilities, vegetation management, conservation and enhancement activities, and numerous other actions undertaken by SMUD.

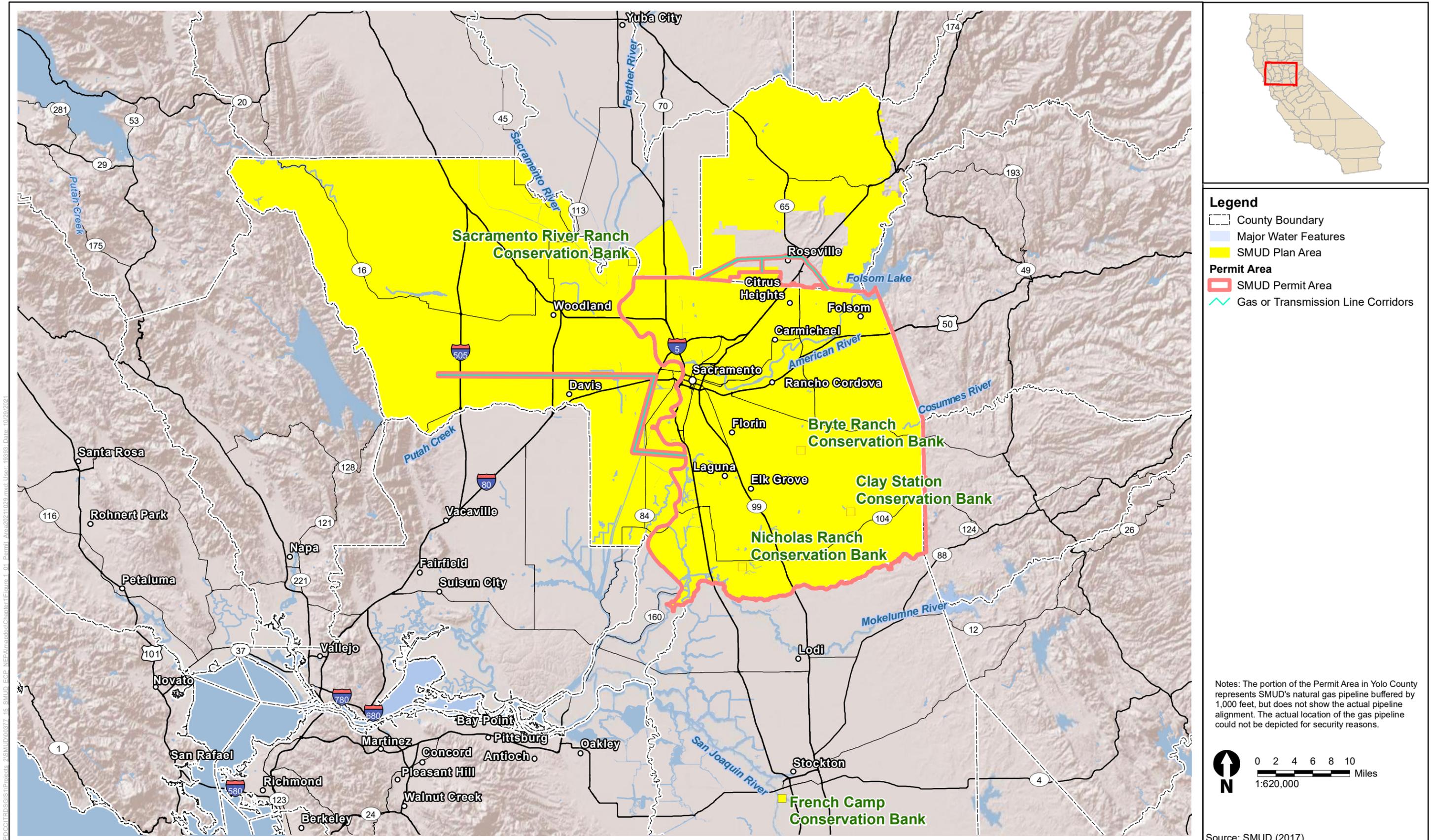
Detailed descriptions of Covered Species, Covered Activities, and the Conservation Strategy are provided in Chapter 2.

### ES.3 Project Objectives

The purpose of the proposed Project is to provide a coordinated HCP, which, when implemented, would conserve (avoid, minimize, and mitigate impacts on) Covered Species that may be affected by Covered Activities within the Permit Area.

The objectives of the proposed Project are to do the following.

- Conserve (avoid, minimize, and mitigate impacts on) Covered Species that may be affected by specific Covered Activities within the Permit Area.



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**Figure ES-1**  
**Plan Area and Permit Area**  
**SMUD HCP**



- Receive take authorization from USFWS for federally listed species covered by the proposed HCP, pursuant to Section 10(a)(1)(B) of the ESA for Covered Activities proposed by SMUD.
- Receive take authorization from CDFW for state-listed species (California tiger salamander [CTS] and giant garter snake [GGS]) covered by the proposed HCP, CFGC Section 2081(b) (CESA) for Covered Activities proposed by SMUD.
- Receive take authorization from CDFW for state-listed species (Sacramento Orcutt grass and slender Orcutt grass), covered by the proposed HCP, Section 2081(a) of the California Fish and Game Code (California Endangered Species Act [CESA]) for Covered Activities proposed by SMUD.
- Streamline and coordinate regulatory processes for review and permitting of SMUD's Covered Activities.
- Provide greater certainty to SMUD regarding mitigation requirements.

#### ES.4 Summary of Environmental Impacts and Recommended Mitigation Measures

A list of specific resource topics was developed to focus on and compare environmental impacts of the proposed Project to the baseline conditions. The list was drafted based on applicable laws, regulations, policies, as well as comments from agency staff and the interested public. Sections 3.1 through 3.20 of this EIR describe, for each resource topic, the existing environment that could be affected by the proposed Project. The resource chapters also include detailed analysis and discussion of the probable environmental consequences, or impacts, of implementing the proposed Project.

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with ESA, and CDFW's issuance of the state ITP would comply with CESA; however, SMUD's lead agency approval of the proposed Project implements the ITPs and proposed HCP but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

##### ES.4.1 *Impact Analysis Approach*

Throughout this EIR, each resource section's impact analysis distinguishes potential impacts resulting from Direct Actions, which are those actions that would be directly enabled by the proposed HCP as authorized by the ITPs issued by USFWS and CDFW, and impacts resulting from Indirect Actions, which are the Covered Activities, which would be covered by the ITPs but not entitled by this EIR. The Direct Actions are the following.

- Use Credits at the SMUD Bank
- Purchase Credits at Other Conservation/Mitigation Banks
- Participate in Overlapping HCPs
- Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank
- HCP Long Term Monitoring at the SMUD Bank

Section 2.3.3, *Conservation Strategy (Direct Actions)*, describes that the only Direct Action with potential physical environmental effects is the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank. Other Direct Actions are not required to be and are not analyzed in this EIR.

Section 2.3.4, *Covered Activities (Indirect Actions)*, describes the Covered Activities and categorizes the Covered Activities into five groups (summarized in Table 2-9), as described below. The impact analysis is structured into these categories, as impact-related activities in these categories would be similar.

- Operation and Maintenance (O&M)
- New Construction (NC)
- Vegetation Management (VM)
- Conservation and Enhancement Activities (CEA)
- Miscellaneous Covered Activities (MCA)

This EIR analysis considers how implementation of the Direct and Indirect Actions would change the baseline condition. The changes in environmental conditions, from the baseline to what would occur under the proposed Project, comprise the environmental impacts of the proposed Project.

In addition to disclosing the impacts of the Direct Actions that have potential physical impacts, this EIR also discloses reasonably foreseeable impacts associated with implementation of Covered Activities (Indirect Actions) because the ITPs authorize take of Covered Species that may occur as a result of implementing Covered Activities. The Indirect Actions are the other five groups described in Section 2.3.4 and summarized in Table 2-9. Because the conservation and enhancement activities are already approved and have been the subject of an approved CEQA document, the impacts of these two activities are not analyzed in this EIR.

### ES.4.2 *Impacts and Mitigation*

Table ES-1, at the end of this Executive Summary, lists all the impacts analyzed, their significance determinations, any proposed mitigation measures intended to reduce the level of significance, and the level of significance after mitigation.

## ES.5 Summary of Alternatives

CEQA requires the EIR to analyze a reasonable range of alternatives to the proposed Project that: (1) meet most or all of the proposed Project's objectives; (2) substantially reduce one or more of its significant effects; and (3) are potentially feasible. Due to the nature of the proposed Project, SMUD has examined one alternative, the No Project Alternative, in this EIR.

See Chapter 7, *Alternatives*, for a more complete description of the alternative screening process and a qualitative comparison of potential impacts with those of the proposed Project. As authorized under Section 15126.6 of the State CEQA Guidelines, the alternatives are examined at a lesser level of detail than the proposed Project.

### ES.5.1 *No Project Alternative*

Under the No Project Alternative, permits would not be issued by the CDFW or USFWS for incidental take of the proposed Covered Species through the regional-scale HCP. Accordingly, SMUD would remain subject to the take prohibition for state-listed species under CESA and federally listed species under the federal ESA. SMUD would need to apply, on a project-by-project basis, for incidental take authorization from CDFW through Section 10 or through USFWS through ESA Section 7 (when a federal agency action is involved). Similarly, for ongoing activities or future actions which have the potential for incidental take of state-listed species in the Plan Area, SMUD would apply for incidental take authorization under CESA through a Section 2081(b) permit.

## ES.6 Potential Areas of Controversy/Issues to be Resolved

In accordance with PRC Section 21092 and California Code of Regulations Title 14, Section 15082, SMUD issued a notice of preparation (NOP) on September 13, 2018, to inform agencies and the general public that an EIR was being prepared and to invite comments on the scope and content of the document (Appendix A). SMUD accepted comments on the scope of the EIR between September 13 and October 15, 2018. A noticed scoping meeting for the EIR occurred on September 27, 2018.

Based on the comments received during the NOP comment period, the following are the major areas of controversy associated with the proposed Project.

- Potential for impacts on unknown tribal resources
- Air quality and analysis of emissions generated by construction activity

- Impacts on special-status species
- Consistency with Delta Plan policies and Delta Reform Act
- Water quality and construction activities

Areas of controversy that fall within the scope of CEQA are addressed in this draft EIR.

All of the substantive environmental issues raised in the NOP comment letters have been addressed or otherwise considered during preparation of this draft EIR.

## ES.7 Significant and Unavoidable Impacts

The proposed Project would not result in any significant and unavoidable impacts.

**Table ES-1 Summary of Impacts and Mitigation Measures**

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>3.1 Aesthetics</b>			
<p><b>Impact 3.1-1: Have a substantial adverse effect on a scenic vista.</b> There are no designated scenic vistas within the Permit Area, although there are prominent viewpoints and long-range scenic views. In addition, conservation/mitigation banks such as the SMUD Bank are generally considered of high visual quality and may offer scenic viewpoints for recreationists. The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Any short-term, adverse visual change resulting from Orcutt grass enhancement and introduction at the SMUD Bank would not be substantial. Moreover, these activities could improve quality of views in the long term. This impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.1-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.</b> The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. While implementation of this Direct Action could result in some short-term changes in views, Orcutt grass enhancement and introduction at the SMUD Bank would not result in tree removal or damage to any rock outcroppings or historic buildings. Therefore, there would not be any long-term adverse changes in views from a scenic resource and no substantial damage to scenic resources within a scenic corridor. This impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.1-3: In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings.</b> The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt</p>	Less than significant	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would occur in a nonurbanized area and have the potential to result in short-term temporary changes in visual character or public views. However, in the long term, Orcutt grass enhancement and introduction at the SMUD Bank would enhance the visual character of these natural areas. This impact would be <b>less than significant</b>.</p>			
<p><b>Impact 3.1-4: In urbanized areas, conflict with applicable zoning and other regulations governing scenic quality.</b> Implementation of Direct Actions would not occur within an urbanized area. <b>No impact</b> would occur.</p>	No impact	None required	N/A
<p><b>Impact 3.1-5: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.</b> The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Orcutt grass enhancement and introduction at the SMUD Bank would not create any new temporary or permanent sources of light or glare that would adversely affect day or nighttime views in the Permit Area. There would be <b>no impact</b>.</p>	No impact	None required	N/A
<b>3.2 Agricultural and Forest Resources</b>			
<p><b>Impact 3.2-1: Convert Farmland to nonagricultural use or result in other changes that could result in conversion of Farmland to nonagricultural use.</b> The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would occur at the existing SMUD Bank, which is a nonurbanized area that does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. There would be <b>no impact</b>.</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p><b>Impact 3.2-2: Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would occur at the SMUD Bank, which does not contain land that is under a Williamson Act contract. In addition, implementation of this Direct Action does not include rezoning of existing land zoned as agricultural. There would be <b>no impact</b>.</p>	No Impact	None required	N/A
<p><b>Impact 3.2-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 12220(g)), timberland (as defined by Public Resources Code 4526), or timberland zoned Timberland Production (as defined by Government Code 51104(g)).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not occur in any land zoned as forest land or timberland or conflict with any existing zoning of forest land. There would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.2-4: Loss of forest land or conversion of forest land to non-forest use.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not occur on forest land and, therefore, would not cause the loss of forest land or conversion of forest land to non-forest use. There would be <b>no impact</b>.</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>3.3 Air Quality</b>			
<p><b>Impact 3.3-1: Exceed significance thresholds recommended by SMAQMD or conflict with or impede implementation of SMAQMD's air quality planning efforts.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Use of vehicles for activities at the SMUD Bank associated with this Direct Action would generate emissions of criteria air pollutants and ozone precursors. Project-generated emissions would not exceed the Operational Screening Levels in SMAQMD's CEQA Guide. Additionally, examination of the proposed Project using SMAQMD's Minor Project Health Effects Tool indicates that the proposed Project would not result in sizeable health effects and may result in no health effects. As a result, this impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.3-2: Expose sensitive receptors to substantial pollutant concentrations.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Use of vehicles for activities at the SMUD Bank associated with this Direct Action would result in emissions of pollutants. These emissions would be transient and periodic and generally located away from developed land uses and sensitive receptors. As a result, this impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.3-3: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in intermittent, short-term emissions of diesel exhaust during implementation, which can be considered an offensive odor by some people. However, there are few nearby receptors, and receptors would be exposed to odor for a short period of time given the temporary use of the Rancho Seco</p>	Less than significant	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Recreational Park and the temporary nature of odor-generating activities. As a result, this impact would be <b>less than significant</b> .			
<b>3.4 Biological Resources</b>			
<p><b>Impact 3.4-1: Temporary and permanent impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat (Covered Species).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in permanent and temporary impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat and designated critical habitat. Modification of modeled habitat would be considered an adverse impact on slender Orcutt grass and Sacramento Orcutt grass. Implementation of the Conservation Strategy would ensure that this impact is <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.4-2: Temporary and permanent impacts on noncovered special-status plants.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could permanently or temporarily disturb noncovered special-status plants and their habitat. Implementation of the Conservation Strategy would ensure that this impact is <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.4-3: Permanent and temporary Impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp (Covered Species).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action and Indirect Actions could result in permanent and temporary disturbance of vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat and designated critical habitat, and potential injury or mortality of individuals as a result</p>	Less than significant	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>of ground disturbance. Loss of individuals or modification of modeled habitat and designated critical habitat would be considered an adverse impact on vernal pool fairy shrimp and vernal pool tadpole shrimp. Implementation of the Conservation Strategy would ensure this impact is <b>less than significant</b>.</p>			
<p><b>Impact 3.4-4: Temporary and permanent impacts on valley elderberry longhorn beetle (Covered Species).</b> The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse impacts on valley elderberry longhorn beetle and therefore would have <b>no impact</b>.</p>	No Impact	None required	N/A
<p><b>Impact 3.4-5: Temporary and permanent impacts on California tiger salamander (Covered Species).</b> The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action and Indirect Actions could result in permanent and temporary disturbance of CTS modeled habitat and designated critical habitat, and potential injury or mortality of individuals. Loss of individuals or disturbance of modeled habitat and designated critical habitat would be considered an adverse impact on CTS. Implementation of the Conservation Strategy would reduce this impact to <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.4-6: Temporary and permanent impacts on giant garter snake (Covered Species).</b> The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on GGS and therefore would have <b>no impact</b>.</p>	No Impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p><b>Impact 3.4-7: Temporary and permanent impacts on Crotch bumble bee and western bumble bee (not covered under proposed HCP).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in temporary disturbance of Crotch bumble bee and western bumble bee habitat and potential injury or mortality of Crotch bumble bee and western bumble bee adults, pupae, larvae, or eggs. Loss of individuals could reduce the local population of a rare species and would be considered an adverse impact. Implementation of AMMs would reduce this impact to <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.4-8: Temporary and permanent impacts on monarch butterfly (not covered under proposed HCP).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in temporary disturbance of monarch butterfly foraging habitat within vernal pools on the SMUD Bank. These actions could modify the assemblage of species within vernal pools but would not result in the long-term loss of foraging habitat. Impacts on monarch butterfly from this Direct Action would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.4-9: Temporary and permanent impacts on western spadefoot toad (not covered under proposed HCP).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in temporary disturbance of western spadefoot toad aquatic habitat and potential injury or mortality of western spadefoot toad eggs, larvae, juveniles, and adults. Loss of individuals could reduce the local population of a rare species and would be considered an adverse impact. Implementation of the Conservation Strategy would reduce this impact to <b>less than significant</b>.</p>	Less than significant	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p><b>Impact 3.4-10: Temporary and permanent impacts on Blainville’s horned lizard (not covered under proposed HCP).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse impacts on Blainville’s horned lizard and therefore would have <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.4-11: Temporary and permanent impacts on western pond turtle (not covered under proposed HCP).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on western pond turtle and therefore would have <b>no impact</b>.</p>	No impact	None required.	N/A
<p><b>Impact 3.4-12: Temporary and permanent impacts on special-status migratory birds and raptors (not covered under proposed HCP).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could temporarily disturb ground-nesting and foraging special-status migratory birds and raptors. Implementation of the Conservation Strategy, SMUD’s Avian Protection Plan, and compliance with the MBTA, CFGC, CESA, and the Bald and Golden Eagle Protection Act would reduce impacts on migratory birds and raptors to <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.4-13: Temporary and permanent impacts on special-status bats (not covered under proposed HCP).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on special-status bats and therefore would have <b>no impact</b>.</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p><b>Impact 3.4-14: Temporary and permanent impacts on American badger (not covered under the proposed HCP).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on American badger and therefore would have <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.4-15: Temporary and permanent impacts on special-status fish (not under the proposed HCP).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on special-status fish and therefore would have <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.4-16: Temporary and permanent impacts on sensitive natural communities.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could permanently modify or temporarily disturb SNCs as a result of enhancement activities. Implementation of the Conservation Strategy would result in a net benefit to vernal pool habitat; therefore, this impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.4-17: Temporary and permanent impacts on wetlands and other regulated aquatic resources.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could permanently modify or temporarily disturb wetlands and other regulated aquatic resources as a result of enhancement activities. Implementation of the Conservation Strategy could benefit vernal pool habitats because enhancement and introduction activities could potentially introduce new populations of</p>	Less than significant	None required	N/A

<b>Impacts and Impact Summary</b>	<b>Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance after Mitigation</b>
sensitive plant species that would enhance the overall habitat value. Therefore, impacts from Direct Actions on wetlands and other regulated aquatic resources would be <b>less than significant</b> .			
<p><b>Impact 3.4-18: Temporary and permanent impacts on native resident or migratory wildlife species or established native resident or migratory wildlife corridors, and the use of native wildlife nursery sites.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could temporarily disturb the movement of native or migratory wildlife species that utilize vernal pool habitats during enhancement activities. However, Direct Actions would not affect established native resident or migratory wildlife corridors or nursery sites. Implementation of the Conservation Strategy would result in a net benefit to vernal pools on the SMUD Bank that provides habitat for resident and migratory wildlife. Therefore, impacts on resident and migratory wildlife from Direct Actions would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.4-19: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not conflict with any local policies or ordinances protecting biological resources within the Permit Area. There would be <b>no impact</b>.</p>	No impact		N/A
<p><b>Impact 3.4-20: Conflict with provisions of an adopted habitat conservation plan/natural community conservation plan or other approved local, regional, or state habitat conservation plan.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in any unmitigated impacts on species or land cover types covered by other</p>	No impact		N/A

<b>Impacts and Impact Summary</b>	<b>Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance after Mitigation</b>
adopted regional HCPs or HCP/NCCPs within the Permit Area. There would be <b>no impact</b> .			
<b>3.5 Cultural Resources</b>			
<p><b>Impact 3.5-1: Have a substantial adverse change in the significance of a historical resource.</b></p> <p>Implementation of Direct Actions would not result in physical environmental effects with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. As a result of previous cultural resources studies, no historical resources were identified in the SMUD Bank; therefore, implementation of the Direct Actions would have <b>no impact</b> on historical resources.</p>	No impact	None required	N/A
<p><b>Impact 3.5-2: Have a substantial adverse change in the significance of a unique archaeological resource.</b></p> <p>Implementation of Direct Actions would not result in physical environmental effects, with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity, which could involve ground-disturbing activities. Although no unique archaeological resources were identified during previous cultural resources studies, ground disturbance from these activities could lead to the destruction or adverse change in the significance of a buried unique archaeological resource. Continued implementation of mitigation measures identified in the SMUD Nature Preserve Mitigation Bank IS/MND, here presented as Mitigation Measures CUL-1, CUL-2, and CUL-3, would reduce this impact to a <b>less-than-significant</b> level.</p>	Potentially significant	<p><b>Mitigation Measure CUL-1:</b> Avoidance and Archaeological Monitoring</p> <p><b>Mitigation Measure CUL-2:</b> Environmental Awareness Training</p> <p><b>Mitigation Measure CUL-3:</b> Stop Work if Archaeological Resources are Encountered.</p>	Less than significant
<p><b>Impact 3.5-3: Disturbance of any human remains including those interred outside of formal cemeteries.</b></p> <p>Implementation of the Direct Actions would not result in physical environmental effects with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Although no human remains were found during previous cultural resources investigations, these activities could involve ground-disturbing activities that could have the potential to disturb human remains, including those interred outside of formal cemeteries.</p>	Potentially significant	<b>Mitigation Measure CUL-4:</b> Stop Work if Human Remains Are Discovered during Ground-Disturbing Activities	Less than significant

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Continued implementation of the mitigation measure identified in the SMUD Nature Preserve Mitigation Bank IS/MND, here presented as Mitigation Measure CUL-4, would reduce this impact to a <b>less-than-significant</b> level.			
<b>3.6 Energy</b>			
<p><b>Impact 3.6-1: Wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in energy from gasoline and diesel fuel used for transportation of employees and equipment to and from the SMUD Bank. However, vehicle travel would be limited, short term, and periodic in nature. In addition, all activities associated with the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would use hand tools requiring no energy use. Therefore, any energy usage required for these activities would not be substantial, and it would be short term and periodic. This impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.6-2: Conflict with or obstruction of a state or local plan for renewable energy or energy efficiency.</b></p> <p>As described above in Impact 3.6-1, the only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would involve activities that could result in energy consumption from gasoline and diesel fuel consumption for transportation of employees and equipment to and from the SMUD Bank. However, these activities would result in short-term, limited use of energy as vehicle travel and equipment use would be limited, short-term, and periodic in nature, and would not involve any actions or activities that would conflict with, or obstruct, any state or local plans for renewable energy and energy efficiency. Therefore, implementation of Direct Actions would not involve actions or activities that would obstruct or conflict with state or</p>	Less than significant	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
local plans for energy efficiency or renewable energy. This impact would be <b>less than significant</b> .			
<b>3.7 Geology, Soils, and Paleontological Resources</b>			
<p><b>Impact 3.7-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not involve the construction or placement of any structures or facilities which would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, liquefaction, or landslides; therefore, the Direct Action would result in <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.7-2: Substantial soil erosion or loss of topsoil.</b></p> <p>Implementation of the Direct Action would not result in physical environmental effects, with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity, which would involve minor ground-disturbing activities that would be unlikely to lead to soil erosion or loss of topsoil. Additionally, the implementation of AMMs would ensure that impacts were <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.7-3: Place facilities on a geologic unit or soil that is unstable or that would become unstable as a result of the Project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.</b></p> <p>Implementation of Direct Actions would not result in physical environmental effects, with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve</p>	No impact	None required	N/A

<b>Impacts and Impact Summary</b>	<b>Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance after Mitigation</b>
construction or placing structures on a potentially unstable geologic unit or soil; therefore, the Direct Action would result in <b>no impact</b> .			
<p><b>Impact 3.7-4: Place Project-related facilities on expansive soil, creating substantial direct or indirect risks to life or property.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve the construction or placing of structures on a potentially expansive soils; therefore, the Direct Action would result in <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.7-5: 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</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of Direct Actions would not involve the construction or placing of structures that would require the use of septic tanks or alternative wastewater disposal systems; therefore, the Direct Actions would result in <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.7-6: Destroy a unique paleontological resource or site.</b></p> <p>Geologic units with high paleontological sensitivity are exposed at ground surface and underlie substantial portions of the Permit Area. Ground-disturbing activities could uncover buried paleontological resources that may be significant and therefore unique. Ground-disturbing activities associated with the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could affect unique paleontological resources that these activities may unearth. However, because the area that would be disturbed for planting is both shallow and small, the likelihood of encountering significant fossils is likewise small. AMMs would further minimize effects. This impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>3.8 Greenhouse Gas Emissions</b>			
<p><b>Impact 3.8-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would result in GHG emissions. Emissions would be less than the Operational Screening Levels in SMAQMD’s CEQA Guide and would be similar to those associated with projects that are typically exempt. As a result, this impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.8-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would result in GHG emissions, but would not conflict with adopted GHG reduction plans, and this impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<b>3.9 Hazards and Hazardous Materials</b>			
<p><b>Impact 3.9-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p><b>Impact 3.9-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.9-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.</b></p> <p>The Direct Action would not occur within 0.25 mile of a school or school site. Therefore, the proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. There would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.9-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.</b></p> <p>Direct Actions would not 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, create a significant hazard to the public or the environment. There would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.9-5: Located within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the Project.</b></p> <p>Activities associated with Direct Actions would not occur within 2 miles of a public or private airport or airport land use plan. Therefore, the Direct Actions would not result in a safety hazard or excessive noise for people residing or working in the Permit Area. There would be <b>no impact</b>.</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p><b>Impact 3.9-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve enough personnel or equipment to necessitate traffic delays on existing roads used to access the SMUD Bank. Roads used to access the SMUD Bank and conduct conservation or mitigation activities are located in more rural areas, free of heavy traffic. Therefore, implementation of the Direct Actions would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. There would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.9-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Portions of the SMUD Bank are located near, or adjacent to, areas that are under both the responsibilities of SRAs and LRAs and have FHSZ designations that range from moderate to very high fire hazard severity. Consequently, it is possible that implementation of this Direct Action could occur within or near a moderate or very high fire hazard area. These activities are expected to follow fire management goals and policies set forth by the Sacramento County General Plan. This impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<b>3.10 Hydrology and Water Quality</b>			
<p><b>Impact 3.10-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
activity. Implementation of this Direct Action would result in minimal soil disturbance and would have <b>no impact</b> on water quality.			
<p><b>Impact 3.10-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not use groundwater resources during planting or for management. Therefore, this impact would have <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.10-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in: (1) substantial erosion or siltation onsite or offsite; (2) substantially increase the rate or amount of surface runoff which would result in flooding onsite or offsite; (3) create runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; (4) impede or redirect flood flows.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would involve minimal soil disturbance. No impervious area would be added so these activities would not affect long-term drainage, and in fact would likely produce a minor long-term net enhancement. Thus, there would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.10-4: In a flood hazard, tsunami, or seiche zone, risk release of pollutants due to Project inundation.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not occur directly in a</p>	No impact	None required	N/A

<b>Impacts and Impact Summary</b>	<b>Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance after Mitigation</b>
flood hazard, tsunami, or seiche zone. There are no tsunami or areas with a history of seiches within close proximity to the Permit Area. Therefore, there would be <b>no impact</b> .			
<p><b>Impact 3.10-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve irrigation and therefore would not use any groundwater. In addition, implementation would be done with hand tools and would not require any stormwater permits. Therefore, there would be <b>no impact</b>.</p>	No impact	None required	N/A
<b>3.11 Land Use and Planning</b>			
<p><b>Impact 3.11-1: Physically divide an established community.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would occur outside of any established community and would not result in the installation of physical structures that could physically divide an established community. Therefore, there would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.11-2: Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would be implemented at the SMUD Bank and would be consistent with the Sacramento County General Plan and the provisions of the SMUD Bank Long-Term Management Plan. Therefore, there would be <b>no impact</b>.</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>3.12 Minerals</b>			
<p><b>Impact 3.12-1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in the loss of availability of a known mineral resource of value to the region and the residents of the state; therefore, the Direct Actions would result in <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.12-2: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. There are no locally important mineral recovery sites as designated by local jurisdiction general plan, specific plan, or other planning document. Therefore, implementation of this Direct Action would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. There would be <b>no impact</b>.</p>	No impact	None required	N/A
<b>3.13 Noise</b>			
<p><b>Impact 3.13-1: Substantial temporary increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in short-term noise from the use of vehicles. However, the activity would be located more than 1,000 feet from any existing sensitive receptor, and therefore,</p>	Less than significant	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>would not result in excessive noise exposure to any sensitive land uses. This impact would be <b>less than significant</b>.</p>			
<p><b>Impact 3.13-2: Substantial permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Due to their temporary nature, implementation of this Direct Action would not result in any permanent increase in noise. <b>No impact</b> would occur.</p>	No impact	None required	N/A
<p><b>Impact 3.13-3: Groundborne Vibration and Groundborne Noise.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in long-term operational groundborne noise or vibration or short-term vibration, and would not be located close to existing sensitive receptors. <b>No impact</b> would occur.</p>	No impact	None required	N/A
<p><b>Impact 3.13-4: Aircraft-related noise for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the area to excessive noise levels.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. The SMUD Bank is not located within 2 miles of a public airport or public use airport. <b>No impact</b> would occur.</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>3.14 Population and Housing</b>			
<p><b>Impact 3.14-1: Create substantial unplanned 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).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not create businesses or homes or extend infrastructure in a manner that would induce unplanned population growth. Therefore, unplanned population growth would not occur; there would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.14-2: Displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would be implemented within the SMUD Bank, where there are no people or housing. Therefore, there would be no displacement of people or housing; <b>no impact</b> would occur.</p>	No impact	None required	N/A
<b>3.15 Public Services</b>			
<p><b>Impact 3.15-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not result in a population increase or activities that would require new government facilities or lead to the physical alteration of existing facilities, including fire and police protection, schools, parks, or other public facilities. As a result, there would be <b>no impact</b>.</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>3.16 Recreation</b>			
<p><b>Impact 3.16-1: Increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would be implemented using existing SMUD staff or contractors, and would neither require relocation of employees to the area nor result in unplanned population growth that could increase the use of existing parks and recreational facilities. Substantial physical deterioration of recreational facilities would not occur; there would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.16-2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action does not require the construction or expansion of recreational facilities; there would be <b>no impact</b>.</p>	No impact	None required	N/A
<b>3.17 Transportation</b>			
<p><b>Impact 3.17-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not adversely affect any existing or planned transit, bicycle, or pedestrian facilities. Additionally, this Direct Action would not generate any pedestrian, bicycle, or transit demand. Thus, the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
would not conflict with a program, plan, ordinance or policy addressing pedestrian, bicycle, transit, or roadway facilities. <b>No impact</b> would occur.			
<p><b>Impact 3.17-2: Conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Activities associated with this Direct Action would be short term, temporary, and periodic in nature throughout the 30-year Permit Term and would generate fewer than 110 trips per day. As described in the Technical Advisory on Evaluating Transportation Impacts (OPR 2018), if a project generates fewer than 110 trips per day it is generally assumed to cause a less-than-significant VMT impact. Therefore, this impact would be <b>less than significant</b>.</p>	Less than significant	None required	N/A
<p><b>Impact 3.17-3: Cause a substantial increase in hazards because of a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in the construction, re-design, or alteration of any public roadways and would not result in disruptions to the transportation network. Therefore, the Direct Action would not result in a substantial increase in roadway hazards due to a geometric design feature or incompatible uses. <b>No impact</b> would occur.</p>	No impact	None required	N/A
<p><b>Impact 3.17-4: Result in inadequate emergency access.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action at the SMUD Bank would not occur within portions of public roadway rights-of-way and would not result in disruptions to the transportation network. Therefore, existing emergency access would be maintained and the Direct Actions would result in adequate emergency access. <b>No impact</b> would occur.</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>3.18 Tribal Cultural Resources</b>			
<p><b>Impact 3.18-1: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource that is Listed or Eligible for Listing in the California Register of Historical Resources or Other Local Register.</b></p> <p>Implementation of Direct Actions would not result in physical environmental effects with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. As a result of AB52 consultations, it was determined the Direct Actions at the SMUD Bank would not have impacts on the identified TCRs (i.e., traditional cultural landscape or species of significance). However, to avoid impacts on previously unknown TCRs, this document incorporates a mitigation measure to ensure unanticipated discoveries of TCRs are identified and protected in place where possible and treated with respect and care where avoidance is infeasible.</p>	Potentially significant	<p><b>Mitigation Measure TCR-1:</b> Discovery of Unanticipated Tribal Cultural Resources</p>	Less than significant
<b>3.19 Utilities and Service Systems</b>			
<p><b>Impact 3.19-1: Require relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, with the potential to cause significant environmental effects.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not require relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, with the potential to cause significant environmental effects. Therefore, there would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.19-2: Create a need for new or expanded entitlements or resources for sufficient water supply to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.</b></p>	No impact	None required	N/A

<b>Impacts and Impact Summary</b>	<b>Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance after Mitigation</b>
<p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would require a negligible amount of water to plant Orcutt grass at the SMUD Bank, which would be supplied by existing offsite sources for the initial growth and establishment period and supplied by natural precipitation after plants are established. No new or expanded entitlements or resources for water supply would be required. <b>No impact</b> would occur.</p>			
<p><b>Impact 3.19-3: Result in a determination by the wastewater treatment provider that serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not produce wastewater. <b>No impact</b> would occur.</p>	No impact	None required	N/A
<p><b>Impact 3.19-4: Generate solid waste in exceedance of state or local standards or in excess of the capacity of local infrastructure, or other impediment to the attainment of solid waste reduction goals.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action implemented at the SMUD Bank would not result in the generation of substantial amounts of solid waste. The amount of generated waste would be negligible, if any, and, if needed, would be adequately served by existing landfills offsite. Therefore, there would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.19-5: Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank</p>	No impact	None required	N/A

Impacts and Impact Summary	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>activity. This Direct Action implemented at the SMUD Bank would not result in the generation of substantial amounts of waste. Waste generation would be minor and would be adequately served by offsite landfills and would comply with all applicable with federal, state, and local management and reduction statutes and regulations related to solid waste. There would be <b>no impact</b>.</p>			
<b>3.20 Wildfire</b>			
<p><b>Impact 3.20-1: Substantially impair an adopted emergency response plan or emergency evacuation plan.</b> The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve a large number of personnel or equipment that would result in significant traffic delays on existing roads used to access the SMUD Bank and impairment of an adopted emergency response plan or evacuation plan. The existing roads used to access the SMUD Bank are located in more rural areas, free of heavy traffic, and would not result in disruptions to the transportation network. Therefore, existing emergency access or evacuation plans would be maintained, and there would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.20-2: 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.</b> The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would involve temporary, small crews of workers to complete work at the SMUD Bank. Portions of the SMUD Bank where the Direct Action would occur would be located approximately 5 miles from Moderate, High, or Very High FHSZs, and could potentially expose workers to wildfire pollutant concentrations. However, current activities undertaken by state and local agencies, as well as SMUD, are expected to follow fire management goals and policies listed in local regulations, in order to minimize risk of wildfire.</p>	Less than significant	None required	N/A

<b>Impacts and Impact Summary</b>	<b>Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance after Mitigation</b>
<p>Compliance with these established goals, policies and requirements would reduce potential impacts related to wildfire risks and the pollutants associated with wildfire. In addition, long-term implementation and management associated with the Direct Action would ultimately reduce rather than exacerbate wildfire risk within the Permit Area and surrounding areas by decreasing the potential for wildfire as a result of increased vegetation management in areas within, or adjacent to, existing or new facilities. This impact would be <b>less than significant</b>.</p>			
<p><b>Impact 3.20-3: 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 on the environment.</b></p> <p>The SMUD Bank is located approximately 5 miles from areas that are under both the responsibilities of SRAs and LRAs and have FHSZ designations that range from moderate to very high fire hazard severity. However, activities associated with the Direct Actions would not involve the installation or maintenance of any infrastructure, and therefore would not exacerbate fire risk or result in temporary or ongoing impacts on the environment. There would be <b>no impact</b>.</p>	No impact	None required	N/A
<p><b>Impact 3.20-4: 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.</b></p> <p>The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would involve activities that could potentially expose people working to implement this activity to secondary wildfire impacts such as flooding (see Section 3.10, Hydrology and Water Quality), landslides (see Section 3.7, Geology, Soils, and Paleontological Resources), runoff, post-fire slope instability, and drainage changes. However, the SMUD Bank area where this Direct Action would occur would not be located within a flood zone (per Impact 3.10-4), and would not be susceptible to landslides as the topography is flat (per Impact 3.7-1). Furthermore, SMUD has maintained an EOC in</p>	Less than significant	None required	N/A

<b>Impacts and Impact Summary</b>	<b>Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance after Mitigation</b>
<p>times of extreme weather or natural disaster events, and are in continual coordination and contact with other local Offices of Emergency Services to help coordinate real-time incident response and recovery from all emergencies and disasters. Any risks would be minimized with adherence to applicable safety policies in order to minimize the exposure of people, specifically workers implementing this Direct Action, to these risks. This impact would be <b>less than significant</b>.</p>			

- AB = Assembly Bill
- AMM = avoidance and minimization measure
- CEQA = California Environmental Quality Act
- CESA = California Endangered Species Act
- CFGC = California Fish and Game Code
- CTS = California tiger salamander
- FHSZ = fire hazard severity zone
- GGS = giant garter snake
- GHG = greenhouse gas
- HCP = habitat conservation plan
- LRA = local responsibility area
- MBTA = Migratory Bird Treaty Act
- NCCP = natural community conservation plan
- SMAQMD = Sacramento Metropolitan Air Quality Management District
- SMUD = Sacramento Municipal Utility District
- SMUD Bank = SMUD's Nature Preserve Mitigation Bank
- SNC = sensitive natural community
- SRA = state responsibility area
- VMT = vehicle miles traveled



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## 1 Introduction

This environmental impact report (EIR) evaluates the impacts associated with implementation by the Sacramento Municipal Utility District (SMUD) of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP), subject to state and federal endangered species incidental take authorizations, and the impacts of the issuance of those authorizations (Project). This EIR was prepared pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] 21000–21178.1), and 14 California Code of Regulations (CCR) 1500 et seq. (“CEQA Guidelines”) SMUD is the lead agency for CEQA compliance, and consideration of this EIR and potential Project approval.

### 1.1 Overview of SMUD

SMUD is a municipal utility district, a not-for-profit local agency with more than 75 years of experience as an energy provider. SMUD generates, transmits, and distributes electric power to serve an approximately 900-square-mile service territory that includes almost all of Sacramento County and a small portion of Placer County. In addition, SMUD has limited electrical facilities adjacent to SMUD’s service territory in Amador, San Joaquin, and Yolo Counties. SMUD also owns and operates 76 miles of natural gas pipeline in Sacramento County and Yolo County that serves five natural gas-fired thermal generation and cogeneration power plants. SMUD’s existing electrical and natural gas pipeline infrastructure requires long-term operation and maintenance (O&M) to deliver reliable electricity. SMUD also owns and operates a 200-mile telecommunication system located on existing electrical line poles and towers. For a detailed description of SMUD’s electrical facilities, natural gas transmission facilities, and telecommunication system, and the various O&M and new construction activities (Covered Activities) included in the proposed HCP, see Chapter 2, *Project Description*.

### 1.2 Overview of CEQA

CEQA requires state and local agencies to disclose and evaluate the environmental impacts of their actions through the preparation of appropriate documents. It also aims to prevent the significant environmental impacts of those actions by requiring agencies, when feasible, to avoid significant environmental impacts or reduce them to a level of less than significant by adopting feasible mitigation measures. The CEQA Guidelines are the primary source of regulations that interpret and implement CEQA.

CEQA applies to all discretionary activities proposed to be carried out or approved by a lead agency. SMUD is the CEQA lead agency, and it has determined that an EIR must be prepared because the proposed Project—described in detail in Chapter 2—may result in a significant impact on the environment. This EIR has been prepared to facilitate CEQA compliance. If SMUD approves the proposed Project analyzed herein, it must first certify that the final EIR complies with CEQA.

In addition to lead agencies, responsible and trustee agencies have roles in the environmental review process. A responsible agency under CEQA is a state or local public agency other than the CEQA lead agency that has discretionary approval over at least some portion of a project. A CEQA responsible agency's obligations are more limited than those of the lead agency, in that the responsible agency is responsible for considering only the effects of those project activities it is required by law to carry out or approve. A CEQA trustee agency is a state agency that has jurisdiction by law over natural resources affected by a project that are held in trust for the people of California.

As the proposed Project is expected to result in take of species listed under the California Endangered Species Act, the California Department of Fish and Wildlife (CDFW) is a responsible agency under CEQA as an incidental take permit (ITP) (California Fish and Game Code Section 2081(b)) and a memorandum of understanding (MOU) (California Fish and Game Code Section 2081(a)) for those species will be needed to carry out the proposed Project. CDFW is also a trustee agency under CEQA because it has jurisdiction by law over natural resources that are the subject of the EIR. While not a state or local agency, the U.S. Fish and Wildlife Service may use the information in this EIR to inform its permitting decisions and actions.

### 1.3 Intended Uses of this EIR

The purpose of this EIR is to inform the public and agency decision makers about the potentially significant environmental impacts of the proposed Project; potential mitigation measures that would avoid, minimize, and mitigate these potentially significant impacts; and reasonable alternatives that could reduce the potentially significant environmental impacts of the proposed Project. The EIR will be used by SMUD to comply with CEQA for actions (described in detail in Chapter 2) taken to adopt and implement the proposed HCP and incidental take resulting from implementation of the Covered Activities. CEQA allows responsible agencies to rely on a CEQA document prepared by a lead agency to meet their CEQA compliance obligations pursuant to CEQA Guidelines Section 15096. Responsible agencies would review the CEQA document and not rely automatically on the lead agency's judgement. SMUD expects CDFW to rely on the EIR's evaluation of the environmental effects of the proposed Project in its role as a responsible agency. CDFW is responsible for considering only the environmental effects that fall within its permitting authority under the California Endangered Species Act.

### 1.4 EIR Scoping Process

Public participation is an essential part of the CEQA process. In accordance with 14 CCR Section 15082, a lead agency must provide notice that it will prepare an EIR and provide adequate opportunity for interested parties to provide comments on the scope of the EIR. Such comments are considered by the lead agency.

The public scoping process, which also establishes the environmental baseline, began in September 2018, with submittal of the Notice of Preparation (NOP) to the State Clearinghouse. The NOP notified the public and agencies of the SMUD HCP, the intent

to prepare an EIR, and two public meetings that were held on September 27, 2018. The NOP also informed the public that written comments on the NOP should be received by October 15, 2018.

There were no significant issues identified in the scoping comments received. The NOP and scoping comments are included in Appendix A. The HCP is in Appendix B.

## 1.5 Document Organization

The EIR is organized as shown below.

- Chapter 1, *Introduction*
- Chapter 2, *Project Description*
- Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*
  - 3.1, Aesthetics
  - 3.2, Agricultural and Forest Resources
  - 3.3, Air Quality
  - 3.4, Biological Resources
  - 3.5, Cultural Resources
  - 3.6, Energy
  - 3.7, Geology, Soils, and Paleontological Resources
  - 3.8, Greenhouse Gas Emissions
  - 3.9, Hazards and Hazardous Materials
  - 3.10, Hydrology and Water Quality
  - 3.11, Land Use and Planning
  - 3.12, Minerals
  - 3.13, Noise
  - 3.14, Population and Housing
  - 3.15, Public Services
  - 3.16, Recreation

- 3.17, Transportation
- 3.18, Tribal Cultural Resources
- 3.19, Utilities and Service Systems
- 3.20, Wildfire
- Chapter 4, *Environmental Justice Analysis*. Although not required by CEQA, SMUD has elected to prepare an evaluation of potential environmental justice issues related to the proposed Project.
- Chapter 5, *Cumulative Impacts*
- Chapter 6, *Other CEQA Sections*
- Chapter 7, *Alternatives*
- Chapter 8, *List of Preparers*
- Chapter 9, *References*

## 2 Project Description

The Sacramento Municipal Utility District (SMUD) is proposing to implement the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan (HCP)*, which provides a strategy for avoiding, minimizing, and mitigating potential impacts on Covered Species resulting from SMUD's various operations, maintenance, and new construction activities (Covered Activities). The HCP is included in Appendix B.

SMUD is applying for an incidental take permit (ITP, or Permit) under Section 10(a)(1)(B) of the federal Endangered Species Act (ESA), and an ITP and MOU under state law, pursuant to Section 2081(b) and 2081(a) of the California Fish and Game Code. The proposed HCP would support obtaining the above-mentioned federal and state take authorizations, which would in turn authorize take of Covered Species potentially occurring during implementation of the Covered Activities.

Under the California Environmental Quality Act (CEQA), an environmental impact report (EIR) must be prepared when there is substantial evidence that supports a fair argument that significant effects may result from project implementation. Consistent with Section 15121(a) of the CEQA Guidelines, this EIR is a public information document that assesses and discloses the potential environmental effects not only of SMUD's discretionary application for and implementation of the take authorizations and implementation of the HCP, but also its broader consideration and approval of the whole of the action under CEQA, which includes the direct and reasonably foreseeable indirect effects caused by the Covered Activities that will result with issuance of the take authorizations, and the Conservation Strategy covered by the authorizations and HCP. In combination, these activities constitute the proposed "Project" for purposes of CEQA.

### 2.1 Project Location

Implementation of the proposed HCP would entail a Plan Area and a Permit Area (Figure 2-1).

#### 2.1.1 Permit Area

The Permit Area is the area for which SMUD is requesting authorization from the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) for incidental take of Covered Species resulting from Covered Activities described in SMUD's proposed HCP.

The Permit Area includes approximately 577,554 acres within Sacramento, Placer, Yolo, Amador, and San Joaquin Counties (Figure 2-1). The Permit Area primarily consists of SMUD's service territory in Sacramento County. A complete description of the Permit Area is included below:

- All of Sacramento County, except for the area south of U.S. Highway 160 and Walnut Grove, which extends into the Sacramento-San Joaquin River Delta (approximately 566,547 acres).

- Portions of southwestern Placer County (approximately 4,000 acres), to which SMUD provides electricity, and a transmission line outside of the area SMUD serves, approximately 17.5 miles long.
- A portion of Yolo County (approximately 4,495 acres) that encompasses the natural gas pipeline between Winters and cogeneration power plants in Sacramento County.
- Small portions of Amador County and San Joaquin County located adjacent to Sacramento County.

### 2.1.2 *Plan Area*

The Plan Area is the area within which SMUD would implement conservation measures to mitigate potential impacts on Covered Species resulting from Covered Activities. The Plan Area includes the Permit Area and the following conservation/mitigation banks and other HCP Plan Areas that SMUD may partner with to accomplish the Conservation Strategy (Figure 2-1).

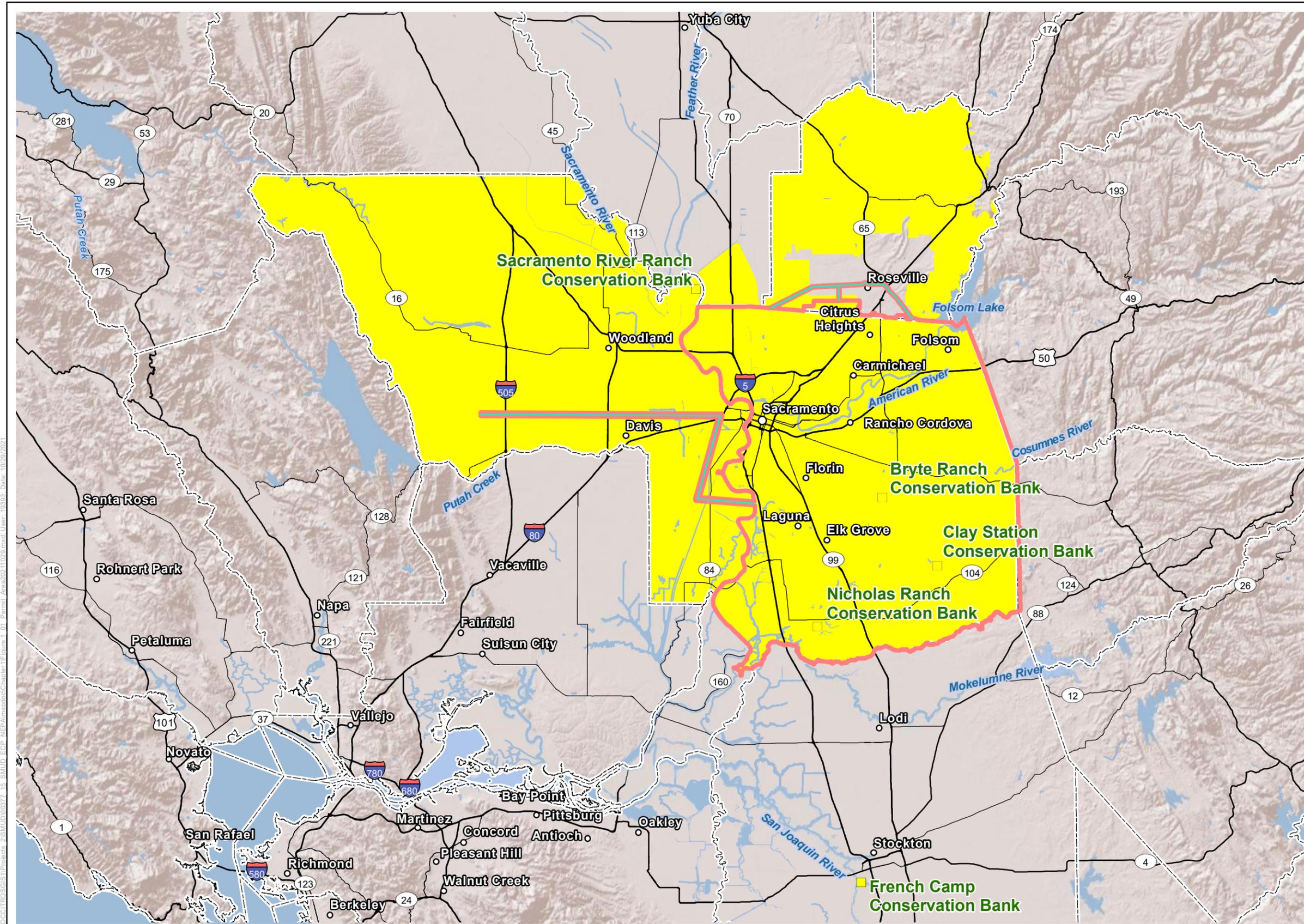
- Nicholas Ranch VELB Conservation Bank
- River Ranch VELB Conservation Bank
- French Camp VELB Conservation Bank
- Bryte Ranch Conservation Bank
- Clay Station Mitigation Bank
- Yolo HCP/NCCP Plan Area
- Western Placer HCP/NCCP Plan Area
- Natomas Basin HCP Plan Area

## 2.2 Project Objectives

The purpose of the proposed Project is to provide a coordinated habitat conservation plan, which, when implemented, would conserve (avoid, minimize, and mitigate impacts on) Covered Species that may be affected by Covered Activities within the Permit Area.

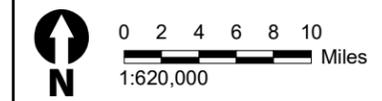
The objectives of the proposed HCP are to do the following.

- Conserve (avoid, minimize, and mitigate impacts on) Covered Species that may be affected by specific Covered Activities within the Permit Area.



- Legend**
- County Boundary
  - Major Water Features
  - SMUD Plan Area
- Permit Area**
- SMUD Permit Area
  - Gas or Transmission Line Corridors

Notes: The portion of the Permit Area in Yolo County represents SMUD's natural gas pipeline buffered by 1,000 feet, but does not show the actual pipeline alignment. The actual location of the gas pipeline could not be depicted for security reasons.



Source: SMUD (2017)

IPDC/ITRDSGIS/Projects\_2/SMUD/00377\_15\_SMUD\_ECF\_NEPA/mandoc/Chapter1/Figure 1\_01\_Permit\_Area20211029.mxd; User: 19393; Date: 10/29/2021



**Figure 2-1**  
Plan Area and Permit Area  
SMUD HCP



- Receive take authorization from USFWS for federally listed species covered by the proposed HCP, pursuant to Section 10(a)(1)(B) of the ESA for Covered Activities proposed by SMUD.
- Receive take authorization from CDFW for state-listed species (California tiger salamander [CTS], and giant garter snake [GGS]) covered by the proposed HCP, Section 2081(b) of the California Fish and Game Code (California Endangered Species Act [CESA]) for Covered Activities proposed by SMUD.
- Receive take authorization from CDFW for state-listed species (Sacramento Orcutt grass and slender Orcutt grass), covered by the proposed HCP, Section 2081(a) of the California Fish and Game Code (California Endangered Species Act [CESA]) for Covered Activities proposed by SMUD.
- Streamline and coordinate regulatory processes for review and permitting of SMUD's Covered Activities.
- Provide greater certainty to SMUD regarding mitigation requirements.

## 2.3 Project Components

### 2.3.1 *Permit Term*

The proposed HCP is a 30-year plan and SMUD is requesting authorization from USFWS and CDFW for corresponding 30-year Permit Terms. The Permit Term is the length of time for which take authorizations issued by the USFWS and CDFW, respectively, can be used by SMUD to cover incidental take of Covered Species resulting from the Covered Activities. Prior to expiration of the proposed HCP and take authorizations, SMUD may apply to renew or amend the HCP and take authorizations to include an extension of the Permit Term, subject to subsequent review under CEQA.

### 2.3.2 *Covered Species*

Covered Species are those species addressed in the proposed HCP for which SMUD is seeking incidental take authorization and for which conservation actions would be implemented. The proposed HCP includes conservation measures to protect all seven Covered Species.

As listed in Table 2-1, the proposed HCP proposes coverage for seven federally listed species, which include two plants, three invertebrates, one amphibian, and one reptile .

The state 2081(b) Permit can include only Covered Species currently listed under CESA as endangered, threatened, or candidate plants or wildlife, or as rare plants; therefore, the state ITP will cover only California tiger salamander and giant garter snake. If the federally listed invertebrates are listed by the state during the Permit Term, take coverage under CESA would apply to those species only if the CESA ITP is amended accordingly.

The state Section 2081(a) take authorization will cover Sacramento Orcutt grass and slender Orcutt grass, both state listed species.

**Table 2-1 Covered Species**

Common and Scientific Name	Federal/State/ CRPR Listing Status	State ITP	State MOU	Federal ITP
Slender Orcutt grass <i>Orcuttia tenuis</i>	FT/SE/1B.1		X	X
Sacramento Orcutt grass <i>Orcuttia viscida</i>	FE/SE/1B.1		X	X
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT/--			X
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT/--			X
Vernal pool tadpole shrimp <i>Lepidurus packardi</i>	FE/--			X
California tiger salamander <i>Ambystoma californiense</i>	FT/ST/-	X		X
Giant garter snake <i>Thamnophis gigas</i>	FT/ST/-	X		X

**Federal ESA:**

FE = Federally Endangered; FT = Federally Threatened.

**CESA:**

SE = State Endangered; ST = State Threatened.

**California Rare Plant Ranks (CRPR):**

1B = Plant species rare or endangered in California and elsewhere (Not protected under ESA or CESA).

**CRPR Threat Ranks:**

01 = Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).

### 2.3.3 Conservation Strategy (Direct Actions)

The Conservation Strategy as part of the proposed HCP provides specific conservation measures that are a combination of avoidance, minimization, and mitigation designed to offset impacts from the Covered Activities. For the purposes of the analysis in this EIR, implementation of the Conservation Strategy is described as the Direct Actions. The Conservation Strategy would ensure that the potential impacts from Covered Activities are avoided, minimized, and mitigated to the maximum extent practicable. Impacts that remain after avoidance and minimization measures (AMMs) are implemented will be mitigated.

The Conservation Strategy for the proposed HCP reduces or eliminates impacts through pre-project planning, AMMs including pre-activity surveys, and worker training. Specific conservation measures are proposed to mitigate unavoidable impacts. These conservation measures will offset the impacts of the taking of the Covered Species and contribute to their long-term conservation.

Overall, the proposed HCP provides a comprehensive mitigation program that mitigates impacts by contributing to regional conservation or recovery efforts. SMUD intends to use the SMUD Nature Preserve Mitigation Bank (SMUD Bank) as much as possible to offset impacts from Covered Activities. In addition, SMUD will use other conservation and/or mitigation banks (conservation/mitigation banks) or partner with regional conservation entities to mitigate for Covered Species impacts, as described below.

Some of the elements of the Conservation Strategy are currently being undertaken by SMUD. Table 2-10 below in Section 2.3.5, *Summary of Conservation Strategy and Covered Activities as Analyzed in this EIR*, summarizes which activities that are part of the Conservation Strategy would result in a change to baseline conditions. In addition, some elements of the Conservation Strategy would not result in any physical environmental changes. This is also identified in Table 2-10.

### **Avoidance and Minimization**

AMMs reduce impacts from Covered Activities. To implement AMMs, SMUD must integrate them into its project review process. The process for environmental review is summarized below.

#### ***Pre-Project Planning***

SMUD currently uses a dedicated process to conduct environmental review, planning, and screening called Work Flow Integration. This process identifies if SMUD's activities have the potential to affect sensitive biological resources by using a spatial mapping resource called the Green Zone map (defined in HCP Section 5.1.1, *Definitions*), which involves conducting a computer desktop review to identify areas with sensitive resources prior to project initiation. The Green Zone map depicts locations of biological resource occurrences based on available data such as Calfora and California Natural Diversity Database. The Green Zone map is used to identify where Covered Activities could affect sensitive biological resources. Based on review of the Green Zone map, an environmental specialist considers potential effects and disturbance of the planned activity, time of year and results of the desktop review to identify appropriate measures to avoid or minimize potential impacts and prescribe them to the field crews. Measures that are prescribed to a field crew typically include one or more of the following: preconstruction surveys, biological monitoring, establishing buffers, exclusion fencing, and seasonal work windows.

As part of proposed HCP implementation, SMUD will add the Covered Species modeled habitat developed for the proposed HCP into the Green Zone map (HCP Section 3.5, *Covered Species*, and HCP Appendix C, *Species Accounts*). The HCP implementation team, SMUD engineering designers, and planners will then utilize the Work Flow Integration process, including the Green Zone spatial resource, to identify where Covered Activities could affect sensitive biological resources including Covered Species (and non-HCP species). Based on this review, the environmental specialist will identify appropriate AMMs or measures to avoid, minimize, and mitigate impacts on Covered Species and/or

sensitive biological resources not covered by the proposed HCP and prescribe them to the field crews.

### ***Avoidance and Minimization Measures***

The proposed HCP includes general, Covered-Activity-specific, and Covered-Species-specific AMMs to reduce or avoid potential direct or indirect impacts (e.g., temporary or permanent habitat loss or degradation, disturbance, injury, mortality) from implementation of Covered Activities (Table 2-12). The AMMs include “general” AMMs that are applicable to all Covered Species and habitats. Some general AMMs apply to all Covered Activities while others apply to only some Covered Activities. SMUD would implement species- and habitat-specific AMMs identified in the proposed HCP as appropriate any time that a Covered Activity occurs within modeled habitat for a Covered Species. Some AMMs, particularly those related to preconstruction surveys, are only required for Covered Activities that disturb more than 0.1 acre as well when activities on lands that are protected with a conservation easement or similar real estate protection for the purpose of conserving biological resources (conservation/mitigation banks). All remaining impacts that are not avoided or minimized through the AMMs will be mitigated through other measures of the proposed HCP Conservation Strategy.

### ***Annual Training***

To help ensure that the AMMs are implemented properly, SMUD will implement an annual environmental awareness training program for staff who conduct or supervise Covered Activities performed under the proposed HCP. SMUD will also train contractors and supply all training materials to these contractors. Training will include an overview of the proposed HCP, the importance of compliance with the proposed HCP and all environmental laws, and a summary of all AMMs outlined in the proposed HCP.

### **Mitigation**

SMUD will fully mitigate its actual impacts according to the mitigation ratios and approaches and in the quantities described below. SMUD will accomplish this mitigation using several approaches, as described below in order of preference.

#### ***Mitigation Approaches***

SMUD will mitigate for impacts using several approaches, as described below in order of preference.

#### **Use Credits at SMUD Bank**

SMUD’s preferred approach to mitigation is to use the existing credits at the SMUD Bank for the following Covered Species: Sacramento Orcutt grass, vernal pool fairy shrimp, vernal pool tadpole shrimp, and CTS. In addition, SMUD proposes to enhance the SMUD Bank’s Sacramento Orcutt grass population and introduce slender Orcutt grass.

SMUD established the SMUD Bank primarily to serve SMUD’s future mitigation needs. Not all credits associated with the SMUD Bank would be used for the proposed HCP. Some of the credits have been and would continue to be used by SMUD for projects not covered by the proposed HCP. Additionally, SMUD may decide to sell some SMUD Bank credits to third parties.

The SMUD Bank provides credits for the following proposed HCP land cover types: Grasses and Forbs, Riverine, Open Water/Fringe, Other Depressional Wetland, and vernal pool habitat (Vernal Pool, Seasonal Wetland, and Swale) (Table 2-2). Table 2-3 presents credits available for HCP covered species.

**Table 2-2 Summary of Mitigation Credits or Acres Available from SMUD Bank**

<b>SMUD HCP Land Cover Type</b>	<b>Credits or Acres Available</b>	<b>Species</b>
Grasses and Forbs	281.96	California tiger salamander (upland)*
Other Depressional Wetland	0.25	Vernal pool fairy shrimp* Vernal pool tadpole shrimp* California tiger salamander (aquatic)*
Vernal Pool, Seasonal Wetland, and Swale (preserved)	22.80	Sacramento Orcutt grass* Slender Orcutt grass Vernal pool fairy shrimp* Vernal pool tadpole shrimp* California tiger salamander (aquatic)*
Vernal Pool, Seasonal Wetland, and Swale (created/restored)	22.64	Sacramento Orcutt grass Slender Orcutt grass Vernal pool fairy shrimp* Vernal pool tadpole shrimp* California tiger salamander (aquatic)

\* Species with approved credits in the bank prior to completion of the HCP. Covered Species that are not approved for credits (i.e., slender Orcutt grass) will be mitigated in the SMUD Nature Preserve Mitigation Bank in appropriate land types through the SMUD HCP only.

**Table 2-3 Credits Available for Covered Species**

<b>SMUD HCP Covered Species</b>	<b>Credits or Acres Available</b>
Sacramento Orcutt grass	2.97
Vernal pool fairy shrimp/vernal pool tadpole shrimp (preserved)	22.80
Vernal pool fairy shrimp/vernal pool tadpole shrimp (created/restored)	22.64
California tiger salamander (aquatic)	3.81 preserved; 1.83 created/restored
California tiger salamander (upland)	281.96

### Purchase Credits at Other Conservation/Mitigation Banks

For impacts on Covered Species that cannot be mitigated at the SMUD Bank, SMUD may purchase credits from a conservation/mitigation bank that is within the HCP Plan Area. There are five approved conservation/mitigation banks in northern California with service

areas for one or more Covered Species that overlap with the HCP Plan Area, and that are included in the Plan Area (Table 2-4). Over the 30-year Permit Term additional conservation/mitigation banks will likely be created and approved and may be used to mitigate impacts from HCP Covered Activities with Wildlife Agencies' approval, if the service areas for these banks are within the Permit Area.

**Table 2-4 Conservation/Mitigation Banks within the Plan Area**

Approved Conservation or Mitigation Bank	Species Service Area Overlaps with Plan Area
Bryte Ranch Conservation Bank	Vernal pool fairy shrimp and vernal pool tadpole shrimp
Clay Station Mitigation Bank	Vernal pool fairy shrimp and vernal pool tadpole shrimp
French Camp Conservation Bank	Valley elderberry longhorn beetle
Nicolaus Ranch Valley Elderberry Longhorn Beetle Conservation Bank	Valley elderberry longhorn beetle
River Ranch VELB Conservation Bank	Valley elderberry longhorn beetle

Participate in an Overlapping HCP

If full mitigation cannot be achieved for a Covered Species at the SMUD Bank or other conservation/mitigation banks, SMUD may collaborate with the implementing entity of another HCP to accomplish the remaining mitigation within the SMUD Plan Area, upon wildlife agency approval (take would be authorized under the proposed HCP, not the other HCP). Candidate HCPs include the Western Placer County HCP/Natural Community Conservation Plan (NCCP), Natomas Basin HCP, Yolo HCP/NCCP, and South Sacramento HCP, as well as other future HCPs that may be developed over the proposed HCP 30-year Permit Term (Table 2-5). Partnering with another HCP to acquire land for GGS conservation is SMUD's preferred mitigation strategy for GGS; take would be permitted through the SMUD HCP and another HCP's mitigation mechanisms would be used.

**Table 2-5 SMUD HCP Covered Species that are Also Covered by Overlapping Habitat Conservation Plans**

SMUD Covered Species	Species that Cannot be Fully Mitigated by SMUD Bank	Other HCPs in SMUD Plan Area			
		Western Placer County HCP/NCCP	Natomas Basin HCP	Yolo County HCP/NCCP	South Sacramento HCP
Vernal pool fairy shrimp	X	X	X		X
Vernal pool tadpole shrimp	X	X	X		X
Valley elderberry longhorn beetle	X	X	X	X	X
California tiger salamander			X	X	X
Giant garter snake	X	X	X	X	X
Slender Orcutt grass			X		X
Sacramento Orcutt grass			X		X

Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank

SMUD will offset effects on Sacramento Orcutt grass modeled habitat by invasive plant management and introduction of Sacramento Orcutt grass into suitable vernal pools where it is not currently known to occur. SMUD will offset effects on slender Orcutt grass modeled habitat by introduction of slender Orcutt grass into suitable vernal pools. SMUD will develop a plan to address Sacramento Orcutt grass population enhancement and slender Orcutt grass introduction for the Wildlife Agencies' approval by Year Five of SMUD HCP implementation. SMUD will then implement the enhancement and introduction plan. The enhancement and introduction plan will include the following information.

- Goals and objectives for enhancing the Sacramento Orcutt grass population and introducing slender Orcutt grass on the SMUD Bank;
- Methods for enhancing the Sacramento Orcutt grass population and introducing slender Orcutt grass on the SMUD Bank, such as inoculation and invasive plant management;

Monitoring, including a monitoring schedule, monitoring methods, performance standards, and contingency measures to implement if performance standards are not met within a designated timeframe. The plan shall describe additional Orcutt grass surveys and management in the first 5 years of enhancement, after which surveys would be conducted every 5 years to monitor the long-term progression and would be conducted concurrently with the SMUD Bank Long Term Monitoring Plan, which is required under the Bank Enabling Instrument (BEI) for the SMUD Bank. The long-term monitoring as required by the HCP is described below (HCP Long Term Monitoring at the SMUD Bank). For the purposes of analysis, the following assumptions were made regarding the Enhance Sacramento Orcutt Grass Population and slender Orcutt Grass Introduction activity at the SMUD Bank:

- Details of the enhancement and introduction plan are not known at this time but would include inoculation of vernal pools with Sacramento Orcutt grass and slender Orcutt grass seeds and invasive plant management. All Orcutt grass enhancement and introduction activities and invasive plant management would be accomplished using only hand tools.
- Slender Orcutt grass and Sacramento Orcutt grass seeds will not be watered.
- Invasive plant management could be conducted during the dry season or wet season.
- Monitoring in the first 5 years of enhancement will not involve any physical disturbance to the site.

- Conservatively assuming that each crew member would commute to and from the SMUD Bank using a vehicle, a maximum of 24 trips could be generated per year during the first 5 years and two per year after the first 5 years.

#### HCP Long Term Monitoring at the SMUD Bank

Every five years a biologist will quantify the plant communities in 10% of the preserved and restored/established waters of the U.S. at the SMUD Bank by collecting the following data:

- Record a list of plant species present in the pool
- List the dominant species determined using the 50/20 Rule as described in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), September 2008
- Note any other information that may be relevant to the habitat suitability for vernal pool fairy shrimp, vernal pool tadpole shrimp, or CTS
- Include the plant list, list of dominant species, and relevant notes in the SMUD Bank annual report.

The HCP Long Term Monitoring at the SMUD Bank is above and beyond what is required under the Bank Enabling Instrument (BEI) for the SMUD Bank and would be conducted in conjunction with the long-term monitoring required as part of the SMUD Bank BEI (Covered Activity C2). The HCP Long Term Monitoring at the SMUD Bank would be funded separately from the SMUD Bank endowment.

#### ***Mitigation Ratios***

Mitigation Ratios are described in detail in Section 5.4 of the HCP. Tables 2-6 and 2-7 from the HCP summarize the mitigation ratios.

**Table 2-6 Mitigation Summary for Covered Plants**

Covered Species	Acres			Proposed Mitigation	Notes
	Impacts on Modeled Habitat (temporary, permanent, indirect)	Modeled Habitat Preservation	Modeled Habitat Restoration/Creation		
Slender Orcutt grass	7.1 (temporary = 0.1 permanent = 4.3 indirect = 2.7)	NA	NA	SMUD will develop and implement an enhancement and introduction plan with SMUD Bank Interagency Review Team (IRT) and Wildlife Agencies approval to introduce slender Orcutt grass on SMUD Bank.	SMUD will avoid adverse effects on occupied habitat of this species.
Sacramento Orcutt grass	7.1 (temporary = 0.1 permanent = 4.3 indirect = 2.7)	NA	NA	SMUD will develop and implement an enhancement plan with IRT and Wildlife Agencies approval to improve conditions for Sacramento Orcutt grass on SMUD Bank with invasive plant management and seed introduction.	SMUD will avoid adverse effects on occupied habitat of this species.

Source: HCP Table 5-6

**Table 2-7 Mitigation Summary for Covered Wildlife**

Covered Species	Acres			Proposed Mitigation (numbers assume all projected impacts occur)	Notes
	Impacts on Modeled Habitat (temporary, permanent, indirect) <sup>a</sup>	Modeled Habitat Preservation (if all projected impacts occur) <sup>b</sup>	Modeled Habitat Restoration/Creation (if all projected impacts occur)		
Vernal pool fairy shrimp and vernal pool tadpole shrimp	19.8 (temporary = 1.8 permanent = 14.1 indirect = 3.9)	33.0	14.1	1. Use mitigation credits from the SMUD Bank to preserve 33.0 acres of modeled habitat, purchase credits at other conservation/ mitigation banks, or partner with an overlapping HCP. 2. Use 14.1 acres of vernal pool restoration/creation on SMUD Bank (i.e., use credits from previously created habitat).	These species occur at the SMUD Bank, and the BEI provides credits for these species. SMUD's preferred strategy for meeting this objective is using SMUD Bank credits for protection and restoration/creation of modeled habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp, consisting of the SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover type.
Valley elderberry longhorn beetle	300 shrubs (trimmed = 200 removed = 100)	16.2 acres for trimmed, and 8.1 acres for removed	N/A	1. Purchase credits to preserve 24.3 acres at a conservation/mitigation bank for valley elderberry longhorn beetle.	SMUD will offset impacts by purchasing credits at an approved conservation/mitigation bank.
California tiger salamander	142.8  ( <i>Aquatic Habitat</i> temporary = 0.5 permanent = 5.0 indirect = 3.2)  ( <i>Upland Habitat</i> temporary = 109.5 permanent = 24.6 indirect = N/A)	142.25 ( <i>Aquatic Habitat</i> = 13.7, <i>Upland Habitat</i> = 128.55)	5.0  ( <i>Aquatic Habitat</i> )	1. Use mitigation credits from SMUD Bank or another conservation/mitigation bank in the Plan Area with Wildlife Agency approval to preserve 128.55 acres of upland modeled habitat and 13.7 acres of aquatic modeled habitat. 2. Use 5.0 acres of vernal pool creation/restoration credits for California tiger salamander from SMUD Bank or another conservation/mitigation bank in	California tiger salamander is known to occur at the SMUD Bank, and the SMUD Bank provides mitigation credit for this species. Habitat enhancements at the SMUD Bank, including the restoration/creation of wetlands and the draining of stock ponds to remove nonnative fish, have resulted in the creation/enhancement of 19.0 acres of previously unoccupied habitat that is now occupied by the species.

Covered Species	Acres			Proposed Mitigation (numbers assume all projected impacts occur)	Notes
	Impacts on Modeled Habitat (temporary, permanent, indirect) <sup>a</sup>	Modeled Habitat Preservation (if all projected impacts occur) <sup>b</sup>	Modeled Habitat Restoration/Creation (if all projected impacts occur)		
				the Plan Area with Wildlife Agency approval.	
Giant garter snake	136.8  <i>(Aquatic Habitat temporary = 10.4 permanent = 0.1 indirect = n/a)</i>  <i>(Upland Habitat temporary = 102.2 permanent = 24.1 indirect = n/a)</i>	128.9  <i>(Aquatic Habitat = 5.5)</i>  <i>(Upland Habitat = 123.4)</i>	0.10	Purchase 128.9 credits at a conservation/mitigation bank. This represents a 3:1 ratio for permanent impacts, a 0.5:1 ratio for temporary impacts, and 1:1 aquatic habitat creation credit	There is no giant garter snake habitat at the SMUD Bank. SMUD's preferred strategy for meeting this objective is partnering with another HCP to acquire land for GGS conservation (but permit take through the SMUD HCP) or another USFWS and CDFW-approved mitigation program if available, or buy giant garter snake credits at an USFWS and CDFW-approved conservation/mitigation bank.

<sup>a</sup> Acres unless otherwise noted.

<sup>b</sup> Habitat preservation required according to the ratios in Section 5.4, if impacts occur up to the maximum allowed under the HCP.

BEI = Bank Enabling Instrument

IRT = Interagency Review Team

Source: HCP Table 5-7

### **Mitigation Summary**

Tables 2-8 and 2-9 provide a species-by-species summary of how implementation of the Conservation Strategy would avoid, minimize, and mitigate impacts on the Covered Species.

As described above, SMUD will offset effects on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank.

**Table 2-8 Conservation Strategy Summary for Covered Plant Species**

<b>Plant Species</b>	<b>Avoidance and Minimization Measures</b>	<b>Proposed Mitigation</b>	<b>Conclusion</b>
Slender Orcutt grass	G-AMM3, G-AMM6, G-AMM7, G-AMM9, G-AMM12, G-AMM16, G-AMM19, VP-AMM1, VP-AMM2, VP-AMM3, VP-AMM4, VP-AMM5, VP-AMM6, VP-AMM7	SMUD will develop and implement an enhancement and introduction plan with SMUD Bank Interagency Review Team and Wildlife Agencies approval to introduce slender Orcutt grass at SMUD Bank.	Adverse effects on occupied habitat for this species will be avoided.
Sacramento Orcutt grass	G-AMM3, G-AMM6, G-AMM7, G-AMM9, G-AMM12, G-AMM16, G-AMM19, VP-AMM1, VP-AMM2, VP-AMM3, VP-AMM4, VP-AMM5, VP-AMM6, VP-AMM7	SMUD will develop and implement an enhancement and introduction plan with SMUD Bank Interagency Review Team and Wildlife Agencies approval to improve conditions for Sacramento Orcutt grass on SMUD Bank.	Adverse effects on occupied habitat for this species will be avoided.

AMM = avoidance and minimization measure.

**Table 2-9 Conservation Strategy Summary for Covered Wildlife Species**

Species	Avoidance and Minimization Measures	Proposed Mitigation	Conclusion
<b>Invertebrates</b>			
Vernal pool fairy shrimp and vernal pool tadpole shrimp	G-AMM3, G-AMM6, G-AMM7, G-AMM9, G-AMM11, G-AMM12, G-AMM13, G-AMM16, G-AMM19, VP-AMM1, VP-AMM2, VP-AMM3, VP-AMM4, VP-AMM5, VP-AMM6, VP-AMM7	Preserve 2.0 acres and restore/create 1.0 acre of modeled habitat for every acre of permanent direct impact. Preserve 0.5 acre for every acre of temporary direct impact. Preserve 1.0 acre for every acre of indirect impact. With maximum allowable impacts, SMUD would preserve 33.0 acres and create 14.1 acres of modeled habitat.	Direct impacts avoided or minimized with AMMs. Mitigation would fully offset impacts with no net loss of suitable habitat.
Valley elderberry longhorn beetle	VELB-AMM1, VELB-AMM2, VELB-AMM3, VELB-AMM4, VELB-AMM5, VELB-AMM6, VELB-AMM7, VELB-AMM8	Preserve 24.3 acres of valley elderberry longhorn beetle habitat.	Direct impacts avoided or minimized with the application of AMMs. Unavoidable impacts mitigated at a USFWS-approved conservation/mitigation bank.
<b>Amphibians</b>			
California tiger salamander	G-AMM4, G-AMM5, G-AMM7, G-AMM9, G-AMM10, G-AMM12, G-AMM13, G-AMM16, G-AMM17, G-AMM19, CTS-AMM1, CTS-AMM2, CTS-AMM3, CTS-AMM4, CTS-AMM5, CTS-AMM6, CTS-AMM7, CTS-AMM8, CTS-AMM9	Preserve 128.55 acres of upland and 13.7 acres of aquatic habitat. Create 5.0 acres of aquatic modeled habitat.	Direct impacts avoided or minimized with AMMs. Mitigation would fully offset impacts with no net loss of aquatic (breeding) habitat.
<b>Reptiles</b>			
Giant garter snake	G-AMM3, G-AMM4, G-AMM5, G-AMM7, G-AMM9, G-AMM10, G-AMM12, G-AMM13, G-AMM16, G-AMM17, G-AMM19, GGS-AMM1, GGS-AMM2, GGS-AMM3, GGS-AMM4	Preserve 123.4 acres of upland habitat and 5.5 acres of aquatic habitat. Create 0.1 acre of modeled aquatic habitat.	Direct impacts avoided or minimized with AMMs. Mitigation would fully offset impacts with no net loss of aquatic habitat.

AMM = avoidance and minimization measure

## Monitoring Program and Adaptive Management

### *Monitoring*

The proposed HCP monitoring, reporting, and adaptive management programs would document proposed HCP implementation and compliance with the take authorizations as well as collect monitoring data that SMUD would use to improve the effectiveness of the HCP Conservation Strategy over the Permit Term.

#### Types of Monitoring

Implementation of the annual monitoring program would include the following.

- **Compliance monitoring**—Monitoring that tracks compliance with the requirements of the take authorizations and the proposed HCP. The HCP administrator and environmental specialists would be responsible for overseeing the compliance monitoring of Covered Activities is planned and completed. Compliance monitoring, also known as “implementation monitoring,” is the process used to track compliance with the requirements, commitments, and terms of the proposed HCP and the take authorizations, and would verify that the permittee is conforming to and correctly implementing the proposed HCP. As part of required compliance monitoring, SMUD would monitor, track, and report Covered Activities that are implemented each year.
- **Effects monitoring**—Monitoring that tracks and organizes the impacts of the Covered Activities on the Covered Species habitat. The HCP administrator would be responsible for confirming that impact estimates are being evaluated and revised as necessary. Effects monitoring verifies that the temporary and permanent impacts of implemented Covered Activities are consistent with the assumptions and do not exceed the impact estimates used when the proposed HCP was developed and approved.
- **Effectiveness monitoring**—Monitoring that tracks the effectiveness of the AMMs, and tracks the effectiveness of the conservation measures in meeting the proposed HCP’s biological goals and objectives. Management at SMUD and the HCP administrator would be responsible for reviewing the monitoring data and assessing whether the biological goals and objectives are being met.

### *Adaptive Management*

Adaptive management measures would be implemented when management actions do not produce the desired outcome or when species or natural-community trends decrease. In these cases, new actions would be implemented to try to improve the outcome for species and their habitat. Such actions could include the following.

- Alter the timing, location, intensity or type of grazing.

- Reduce, increase or otherwise change the pattern of management actions.
- Modify timing, location, or type of restoration.
- Modify approach to invasive weed control.
- Modify species-specific measures based on monitoring results (e.g., bullfrog eradication technique).

## Plan Implementation

SMUD would implement the proposed HCP through a team of specialized employees. The HCP implementation team would include an HCP administrator and environmental specialists. Direct support to the HCP team would come from SMUD's engineering designers and planners, field crews, and biologists who would work with the HCP team to confirm successful implementation and compliance of the proposed HCP. Biological monitors and field crews would have direct roles for implementing and following AMMs in the field.

A variety of implementation tasks are associated with the proposed HCP. These tasks include the following, which are described in detail in Section 7.2, *Implementation Tasks*, of the proposed HCP (refer to Appendix B).

- Conduct annual environmental training
- Conduct environmental review, planning, and screening
- Implement AMMs
- Fulfill mitigation requirements

### 2.3.4 Covered Activities (*Indirect Actions*)

Covered Activities are activities that SMUD would implement within the Permit Area that have the potential to result in incidental take of a Covered Species. For the purposes of the analysis in this EIR, implementation of the Covered Activities is described as the Indirect Actions. The activities covered by the proposed HCP includes operation and maintenance (O&M) and new construction Covered Activities that are described in the proposed HCP under six general categories: electrical facilities (E activities), natural gas transmission facilities (G activities), telecommunications (T activities), vegetation management (V activities), conservation and enhancement activities (C activities), miscellaneous activities (M activities). All of these categories are described in this section.

Descriptions of the Covered Activities in this EIR and in the proposed HCP were developed by interviewing subject matter experts at SMUD. The interviewed subject matter experts were from teams within SMUD that plan, support, supervise, or conduct the Covered Activities and had direct experience with and extensive knowledge of the Covered Activity they were providing information about. All interviewees were well

established employees at SMUD. The subject matter experts provided a narrative of the Covered Activity including the construction methods, approximate frequency, equipment used by SMUD to implement the Covered Activity, and estimates for work area and work area disturbances, temporary disturbance area, and/or permanent land cover loss associated with the activity. Covered Activity frequencies were based on historical data and averages based on SMUD's existing facilities and forecasted changes during the Permit Term from increased demand for electrical power due to growth approved by local land-use agencies, changes in regulatory environment, aging equipment and facilities, expected future needs, and/or changes in technology or work practices.

As noted in the proposed HCP, SMUD may implement slightly different activities than those described as Covered Activities and receive incidental take authorization as long as such activities and the effects of such activities are similar to these Covered Activities and fall within the descriptions and incidental take limits described in the proposed HCP.

While Covered Activities have the potential to result in incidental take of a Covered Species, not all Covered Activities would constitute a change to baseline conditions. As described in detail in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, SMUD has been conducting most of the Covered Activities, specifically those pertaining to O&M of SMUD's electrical, natural gas, and telecommunication systems as well as vegetation management practices within the Permit Area since SMUD took ownership of existing facilities or facilities were constructed for more than 75 years. These ongoing O&M Covered Activities are part of baseline conditions. The Covered Activities that would be necessary to meet anticipated growth or that SMUD does not currently conduct constitute a change to baseline conditions. In accordance with CEQA Guidelines Section 15125(a), this expected change is the focus of the analysis in this EIR, while activities that are part of the baseline are not analyzed for their potentially significant environmental effects and are not considered for purposes of determining mitigation measures. The following discussion describes each Covered Activity in detail, including whether the Covered Activity would constitute a change to baseline conditions (and if so, what that change entails). Table 2-10 below in Section 2.3.5 summarizes the identification of which Covered Activities would result in a change to baseline conditions.

## **Electrical Facilities**

### ***Facilities***

SMUD's existing electrical facilities within the Permit Area consist of approximately 17,420 miles of overhead and underground transmission, subtransmission, and distribution conductors (commonly referred to as power lines or cables). SMUD's electrical system consists of approximately 158 miles of transmission line easements and 8,792 miles of subtransmission and distribution line easements. The 230,000-volt (230 kilovolt [kV]) transmission conductors transport electricity from electrical generation plants to transmission substations that transform the electricity down to 115,000 (115kV) or 69,000 volts (69kV). From the transmission substations, 115kV transmission conductors or 69kV subtransmission conductors transport electricity to distribution substations, which

transform the electricity from 115kV or 69kV to 21,000 (21kV), 12,000 (12kV), or 4,000 volts (4kV) for the distribution system. The distribution conductors then carry the lower voltage power to industries, businesses, and homes. Conductors are installed either underground (referred to as *cables*) or on overhead poles, which are typically located along highways, streets, or other linear facilities. SMUD's overhead and underground electrical facilities are generally constructed within dedicated easements, public utility easements or, pursuant to a statutory right, within a city or county's roadway easement.

### ***Electrical System Operation and Maintenance and Construction***

Electrical system O&M and construction Covered Activities include the following and are described in detail below.

- Overhead Facilities Inspection (E1)
- Underground Facilities Inspection (E2)
- Substation Insulator Washing (E3)
- Substation Inspection, Maintenance, and Minor Upgrades (E4)
- Emergency Outage Inspection and Minor Repair (E5)
- Wood Pole Testing and Treatment (E6)
- Overhead Component Repair and Replacement (E7)
- Pole Replacement (E8)
- Underground Component Repair and Replacement (E9)
- Steel Lattice Tower Repair and Replacement (E10)
- Overhead Reconstruction and Reconductoring (E11)
- E12 is no longer included in the proposed HCP as a Covered Activity and is not discussed further in this EIR.
- New and Relocated Overhead Subtransmission and Distribution Line Construction (E13)
- New Underground Subtransmission and Distribution Line Construction (E14)
- Existing Distribution Substation Expansion (E15)
- New Substation Construction (E16)

## E1 Overhead Facilities Inspections

SMUD expects to conduct inspections of their overhead transmission, subtransmission, and distribution facilities to verify stability, structural integrity, and condition of the poles or towers, and overhead components, including fuses, breakers, relays, cutouts, switches, transformers, footings, insulators, conductors, signs, and overhead fiber-optic cables. SMUD would conduct both ground-based (E1a) and air-based overhead (E1b) facilities inspections.

Ground-based inspections of overhead subtransmission and distribution facilities would occur annually and consist of brief visual drive-by inspections and detailed line inspection that would require the inspector to access the pole, inventory the pole components (e.g., fuses, breakers, relays, cutouts, switches, transformers, paint), carefully examine individual components visually or through use of routine diagnostic tests, record the condition of each component, and record the GPS coordinates. Ground-based overhead facilities inspections could result in vehicle movement, vehicle noise, human presence, and dust generation and lay down of vegetation caused by off-road travel. Ground-based facilities inspections would be completed year-round.

Ground inspections of the approximately 158 miles of transmission easements encompassing conductors and components would be performed every 2 years using binoculars and infrared and corona cameras to identify issues with the transmission line components, including the tower structures and tubular steel poles. All transmission wood poles would be patrolled annually, and detailed inspections would be performed every 5 years.

Inspections of overhead transmission lines by air would also be conducted annually using fix-wing aircraft equipped with light detection and ranging (LiDAR) optical remote sensing technology. This technology is used to measure the precise heights of transmission conductors, determine if any conductors need to be raised or tensioned to meet ground clearance requirements, and identify locations with potential transmission line or vegetation management clearance issues. Take-offs and landings would occur at local municipal airports, and land cover would not be disturbed during air-based overhead facility inspections.

An estimated 25 miles of transmission lines located in rural areas without road access would also be inspected once a year during the spring or summer by helicopter. The helicopter would fly over the easement, as low as 100 feet off the ground, and may hover over SMUD facilities for focused inspection. No vegetation would be disturbed from the helicopter flying over SMUD facilities. Take-off and landing locations would include licensed airports located inside or outside the Permit Area.

Helicopters would be in any given location along the transmission line less than a day. Air-based overhead facilities inspections of transmission may increase noise levels associated with operation of the helicopter during the activity.

**Change to Baseline Conditions.** SMUD expects to construct 150 miles of new subtransmission lines (3,150 new poles) and 225 miles of new distribution lines (5,850 new poles) over the Permit Term outside existing easements (refer to Covered Activity E13, *New and Relocated Overhead Subtransmission and Distribution Line Construction*). Accordingly, the ground-based inspection of these new overhead lines (E1a) would constitute a change to baseline conditions. The proposed HCP does not include construction of new overhead transmission facilities, and there would be no change in the inspection of overhead transmission facilities by air (E1b).

## E2 Underground Facilities Inspection

SMUD would conduct inspections of underground subtransmission and distribution components (E2a) and of underground transmission lines (E2b).

Underground subtransmission and distribution inspections would include pad-mounted transformers and pad-mounted switching cubicles on a 5-year cycle. Components in vaults would be inspected every 3 years to verify stability, structural integrity, and condition. Pad-mounted transformers, which are located aboveground on concrete pads, would be inspected by manually opening the transformer and checking where the conductors connect to the transformer for signs of wear or resistance.

SMUD would access components associated with its underground facilities, including the network underground system, in trucks using existing roads. In the event that no road exists, driving off-road or walking on foot may be necessary. Underground facility inspections could result in vehicle movement, vehicle noise, human presence, and dust generation and lay down of vegetation caused by vehicle off-road travel.

SMUD has eight underground transmission lines that would also require inspection; six lines are located in the downtown Sacramento area and two lines are located in the Carmichael area. Four of the transmission lines in the downtown area and the two lines in the Carmichael area are high-pressure oil-filled (HPOF) pipe-type cables. The remaining two lines in the downtown area have insulated cables installed in PVC conduits in a concrete-encased duct bank. Both types of cables run through a system of manholes and terminate at substations.

HPOF cables have oil-pumping plants located in four substations to maintain the oil pressure within the pipe. SMUD crews are required to visit the HPOF pumping plants and perform a visual inspection at least once per month, but typically, inspections are performed weekly. SMUD monitors oil pressure in the pipes by checking pressure charts and collects the charts during inspection visits. SMUD crews perform identified corrective maintenance at the pumping stations as needed.

To protect underground pipe-type cable systems from corrosion, SMUD has installed two kinds of cathodic protection systems. SMUD crews inspect the cathodic protection systems and take measurements at all test boxes located along the length of cable. SMUD visually inspects the condition of the isolator/surge protector (ISP) as well. The solid-state ISPs do not require maintenance.

Manholes are visually inspected to check for damaged lids, disposition of lid covers (for safety and trip hazards), and the presence of water. While inspecting manholes, the network crews annually inspect the condition of cable splices and grounding for the cable.

SMUD's underground transmission equipment would be inspected on an annual cycle, and pumping plant inspections in substations would occur weekly. SMUD would access components associated with SMUD's underground transmission facilities in pickup trucks or service trucks using existing roads; no off-road travel would be necessary. Inspections would take less than a day. Inspection of SMUD's underground transmission facilities could result in vehicle movement, vehicle noise, and human presence.

**Change to Baseline Conditions.** With regard to underground subtransmission and distribution components (E2a), the change to baseline conditions would be inspection of new underground lines as described in Covered Activity E14, *New Underground Subtransmission and Distribution Line Construction* (eight new underground lines 100 foot or less in length and two pull boxes installed annually and three longer [2,200-foot] underground lines installed during the Permit Term). Because the proposed HCP does not include construction of new underground transmission lines, there would be no change in the inspection of underground transmission facilities (E2b).

### E3 Substation Insulator Washing

Substation insulator washing would consist of cleaning ceramic insulators that accumulate residue from birds and other animals. The substations would typically be energized during insulator washing. When the substation is energized, ground pumice or ground corncobs would be sprayed onto the insulators. If the Covered Activity is conducted when the substations are de-energized, deionized water would be used to wash the insulators for 20 minutes each; the total volume would not exceed 25 gallons per substation, and no soap or solvents would be used during the washing process. Wash water would not leave the substation footprint.

Insulators are located within existing substations where the ground is covered with gravel or pavement. SMUD would access the substations in service trucks from established roads. Equipment used for substation insulator washing could include a service truck and another service truck with a mounted pressure washer. Substation insulator washing could result in vehicle movement, vehicle and equipment noise, and human presence within the substation.

SMUD would wash substation insulators every 5 years at three substations. SMUD assumes one additional substation would require insulator washing over the 30-year Permit Term. These substations are accessible from existing roads, and no off-road travel would be necessary. Substation insulator washing would be performed in less than a day.

**Change to Baseline Conditions.** The change to baseline conditions would be insulator washing at one new substation over the Permit Term (E3).

#### E4 Substation Inspection, Maintenance, and Minor Upgrades

SMUD would conduct inspections of all existing 229 substations (18 transmission and 211 distribution) and all future substations (an estimated 278 substations by the end of the 30-year Permit Term) within the Permit Area monthly. Monthly substation inspections would be performed visually and consist of verifying component operation, determining the need for maintenance and/or component replacement, and inspecting the facility for safety.

SMUD estimates that 46 of the 229 existing substations (up to 56 of 278 substations including those assumed to be built in the future) would require some type of maintenance each year (each substation would require maintenance every 6 years). Substation maintenance includes repair or replacement of circuit breakers, power transformers, disconnect switches, capacitors, reactors, and other substation equipment such as bushings, surge arresters, bus and structures, control and metering equipment, auxiliary systems (fans, radiators, pumps, motors, controls, and nitrogen replenishment system), and the yard area.

An estimated 20 substations (up to 24 substations by the end of the 30-year Permit Term) would require component upgrades or repairs, or new components installed every year. Component upgrades and installation include transformer(s), capacitor banks, backup battery, metal clad switchgear, grounding grid, bus structure, new electric line outlets, fuses, and circuit breakers.

Most transmission substations and all of the distribution stations are located on gravel or pavement and surrounded by fences. Additional maintenance activities could include adding gravel, constructing new secondary spill containment areas, or replacing fencing or walls. All substation inspection, maintenance, and minor upgrades would be completed within the existing substation perimeter.

SMUD would access substations for maintenance and equipment delivery in pickup trucks and flatbed trucks using existing roads; no off-road travel would be necessary. Substation inspections could result in vehicle movement, vehicle and equipment noise, and human presence within the substation. Work would occur inside existing fences and would be completed in 3 days or less. Land cover outside of the substations would not be affected during inspections, maintenance, or minor upgrades.

**Change to Baseline Conditions.** SMUD expects to construct 6 new substations over the Permit Term under the proposed HCP (refer to Covered Activity E16, *New Substation Construction*). Accordingly, inspection, maintenance, and minor upgrade activities of these new facilities would constitute a change to baseline conditions.

#### E5 Emergency Outage Inspection and Minor Repair

SMUD estimates that it would conduct an average of 3,523 emergency outage repairs annually, of which approximately 75 percent are on the overhead facilities and 25 percent are on the underground facilities. Repairs would occur year-round.

SMUD would initially inspect electrical conductors or components to determine the location and probable cause of the outage. Simple repairs to restore power, such as re-closing a switch, would be completed during this Covered Activity. SMUD estimates that 80 to 85 percent of outage repairs could be resolved during the initial visit. For the other 15 to 20 percent, an additional SMUD crew would be dispatched to replace overhead or underground components, or poles (see Covered Activities E7, *Overhead Component Repair and Replacement*; E8, *Pole Replacement*; and E9, *Underground Component Repair and Replacement*). Emergency outage inspections and minor repairs for overhead facilities would be performed by accessing facilities, inspecting facilities and components from the ground, climbing towers and poles or using an aerial lift mounted on a service or line truck, and performing minor repairs. SMUD crews would access underground facilities through vault/pull boxes and make any repairs in those facilities.

SMUD would access electrical facilities using existing roads. In the event that no road exists, driving off-road or walking on foot may be necessary. Completion of one inspection and minor repair activity would take as short as 15 minutes and as long as 1 day. Equipment used for outage repair could include pickup trucks, service trucks, line trucks, and an aerial lift mounted on a service or line truck. Emergency outage inspection and minor repair activities could result in vehicle movement, vehicle and equipment noise, human presence, and dust generation and lay down of vegetation caused by off-road travel.

Emergency outage inspections and minor repairs would occur in a work area approximately 10 by 25 feet (0.006 acre). SMUD would apply the AMM described in Section 2.3.3, *Conservation Strategy (Direct Actions)*, where feasible, but it will not always be possible for SMUD to implement all applicable AMMs for emergency activities.

**Change to Baseline Conditions.** Because there would be no anticipated increase in outage events resulting from issuance of the take authorizations or implementation of the proposed HCP, there would be no changes to baseline conditions related to emergency outage inspection and minor repair (E5).

#### E6 Wood Pole Testing and Treatment

Wood poles that are more than 10 years old are intrusively inspected and tested every 10 years. Wood pole testing (E6a) determines which wood poles need repair, such as fiber wrapping (E6b), trussing (E6c), or replacement. Wood poles that pass the intrusive inspection are tested again after another 10 years. SMUD has an estimated 131,357 wood poles supporting transmission, subtransmission, and distribution lines in the Permit Area.

Wood pole testing would be performed by excavating an area around the base of the pole approximately 20 inches deep and 12 inches wide using hand tools. Excavated material would be placed in a pile where it can be reused as backfill. A minimum of three 0.5-inch holes would be bored into the wood pole at 45-degree angles to the axis of the pole using a handheld drill. After testing, the interior of all tested poles would be treated with a

fumigant following all applicable state and federal laws, and the excavated area would be backfilled, using the previously excavated soil.

To access wood poles, SMUD would use pickup trucks and service trucks on existing roads. In the event that no road exists, driving off-road or walking on foot may be necessary. Testing one wood pole would take approximately 10 to 20 minutes. Equipment used for pole testing would include hand tools. The activities associated with wood pole testing could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, and temporary ground disturbance from excavation.

If wood pole testing under Covered Activity E6a reveals that minor treatment of the pole is needed, the pole would be fiber wrapped. Fiber wrapping entails wrapping the pole at or below ground level with material that contains preservatives to slow the deterioration of the pole. This repair activity would occur in the field immediately following testing; no additional excavation or vehicle trips to the site would be required. Fiber wrapping a wood pole would be performed within the 20 minutes needed for the wood pole testing activity.

If wood pole testing reveals that the shell thickness of the pole is too thin at the ground line, the pole would be trussed. A second trip to the pole would be made to truss the pole following testing. Trussing would entail driving or setting a short steel truss (a steel bar approximately 14 by 3 inches wide, and 10 to 16 feet tall) into the ground and attaching it to the existing pole to provide additional support to the pole butt. This activity would involve jackhammering the steel truss into the ground approximately 5 to 8 feet deep directly adjacent to the pole and installing steel bands to secure the truss to the pole. SMUD estimates approximately 500 of the 13,600 wooden poles tested would be trussed each year (an average of 518 annually and up to 534 annually by the end of the 30-year Permit Term).

Equipment used for pole trussing could include jackhammers and hand tools. Pole trussing would take approximately 2 hours to complete. The activities associated with wood pole trussing could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, permanent vegetation loss, permanent ground disturbance, and ground vibration.

**Change to Baseline Conditions.** The change to baseline conditions would be testing of up to 428 new wood poles (E6a) and trussing up to 34 new wood poles (E6c) by the end of the Permit Term, and fiber wrapping 11 more wood poles annually (E6b).

### E7 Overhead Component Repair and Replacement

Overhead components must be repaired or replaced when they fail or become unsafe, when inspection reveals an anomaly that could lead to failure, or when a component is identified for replacement as part of SMUD's Avian Protection Plan.

Based on historical activities, SMUD estimates that 10,000 repairs or replacements of overhead components would occur each year in the Permit Area. To complete this activity, workers would either climb the pole or tower, or use an aerial lift on a service truck or line truck to access the component, and then repair or replace the component. This activity would occur year-round and may occur under emergency conditions.

SMUD would access electrical components on poles and towers in pickup trucks, service trucks, or line trucks using existing roads. In the event that no road exists, driving off-road or walking on foot may be necessary. Helicopters may be used up to 10 times annually to assist workers in the repair or replacement of components on transmission lines in sensitive habitat areas, in areas that are difficult to access, or if there are timing constraints. To accomplish this, the workers would be lowered on to the pole or tower by helicopter and then picked up by the helicopter.

This activity could result in vehicle movement, vehicle and equipment noise, helicopter noise, human presence, dust generation and lay down of vegetation caused by off-road vehicle travel, and temporary night lighting (under emergency conditions). Component repairs may take less than 1 hour or up to 1 day to be completed.

**Change to Baseline Conditions.** SMUD expects to construct 150 miles of new subtransmission lines (3,150 new poles) and 225 miles of new distribution lines (5,850 new poles) under the proposed HCP over the Permit Term outside existing SMUD easements (refer to Covered Activity E13). Accordingly, the repair and replacement of overhead components for these new facilities would constitute a change to baseline conditions.

### E8 Pole Replacement

SMUD estimates that 650 tubular steel and wood pole replacements occur each year in the Permit Area. When pole replacement is warranted, the new pole would be installed adjacent to the existing pole, generally within 10 feet, to facilitate the transfer of the conductor from the old pole to the new pole. Excavated holes for new poles would average 24 inches in diameter. The new poles would be framed, and any anchors and guy wires attached before the pole is set in the ground.

To set the new pole, SMUD would typically excavate a pole hole and any necessary anchor holes using a truck-mounted machine auger and a line truck. An auger drill, slightly larger in diameter than the pole, would be used to excavate the hole. The soil would be stockpiled directly adjacent to the hole. Pole setting depths would range from 5 to 14 feet.

In areas with hard and compacted soils, or when other underground utilities are present, SMUD may excavate pole holes with a technique called hydro-excavation, which is a non-mechanical process that uses pressurized water and an industrial-strength vacuum to simultaneously excavate and evacuate soil. As hydro-excavation breaks up soil, the soil and water slurry would be conveyed by vacuum to a debris tank on the truck. The soil slurry would be hauled offsite and disposed of in accordance with state and federal law.

SMUD would use a line truck with a mounted boom to hold the new pole in place in the pole hole. The space between the pole and the hole would be backfilled with the stockpiled soil or with imported fill material when hydro-excavation is used. After the new pole is set, the existing conductors would be moved from the old pole to the new pole.

The old pole would be removed from the ground using a pole jack (a 10-inch by 18-inch hydraulic jack mounted on a line truck). The hole would be backfilled using hand tools with native soil excavated from the new hole or with imported soil if hydro-excavation was used to excavate the pole hole. Most pole removals would be done from vehicles that remain on adjacent roadways, using a boom that can reach the pole from the truck. The old pole may be cut into segments to facilitate disposal.

Pole replacement would take between 1 and 3 days depending on conditions at the site. Pole replacement projects would occur year-round and may occur under emergency conditions.

SMUD would access poles using existing roads. In the event that no road exists, driving off-road or walking on foot may be necessary. The new pole would be delivered to the site on a pole dolly (which connects to the line truck). Other equipment used could include pickup trucks, service trucks, line trucks, a pole jack, truck-mounted machine auger, backyard pole setter, and hand tools such as chainsaws and pole saws.

Pole replacement activities could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary and permanent vegetation removal and ground disturbance, ground vibration, and temporary night lighting (under emergency conditions). When poles are replaced, either the new pole would be placed in the original pole hole, or the original pole would be removed, and vegetation would passively reestablish at the old pole location. Flexibility in the exact pole placement location would typically allow the new replacement poles to be sited to avoid sensitive habitats (e.g., vernal pools).

A work area up to approximately 100 feet by 100 feet would be used to complete this Covered Activity. SMUD would park any vehicles and equipment within this area for less than a day.

**Change to Baseline Conditions.** With regard to pole replacement (E8), the change to baseline conditions would be replacement of up to 40 more poles annually (refer to Covered Activity E13).

### E9 Underground Component Repair and Replacement

Repair or replacement of SMUD's underground electric components (transformers, bus work and switches in vaults, aboveground pad-mounted transformers, pad-mounted switching cubicles, and cable) would occur as a result of inspections. Underground component repair and replacement could include cable replacement in conduit (E9a), pad-mounted transformer repair and replacement (E9b), direct-buried cable

replacement—trenching (E9c), direct-buried cable replacement—horizontal directional drilling (HDD; E9d), or cable repair (third party damage/dig in) (E9e).

Replacement of cable in conduit would entail driving to the vault or pull box in a pickup truck and completing any activities in the vault or pull box. The damaged cable would be pulled out through the vault or pull box. The new segment of cable would be pulled in through the conduit. SMUD would access the vaults and pull boxes using existing roads. In the event that no road exists, driving off-road or walking on foot may be necessary. Equipment used could include pickup trucks, service trucks, a truck- or trailer-mounted bull-wheel puller, rewinders with collapsible reels, truck-mounted tensioners, conductor reel trailers, and conductor reels. A work area approximately 100 feet by 100 feet at both ends (0.46 acre) adjacent to existing vaults or pull boxes would be used to complete this Covered Activity. SMUD would park vehicles and equipment within this area. Covered Activity E9a could result in vehicle movement, vehicle and equipment noise, human presence, and dust generation and lay down of vegetation, and temporary night lighting (under emergency conditions). Land cover would not be modified during this Covered Activity. A typical underground cable replacement in conduit activity would take 1 day.

SMUD estimates that an average of 150 of the total 42,776 aboveground pad-mounted transformers would be repaired or replaced annually. Aboveground pad-mounted transformers would be replaced by first removing the underground cable terminations from the transformer. The transformer would then be unbolted from the cement pad and lifted off the pad by a boom on a truck or crane. The new transformer would be placed on the pad using a crane, bolted down, and the underground terminations reconnected. If the transformer pad was damaged, then it would be replaced with a new prefabricated cement pad prior to the installation of the new transformer. A boom on a truck or crane would be used to place the new pad. Equipment used could include pickup trucks (with a trailer), service trucks, line trucks, hand tools, and a crane (boom truck). This Covered Activity could occur year-round and may occur under both emergency and non-emergency conditions. Repair and replacement of a pad-mounted transformer would take half a day. Covered Activity E9b could result in vehicle movement, vehicle and equipment noise, human presence, dust generation and lay down of vegetation, and temporary ground disturbance. A work area approximately 100 feet by 100 feet (0.23 acre) would be used to complete this Covered Activity.

Direct-buried cables (cable not in conduit) that have failed and require replacement may be removed or abandoned in place. In most cases, SMUD would install replacement cable in new conduit, using either trenching or HDD as described below. Occasionally, SMUD would use the trenching technique to repair direct-buried line. SMUD estimates that approximately 300,000 feet (56.82 miles) of direct-buried subtransmission and distribution cable is replaced annually with conduit using the trenching method (1,000 feet per activity, 300 activities annually).

Trenching involves temporarily removing the surface material and soil to create void in which new conduit would be placed. Where appropriate, SMUD would preserve the top 6 inches of topsoil by storing it near the site. Typically, a construction work area width of 25

feet would be required to allow for the open trench and equipment. Once the trench is excavated, one to six segments of 4- or 6-inch-diameter plastic conduit would be installed on the trench floor and partially backfilled with concrete slurry. The trench would be backfilled with the previously excavated soil and the conduit buried under at least 2 feet of cover. After the conduit is placed, pull boxes constructed of prefabricated, steel-reinforced concrete would be installed. These boxes are typically one of three sizes: 17 inches by 30 inches by 24 inches; 4 feet by 6 feet by 4 feet; or 6 feet by 8 feet by 4 feet. The total excavation footprint for a pull box would typically be about 2 feet bigger than the box. New pull boxes would typically be installed at 200- to 1,000-foot intervals on straight runs and at junctions. The pull boxes would be used initially to pull the new cables through the conduit and to splice cables together. During electrical line operation, pull boxes provide access to the underground cables for inspections and repairs. Cable would be installed through the conduit at the pull boxes. Equipment used could include pickup trucks, service trucks, line trucks, trailer-mounted cable reels, trailer-mounted pulling rigs, and backhoes or wheel trenchers. Equipment used for this activity in roadways could include the equipment listed above and a jackhammer, a compressor, a compactor, and repaving equipment. Covered Activity E9c could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance from excavation, permanent vegetation and land cover loss at pull box sites, and ground vibration (in roadways).

SMUD estimates that 115,000 linear feet (21.78 miles) of existing direct-buried cable is replaced each year by the HDD method (700 feet per activity, 164 activities annually). HDD is a construction method of installing underground conduit in a shallow arc along a prescribed underground bore path by using a surface-launched drilling rig, with minimal disturbance to the surrounding area. Replacement of direct-buried line by HDD minimizes disturbance to the surface. The HDD process would start with the transportation of a drilling rig to the site and excavation of a receiving pit (approximately 12 square feet) and a launching pit (approximately 9 square feet). The drilling rig would drill a pilot hole from the launching pit to the receiving pit along the designated underground path. The drilling rig would use a second stage drill bit to enlarge the pilot hole by passing a larger cutting tool known as the back reamer. In the third stage, the plastic conduit would be pulled through the enlarged hole behind the reamer to allow centering of the conduit in the bore path. HDD is done with the help of a drilling fluid, a mixture of water and usually bentonite or a polymer that is continuously pumped to the drill bit or reamer to facilitate the removal of soil cuttings, stabilize the bore path hole, cool the cutting head, and lubricate the passage of the drill bit and pipe. Drilling fluids hold the soil cuttings in suspension to prevent them from clogging the bore path. The drilling fluid accumulates in the launching pit until it is vacuumed out and disposed of in accordance with state and federal law. After the HDD is complete, cable would be pulled through the conduit, and pull boxes constructed as described above.

Generally, installation of 700 feet of underground conduit and cable using the HDD method would take 4 days. This Covered Activity could occur year-round but would primarily be completed in dry weather conditions. Equipment used would include a drilling

rig, backhoes, welding equipment, water trucks, pickup trucks, a bulldozer, trailer-mounted cable reels, and trailer-mounted pulling rigs. Activities associated with Covered Activity E9d could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance from excavation, permanent vegetation and land cover loss at pull box sites, ground vibration, and temporary night lighting. A work area approximately 50 feet by 100 feet (0.12 acre) would be used to complete this Covered Activity.

If a cable in conduit is damaged, the damaged section would first be removed and repaired. The new cable would be pulled through the repaired conduit from the closest pull boxes. If direct-buried cable were damaged, then a splice kit would be used to replace the damaged section of cable. Equipment used would include pickup trucks, a backhoe or small excavator, trailer-mounted cable reels, and trailer-mounted pulling rigs. Equipment used for this activity in roadways could include the equipment listed above and a jackhammer, a compressor, a compactor, and repaving equipment. Covered Activity E9e could occur year-round and would occur under emergency conditions. Activities associated with cable repair could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance from excavation, and ground vibration (in roadways). A typical work area for third party damaged cable in conduit would be approximately 30 feet by 20 feet (0.01 acre) including excavating an area approximately 4 feet by 6 feet by 5 feet deep (0.0006 acre) to allow access to the damaged area. A typical cable or conduit repair would take less than a day.

**Change to Baseline Conditions.** With regard to cable replacement in conduit (E9a), the change to baseline conditions would be one additional replacement job per year, and repair and replacement of up to three new pad-mounted transformers during the 30-year Permit Term (E9b). Because direct-buried cable replacement (E9c, E9d) and cable repair (E9e) applied only to existing facilities, there would be no changes to the baseline associated with the replacement or repair of buried cables.

### E10 Steel Lattice Tower Repair and Replacement

SMUD currently has 560 steel lattice towers that support its transmission lines in the Permit Area. SMUD estimates that two lattice tower superstructures and two lattice tower foundations would need to be repaired annually, and 10 lattice towers would need to be completely replaced over the 30-year Permit Term. Steel lattice tower repair and replacement could include steel lattice tower superstructure repair (E10a), steel lattice tower foundation repair (E10b), steel lattice tower replacement—with a tubular steel pole (E10c), or lattice tower replacement—with a new lattice tower (E10d).

If an overhead facility inspection reveals that a steel lattice tower needs to be repaired, it would typically be strengthened through the replacement, modification, or addition of steel lattice pieces on the superstructure. SMUD crews would either climb the structure or use

a line truck to be lifted to the area that needed repair, and then replace, modify, or add steel lattice pieces using hand tools. Depending on the size and location of the new steel pieces, a crane may be used to lift the piece(s). A work area of approximately 100 feet by 100 feet would be used to complete this Covered Activity. SMUD would park any vehicles and equipment within this area. Equipment used could include pickup trucks, service trucks, line trucks, manual hand tools, mechanical tools, and a crane brought to the site on a trailer, depending on the location of the repair work. If a lattice tower was located in a sensitive habitat area that precludes access by ground, then a helicopter could be used to place workers and move equipment to and from the tower. Covered Activity E10a would be done during the dry season unless an emergency repair was required during the wet season. Steel lattice tower superstructure repair could result in vehicle movement, vehicle and equipment noise, helicopter noise, human presence, and dust generation and lay down of vegetation caused by off-road travel. A typical lattice tower superstructure repair would take 7 days.

If an overhead line inspection reveals that foundation repair is required, tower foundations would typically be strengthened by adding steel bars and concrete. A hole approximately 6 feet by 6 feet by 6 feet (0.001 acre) would be excavated around the existing footing using a backhoe. The soil would be stockpiled directly adjacent to the excavation. SMUD workers would remove the existing concrete using handheld jackhammers, which would expose the steel reinforcements. Additional steel reinforcement bars would be placed in the excavated hole, and a cement form expanding the footing by an additional 2 feet in diameter would be placed in the hole. A cement truck would be used to pour concrete into the form around the steel reinforcements. Equipment used could include pickup trucks, line trucks, cement trucks, jackhammers, backhoes, and dump trucks. Foundation repair could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance from excavation, permanent vegetation and land cover loss from expanded footings, ground vibration, and temporary night lighting (under emergency conditions). Covered Activity E10b would be done during the dry season unless an emergency repair was required during the wet season. A typical lattice tower foundation repair would take 4 days.

Steel lattice towers may need to be replaced if inspection reveals that the superstructure is bent or broken, or more than one footing is compromised and cannot be repaired. Of the 10 towers that may need to be replaced over the proposed 30-year Permit Term, SMUD assumes that eight would be replaced with a tubular steel pole and two would be replaced with a steel lattice tower. To replace a lattice tower with a tubular steel pole, a 9-foot-diameter hole would be augured up to 30 feet deep using a truck-mounted machine auger. The excavated soil would be stored onsite adjacent to the hole. An 18-inch-diameter steel reinforcing cage would be lowered into the hole by a crane. Approximately 1,900 cubic feet of concrete would be poured from a cement truck to form the new reinforced concrete foundation. New electrical components would be attached to the tubular steel pole, which would then be lifted to an upright position by a crane and bolted to the concrete foundation by workers using handheld power tools. The transmission line

conductors would be removed from the old tower using a crane and attached to the new tubular steel pole.

The existing lattice tower footings would be removed using handheld jackhammers to break up the concrete, a backhoe to remove the rubble, and a dump truck to haul the rubble offsite to an appropriate disposal site; then the four holes would be backfilled with native soil excavated from the new tower. The old tower would be removed from the site and taken to an appropriate disposal site or recycled. Soil excavated from the tubular steel pole hole would be used to backfill the holes from the lattice tower, spread out onsite in an area 50 feet by 30 feet, or hauled offsite for disposal. Pole setting depths range from 4 to 14 feet. Equipment used could include pickup trucks, line trucks, backhoes, a crane, a truck-mounted machine auger, cement trucks, and dump trucks. Covered Activity E10c could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance from excavation, and ground vibration. This Covered Activity would be done during the dry season unless an emergency repair was required during the wet season. A typical steel lattice tower replacement would take approximately 4 weeks.

Of the 10 towers that may need to be replaced over the proposed 30-year Permit Term, SMUD assumes that two would be replaced with a steel lattice tower. To replace a lattice tower with a new lattice tower, four 5-foot-diameter holes would be augured up to 10 to 15 feet deep using a truck-mounted machine auger. The excavated soil would be stored onsite and either used to backfill holes from the old tower, spread out onsite, or hauled offsite and disposed of appropriately. Steel reinforcing cages measuring 18 inches in diameter would be lowered into the holes by a crane, and concrete from a cement truck would be poured to form the reinforced foundation. Electrical components would be attached to the tower, which would then be lifted upright and set on the foundations using a crane and bolted to the concrete foundations by workers using hand tools. The transmission line conductors would be removed from the old tower using a crane and attached to the new tower. The existing lattice tower footings would be removed using handheld jackhammers to break up the concrete, a backhoe to remove the rubble, and a dump truck to haul the rubble offsite to an appropriate disposal site; then the four holes would be backfilled with native soil excavated from the new tower. The old tower would be removed from the site and taken to an appropriate disposal site or recycled. Soil excavated for the new steel lattice tower would be used to backfill the holes from the old steel lattice tower, spread out onsite in an approximately 50-foot by 30-foot area, or hauled offsite for disposal. Equipment used could include pickup trucks, line trucks, backhoes, a crane, a truck-mounted machine auger, cement trucks, and dump trucks. Covered Activity E10d could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance from excavation, and ground vibration. This Covered Activity would primarily be completed during the dry season unless an emergency repair was required during the wet season. A typical steel lattice tower replacement would take approximately 4 weeks.

**Change to Baseline Conditions.** Because there would be no new steel lattice towers constructed under the proposed HCP, there would be no changes to baseline conditions related to repair, replacement, or construction of new steel lattice towers (E10).

### E11 Overhead Reconstruction and Reconductoring

SMUD may undertake activities to allow more energy to flow through its system, including reconstruction and reconductoring projects. Reconstruction entails adding new subtransmission or distribution conductors to existing poles that support existing conductor. Reconductoring also entails replacing existing conductor with a thicker conductor to allow for an increase in capacity to accommodate planned growth consistent with existing general plans. Reconstruction and reconductoring projects would occur within existing distribution or subtransmission easements. This Covered Activity only addresses adding new conductors (reconstruction) or replacing existing conductor with thicker conductor (reconductor) on existing subtransmission or distribution lines.

For reconstruction and reconductoring, conductors would be strung on existing poles, or strung on new poles after the poles are set. Conductors are strung using travelers that would be attached to the cross arms on each pole, either during construction of the new pole or on an existing pole by means of a line truck. Installing the travelers would require a work area of approximately 10 feet by 25 feet (250 square feet, or 0.006 acre) per pole. New conductors would be pulled through the travelers using rope and either a reel trailer or a payout reel from a pull site. The temporary pull sites would be approximately 100 feet by 100 feet (10,000 square feet, or 0.23 acre), and centered on the existing easement, typically approximately every 0.5 mile or where the conductors cross a public road. After the conductors are strung through the travelers and properly tensioned, the insulators would be installed, the conductors would be permanently attached to the insulators, and the travelers would be removed. For reconductoring, the old conductor would be taken offsite and properly disposed of.

Shoo-fly structures (a temporary wood pole) may be installed where conductors cross over roadways, and at other locations where necessary, to prevent the conductors from contacting existing electric or communication facilities or to prevent contact with passing vehicles. Shoo-flies consist of wood poles and anchors temporarily installed to support the conductors. Pole setting depths range from 5 to 14 feet. Equipment used to construct the shoo-fly includes hand tools to attach electrical components to the temporary pole, a truck-mounted auger, a truck-mounted pole setter, and a line truck. Existing conductors would be removed from the old poles and attached to the shoo-fly poles. In most cases, this can be accomplished with one to two poles for every structure being replaced. The work area for each temporary pole (shoo-fly) would be approximately 100 feet by 100 feet (10,000 square feet, or 0.23 acre) including the temporary disturbance area of approximately 10 feet by 10 feet for soil storage (100 square feet, or 0.002 acre) and 3.14 square feet for the temporary pole.

Equipment used could include pickup trucks, service trucks, line trucks, a flatbed delivery truck, a truck- or trailer-mounted bull-wheel puller, rewinders with collapsible reels, truck-

mounted tensioners, conductor reel trailers, and conductor reels. Reconstruction and reconductoring could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, and temporary ground disturbance. This Covered Activity would not occur under emergency conditions. Reconstruction or reconductoring 1 mile of distribution or subtransmission line would take up to 2 weeks, depending on the accessibility of the site.

**Change to Baseline Conditions.** With regard to overhead reconstruction and reconductoring (E11), SMUD would not conduct these activities for new facilities installed during the Permit Term as the facilities would be too new to need to be reconstructed or reconductored. There would be no change to baseline conditions.

E12 No longer included in the proposed HCP as a Covered Activity and not discussed further in this EIR.

### E13 New and Relocated Overhead Subtransmission and Distribution Line Construction

New subtransmission and distribution lines may be needed to meet increased demand for electrical power from residential and commercial growth approved by local land-use agencies, including the counties and cities located within the Permit Area. Additionally, SMUD may be required to relocate existing subtransmission or distribution lines in response to road widening, residential development activities, or when the location of a line poses a hazard. Construction of new subtransmission and distribution lines and line relocations are expected to occur outside existing SMUD easements but within the Permit Area.

Covered Activities associated with the construction of new or relocated subtransmission and distribution lines would include: survey and staking of the new easement; removal of woody vegetation from the new easement (if necessary); and identification of pole sites, pull and tension sites, construction access routes, and temporary work areas for storing construction equipment and materials. The new poles (wood or tubular steel) would be framed (cross arms, pins, insulators, grounds, bonding, markers, and any components installed), and any anchors and guy wires installed before the pole is set. SMUD would excavate pole holes and any necessary anchor holes using a machine auger and line truck. An auger drill, slightly larger in diameter than the pole, would be used to excavate the hole; very little additional ground disturbance would be needed. The width and depth of the hole depends on the size of the pole, soil type, span, and wind loading. Typically, the diameter of the hole is approximately 24 inches. Pole setting depths range from 5 to 14 feet and between 16 and 44 cubic feet of soil would be removed from the hole. The excavated soil is used to backfill the pole hole and the excess soil is either spread out onsite or hauled offsite and disposed of appropriately. The work area to set new poles would be approximately 100 feet by 100 feet (0.23 acre), which is typical in rural areas; a smaller area is used in urban areas.

SMUD workers would string new conductors after all the poles in the new line are set, using travelers that are attached on the cross-arms on each pole. Conductors would be

pulled through the travelers using rope and either a reel trailer or a payout reel from a pull site (travelers would be installed on the pole when framed). The temporary pull sites would be approximately 100 feet by 100 feet each (10,000 square feet, or 0.23 acre) in size and located approximately every 0.5 mile or where the new line would cross a road. After the conductors are strung through the travelers, the insulators would be installed, the conductors would be permanently attached to the insulators, and the travelers would be removed.

Vegetation removal along the new line would be completed only as required to comply with prudent safety and regulatory requirements including California Public Resource Code Sections 4292 and 4293, North American Electric Reliability Corporation (NERC) standard FAC-003-1, and California Public Utilities Commission (CPUC) General Order 95, Rule 35. These regulations identify by voltage specific minimum clearance distances that must be maintained between vegetation and conductors. Additionally, SMUD is required to clear vegetation at the base of poles located in the California Department of Forestry and Fire Protection State Responsibility Area (SRA) that have hardware with the potential to cause sparks, such as a switch, fuse, transformer, or lightning arrester (Public Resources Code 4292). All vegetation within a radial distance of 10 feet around the base of these poles must be cleared. Following this initial vegetation removal, the implementation of Covered Activity V6, *Pole Vegetation Clearing*, would maintain the absence of vegetation around the base of these poles indefinitely. SMUD assumes five new poles would be constructed under this Covered Activity in the SRA each year, which would result in permanent land cover removal of approximately 0.05 acre annually.

Installing 1,000 feet of new distribution line (four to five poles and conductors) would take 2 to 3 days; 1,000 feet of new subtransmission line and tensioning would take 3 days. Relocation of 1,000 feet of distribution or subtransmission line would take 2 to 3 days, including the time needed to remove the existing poles and conductors.

Equipment used during construction or relocation of overhead subtransmission and distribution lines could include pickup trucks, a pole jack, a truck-mounted machine auger, line trucks, a vegetation mower, a flatbed material delivery truck, a pole dolly, a truck- or trailer-mounted bull-wheel puller, rewinders with collapsible reels, truck-mounted tensioners, conductor reel trailers, conductor reels, and hand tools for vegetation removal.

Construction or relocation of overhead subtransmission and distribution lines could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance, permanent vegetation and land cover loss, and ground vibration. This Covered Activity would not occur under emergency conditions.

SMUD assumes that once every 4 years, it would be required to construct a temporary access road, approximately 15 feet wide and up to 1,000 feet long. Construction of the access road would be done with a grader and may require placement of gravel, which would be removed after the line is constructed. Constructing an access road would

temporarily disturb 0.34 acre every 4 years. The land at any access road would be returned to pre-project contours and conditions following construction and would not be maintained as an access road.

**Change to Baseline Conditions.** SMUD expects to construct 150 miles of new subtransmission lines (3,150 new poles) and 225 miles of new distribution lines (5,850 new poles) under the proposed HCP over the Permit Term outside existing SMUD easements (E13), which would constitute a change to baseline conditions.

#### E14 New Underground Subtransmission and Distribution Line Construction

New underground facility construction would almost exclusively be done in urban settings and by developers pursuant to their own permitting and environmental obligations. The developer would install the conduit and pull boxes, and SMUD would install the cable. However, SMUD assumes that it would install approximately 10 underground lines annually (eight in trenches and two using HDD), typically 100 feet or less in length, to connect existing SMUD facilities to new underground lines installed by developers in new subdivisions or to new businesses. SMUD estimates that three longer underground lines, of an estimated 2,000 feet each, would be installed within the 30-year Permit Term.

For both subtransmission and distribution underground lines, SMUD would install additional underground conductor cable using a trenching (E14a) or HDD construction method (E14b). Areas would be graded and returned to preexisting topographic contours following construction.

Trenching would involve temporarily removing the surface material and soil to create void in which new conduit would be placed. Where appropriate, SMUD would preserve the top 6 inches of topsoil and store it near the site. Typically, a construction work area width of 25 feet would be required to allow for the open trench and equipment. The typical trench dimensions for installation of new conduit measures 2 feet wide and 4 feet deep. Once the trench is excavated, one to six segments of 4- or 6-inch-diameter plastic conduit would be installed on the trench floor and partially backfilled with concrete slurry. The trench would be backfilled with the previously excavated soil and the conduit buried under at least 2 feet of cover.

After the conduit is placed, pull boxes, constructed of prefabricated, steel-reinforced concrete, would be installed. Construction equipment and workers installing prefabricated pull boxes would stay within the 25-foot-wide construction work area. Two new pull boxes would typically be installed for each new underground line. Cable would be installed through the conduit at the pull boxes. Equipment used could include pickup trucks, service trucks, line trucks, trailers, trailer-mounted cable reels, trailer-mounted pulling rigs, and backhoes or wheel trenchers. Work within roadways could also require a jackhammer, a compressor, a compactor, and repaving equipment. Covered Activity E14a could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance from excavation, permanent vegetation and land cover loss from pull boxes, and ground vibration. This Covered

Activity would not occur under emergency conditions. A typical underground line construction project with trenching would take 1 to 3 days.

HDD is a construction method of installing underground conduit in a shallow arc along a prescribed underground bore path by using a surface-launched drilling rig, with minimal disturbance to the surrounding area. The HDD process would start with the transportation of a drilling rig to the site and excavation of a receiving pit (approximately 12 square feet) and a launching pit (approximately 9 square feet). The drilling rig would drill a small pilot hole from the launching pit to the receiving pit along the designated underground path. The drilling rig would use a second stage drill bit to enlarge the pilot hole by passing a larger cutting tool known as the back reamer. In the third stage, the plastic conduit would be pulled through the enlarged hole behind the reamer to allow centering of the conduit in the bore path.

After the HDD is complete, cable would then be pulled through the conduit followed by construction of pull boxes. Equipment used would include pickup trucks, a drilling rig, backhoes, welding equipment, water trucks, a bulldozer, trailer-mounted cable reels, and trailer-mounted pulling rigs. Covered Activity E14b could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance from excavation, permanent vegetation and land cover loss from pull boxes, and ground vibration. This Covered Activity would not occur under emergency conditions. A typical new cable installation project using HDD would take 3 days.

**Change to Baseline Conditions.** SMUD expects to trench eight new underground lines annually, typically 100 feet or less in length, and trench three longer (2,200-foot) underground lines during the 30-year Permit Term (E14a), which would constitute a change to baseline conditions. In addition, SMUD would conduct two HDD activities and install two pull boxes annually, which would constitute a change to baseline conditions (E14b).

### E15 Existing Distribution Substation Expansion

Expansion of existing distribution substations may be needed to meet increased demand for electrical power from residential and commercial growth approved by local land-use agencies, including the counties and cities located within the Permit Area. SMUD assumes one substation would be expanded every 5 years. Substation expansion activities would occur outside the existing substation perimeter. Each substation expansion would increase the substation by an estimated 0.3 acre and would include a work area of 100 feet by 100 feet. The expansion site would be cleared, grubbed, graded, and then excavated with an excavator or backhoe. Drilled pier foundations would be excavated with an auger. The underground electrical grounding grid and conduits would be installed. Concrete foundations would be placed with cement trucks and small tools. Components would be delivered on an 18-wheel tractor-trailer and installed with a crane. Water drainage would be incorporated into the existing substation drainage systems. The expanded substation site would be covered in crushed gravel, except where permanent

concrete foundations for the transformer, oil containment, and metal clad switchgear would be built or where paved roads are constructed.

Equipment used could include pickup trucks, flatbed trucks, service trucks, concrete trucks, tracker trailers, dump trucks, water trucks, a bulldozer, a grader, backhoes, excavators, small and large cranes, compactors, a roller, an auger, cement trucks, a jackhammer, and hand tools. Construction at existing substations could result in vehicle movement, vehicle and equipment noise, human presence, dust generation from construction activities, temporary vegetation removal, temporary ground disturbance within work areas, permanent vegetation and land cover loss, ground vibration, and temporary and permanent changes to surface hydrology or runoff. This Covered Activity would not occur under emergency conditions. Expansion of an existing substation would take approximately 4 months to complete.

**Change to Baseline Conditions.** SMUD would expand six existing substations over the Permit Term (E15), which would constitute a change to baseline conditions.

#### E16 New Substation Construction

New substations may be needed to meet increased demand for electrical power from residential and commercial growth approved by local land-use agencies, including the counties and cities located within the Permit Area. New transmission substation sites would be mass-graded by SMUD prior to construction activities. Transmission substation construction would permanently disturb approximately 11 acres per new substation. SMUD assumes four new transmission substations would be constructed over the 30-year Permit Term.

Most new distribution substation sites are included in the environmental analysis and permitting completed by the developer of the project to be served by the substation (e.g., sites are considered in a specific plan and EIR). The sites are mass-graded by the developer prior to SMUD's construction activities, and SMUD activities would not create any additional temporary disturbance or permanent land cover loss beyond those identified during the developer's environmental analysis and subsequent permitting. Approximately 45 new distribution substations, each 0.5 acre in size, would be constructed in the Permit Area over the 30-year Permit Term. However, SMUD anticipates the construction of only two 0.5-acre distribution substations over the 30-year Permit Term that would not be permitted by the developer and are Covered Activities in the proposed HCP.

SMUD's preparation of a new transmission or distribution substation would include clearing, grubbing, grading, and excavation. Drilled pier foundations would be excavated with an auger. The underground electrical grounding grid and conduits would be installed. The concrete foundations would be placed with a concrete truck and small tools. Components would be delivered on an 18-wheel tractor-trailer, installed with a crane, wired, and tested. The substation site would be covered in crushed gravel, except where permanent concrete foundations for the transformer, oil containment, and metal clad switchgear would be built or where paved roads are constructed. Water drainage from

the substation site would be conveyed via subsurface pipes to the existing storm drainage systems or retained onsite. The substation site would be fenced. Construction of a new distribution substation would require about 5 months to complete, and construction of a transmission substation would take approximately 18 months. No construction activities would occur outside of the substation work area.

Equipment used could include pickup trucks, flatbed trucks, service trucks, concrete trucks, tracker trailers, dump trucks, water trucks, a bulldozer, a grader, backhoes, excavators, small and large cranes, compactors, a roller, an auger, cement trucks, jackhammers, and hand tools. New substation construction could result in vehicle movement, vehicle and equipment noise, human presence, dust generation from construction activities, temporary vegetation removal, temporary ground disturbance within work areas, permanent vegetation and land cover loss, ground vibration, and temporary and permanent changes to surface hydrology or runoff. This Covered Activity would not occur under emergency conditions. Permanent effects would total 11 acres per transmission substation and 0.5 acre per distribution substation (45 acres over the Permit Term).

**Change to Baseline Conditions.** SMUD expects to construct four new transmission substations and 2 new distribution substations under the proposed HCP over the Permit Term, which would constitute a change in baseline conditions.

## **Natural Gas Transmission Facilities**

### ***Facilities***

SMUD's existing natural gas transmission facilities consist of underground natural gas transmission pipelines, and underground and aboveground valve stations and ancillary components. There are 76 miles of natural gas pipelines in the Permit Area delivering approximately 190 million cubic feet of gas per day from Winters in Yolo County to four gas-fired cogeneration power plants in Sacramento County. The pipelines consist of 20- to 24-inch diameter pipelines buried a minimum of 3 feet below the ground surface. The belowground pipelines includes several aboveground and belowground structures such as valves, remote terminal units, various traps for cleaning, and gas metering and regulating stations.

### ***Natural Gas Transmission Facilities O&M and Construction***

Natural Gas transmission facilities O&M and construction Covered Activities include the following and are described in detail below.

- Pipeline Inspections (G1)
- Pipeline Valve Station Inspections (G2)
- Pipeline Cathodic Protection Test Station Inspection (G3)

- Internal Pipeline Inspection (G4)
- Pipeline Maintenance and Repair (G5)
- Pipeline Cathodic Protection Test Station Installation (G6)
- Pipeline Anode Bed Replacement (G7)
- Pipeline Valve Repair or Replacement (G8)
- New Construction for Valve Stations and Pressure-Limiting Stations (G9)
- New Construction for Realigned Pipelines (G10)

### G1 Pipeline Inspections

SMUD would conduct three types of pipeline inspections: abnormal operation conditions (AOC) inspections (G1a), gas leak inspections (G1b), and storm-related inspections (G1c).

AOCs would include indications of leaks, third-party construction and agricultural activity, soil subsidence, ground movement, erosion, and other factors that may affect pipeline safety and operation. SMUD would conduct AOC inspections to observe surface conditions on and adjacent to the easement that would indicate AOCs. Inspections would be conducted by driving along the pipeline easement and visually looking for any AOCs. Covered Activity G1a could result in vehicle movement, vehicle noise, human presence, and dust generation and lay down of vegetation caused by off-road travel.

AOC inspections would be conducted on a quarterly basis with the exception of railroad and highway crossing inspections, which would be conducted on a biannual basis.

SMUD would conduct gas leak inspections using portable hydrogen-flame ionization gas detectors and laser methane detectors to sample the air above the pipeline. If leaks are found during a gas leak inspection, combustible gas indication meters would also be used to accurately grade the leak severity. Inspections would be conducted by walking and driving along the pipeline easement with the detectors and collecting air samples. Covered Activity G1b could result in vehicle movement, vehicle noise, human presence, and dust generation and lay down of vegetation caused by off-road travel. Gas leak inspections of the entire 76 miles of pipeline would be conducted once a year and may occur under emergency conditions.

SMUD would also conduct pipeline inspections after major storms along segments of pipeline that may have been affected to check for any storm-related damage to facilities, including fencing and line markers. Only a portion of the pipeline easement would need to be inspected: the areas where the storm was strongest. Covered Activity G1c could result in vehicle movement, vehicle noise, human presence, and dust generation and lay down of vegetation caused by off-road travel. An average year would require eight storm-

related inspections and it is assumed that only 2 miles of the pipeline easement would need to be inspected per storm.

**Change to Baseline Conditions.** SMUD expects to realign up to six pipeline segments over the Permit Term (refer to Covered Activity G10, *New Construction for Realigned Pipelines*). Accordingly, the modification in the area for inspection of these facilities would constitute a change in baseline conditions.

### G2 Pipeline Valve Station Inspections

SMUD would inspect all 12 pipeline mainline valve stations to test the operation of the aboveground components and calibrate existing cathodic protection system electronic test station instrumentation. The pipeline valve station inspections would be conducted within the station fencing. SMUD would access the pipeline valve stations using pickup trucks from existing roads; off-road travel would not be required. The pipeline valve station inspections could result in vehicle movement, vehicle noise, and human presence within the valve station. Each of the 12 valve stations would be inspected five or more times annually (quarterly functional surveys and one annual valve service inspection) and would be completed in less than a day at each station.

**Change to Baseline Conditions.** SMUD expects to install two new valve stations and one gas pressure-limiting station under the proposed HCP over the Permit Term (refer to Covered Activity G9, *New Construction for Valve Stations and Pressure-Limiting Stations*). The inspection of these new facilities would constitute a change in baseline conditions.

### G3 Pipeline Cathodic Protection Test Station Inspection

SMUD would test metal pipeline coating at cathodic protection test stations. These test stations consist of two to six wires attached to the pipeline that run up to the surface and are exposed inside 4-foot-tall, 4-inch-diameter plastic tubes or in flush-mounted test stations at various locations along the pipeline. A gas technician would attach a handheld digital meter to the wires to check the voltage between them. Cathodic protection test station inspections are conducted on an annual cycle, aboveground with no ground disturbance. The pipeline cathodic protection inspections could result in vehicle movement, vehicle noise, human presence, and dust generation and lay down of vegetation caused by off-road travel. This Covered Activity would not occur under emergency conditions. Each inspection would last no more than half a day.

**Change to Baseline Conditions.** With regard to pipeline cathodic protection test station inspection (G3), the change to baseline conditions would be the inspection of the seven new cathodic protection test stations over the Permit Term (refer to Covered Activity G6, *Pipeline Cathodic Protection Test Station Installation*).

#### G4 Internal Pipeline Inspection

SMUD would conduct internal pipeline inspections to provide a detailed map of the internal pipeline conditions. Internal pipeline inspection activities would be conducted from the three existing receivers and launchers built into the pipeline to allow for internal inspections. The receivers and launchers are located within valve stations in the Permit Area. To complete this activity, a cleaning pig would first be placed in the pipeline by a crane at the launching site; the flow of gas would pull the pig through the pipeline to the receiving site. Hazardous material collection kits would be brought to the receiving site valve stations to collect any hazardous material that may be pushed out of the pipeline. Any hazardous material would be disposed of in accordance with state and federal law. A smart pig would then be placed into the launcher site using a crane. The smart pig is the diameter of the pipeline and between 8 and 12 feet long. Information collected from this inspection would include information on dings or deformities in the pipeline, and the coordinates of any such anomaly. Additionally, a two-person marking crew would walk the line and place temporary markers on the ground surface to provide a spatial reference (location calibration) for the pig as it moves through the pipeline.

A temporary staging area (50 feet by 50 feet, or 0.06 acre) may be set up outside of the valve station for launching equipment and vehicles that cannot be stored in the fenced valve station. Equipment used for internal pipeline inspection could include cleaning and smart pigs, a crane, and its associated 20-foot trailer for transporting equipment. The internal pipeline inspections could result in vehicle movement, vehicle noise, human presence, and temporary ground disturbance. Internal pipeline inspections would be conducted every 5 years and would take approximately 3.5 days to complete. This activity would not need to occur under emergency conditions and would be scheduled for dry weather and adequate soil conditions.

**Change to Baseline Conditions.** With regard to internal pipeline inspection (G4), the change to baseline conditions would be the quarterly inspection of the six realigned pipeline segments outside existing SMUD easements over the Permit Term (refer to Covered Activity G10).

#### G5 Pipeline Maintenance and Repair

This activity would consist of aboveground maintenance and repairs from weather/storm damage or vandalism (G5a), or underground maintenance and repairs (G5b) to evaluate anomalies identified during the internal line inspections as detailed above in Covered Activity G4, *Internal Pipeline Inspection*; soil erosion (i.e., sink holes); and from third parties.

Aboveground pipeline maintenance and repair activities would consist of weather or storm damage and vandalism repairs to aboveground facilities such as valve station fences or pipeline markers. When a pipeline marker is replaced, the old marker would be removed, and the concrete footing hauled offsite. The replacement marker would use the same hole as the old marker. New markers may need to be placed in response to changes in land use or changes in regulations. When multiple line markers need to be installed, SMUD

would use a truck-mounted vacuum excavator parked within the easement to remove soil from an approximately 9- to 12-inch-diameter hole over the pipeline. A 2-inch-diameter marker would be placed in the hole and secured with cement. Soil would then be placed over the cement. If only one marker needs to be installed, the hole would be excavated with shovels.

Repairs to valve station fencing would involve replacing or repairing a metal fence post or restringing a section of fence. All repairs to valve station fencing would be located within the same footprint as the damaged fence. Equipment used for aboveground pipeline maintenance and repair activities would include pickup trucks, hand tools, and a truck-mounted vacuum excavator. Covered Activity G5a could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary vegetation removal, temporary ground disturbance, permanent vegetation and land cover loss, and ground vibration. This activity could occur under emergency conditions, and the pipeline would remain in operation during these activities. SMUD could replace or install between 10 and 25 line markers annually, and repair one valve station fence annually. This Covered Activity could be completed in less than 1 day.

Underground pipeline maintenance and repair would consist of excavations to evaluate anomalies identified during Covered Activity G4, soil erosion, and third-party pipeline damage. Repair of soil erosion over a pipeline would be the worst-case scenario for underground maintenance and repair activities in terms of both size of disturbance and frequency. Therefore, the disturbance estimates for this section use soil erosion repair for disturbance calculations. SMUD anticipates conducting an average of five pipeline maintenance and repair events annually. In cases where soil erosion has occurred or a repair is needed, SMUD would excavate a hole to expose the pipeline and inspect it for damage. A work area of approximately 150 feet by 150 feet (0.52 acre) would encompass the excavation, soil stockpiles, and areas where equipment would be working. Maintenance materials used for site-specific erosion problems may include riprap or coconut fiber or straw erosion control blankets. SMUD assumes that one soil erosion repair each year would require the use of riprap. Therefore, this Covered Activity may result in a permanent loss of land cover of an estimated 150 square feet (0.003 acre) annually. Equipment used would include pickup trucks, a backhoe, an equipment trailer, and a water truck. Work within roadways could also require a jackhammer, compressor, compactor, and repaving equipment. Covered Activity G5b could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary vegetation removal, temporary ground disturbance, permanent vegetation and land cover loss, and ground vibration. This Covered Activity could occur under emergency conditions. Each event would take about 1.5 days to complete, and the pipeline would remain in operation during these activities.

**Change to Baseline Conditions.** With regard to aboveground and underground pipeline maintenance and repair (G5a and G5b), the change to baseline conditions would be the maintenance and repair of the six realigned pipeline segments outside existing SMUD easements over the Permit Term (refer to Covered Activity G10).

### G6 Pipeline Cathodic Protection Test Station Installation

SMUD would install new cathodic protection test stations in response to a third-party utility crossing that have the potential to interfere with SMUD's existing cathodic protection. As discussed under Covered Activity G3, *Pipeline Cathodic Protection Test Station Inspection*, these test stations determine pipe corrosion. Installation of a new or replacement cathodic protection test station would require soil excavation to expose a section of pipeline, attaching the wires to the outside of the pipe with liquid weld, and backfilling soil to cover the pipeline. Equipment used in rural areas could include a backhoe transported by a truck and trailer, a water truck, and pickup trucks. Work in urban areas may also require a jackhammer, a compressor, a compactor, and repaving equipment. This Covered Activity could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary vegetation removal, temporary ground disturbance, permanent vegetation and land cover loss, and ground vibration. This activity would not need to occur under emergency conditions and would be scheduled for dry weather and adequate soil conditions. SMUD estimates that seven new cathodic protection test stations would be installed and up to three would be replaced in the same location as the existing station over the 30-year Permit Term. Each new or replaced cathodic protection test station installation would require a work area of approximately 100 feet by 100 feet (0.23 acre), including an excavation area and soil stockpile area. Cathodic protection test station installation would take less than 2 days.

**Change to Baseline Conditions.** With regard to pipeline cathodic protection test station installation (G6), the change to baseline conditions would be installation of seven new cathodic protection test stations and three replacement stations over the Permit Term.

### G7 Pipeline Anode Bed Replacement

SMUD has 53 anode beds buried along the pipeline, consisting of bagged material of zinc, magnesium bars, potential gradient mats, polarization cells, or zinc ribbon. Anode beds degrade over time (faster in areas of high moisture content) and generally have a 30-year life span. If an existing anode bed needed to be replaced, a new bed would be buried 10 to 15 feet deep along portions of the existing pipeline in a vertical configuration (slight offset from the pipeline). Wires would connect the new anode bed to the pipeline, and the old anode bed would be left in place. This Covered Activity would not occur under emergency conditions. Equipment used for this activity could include an auger, a backhoe transported by a truck with a trailer, a water truck, and pickup trucks. Work within roadways could also require a jackhammer, a compressor, a compactor, and repaving equipment. Covered Activity G7 could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary vegetation removal, temporary ground disturbance, and ground vibration. The anode bed would be buried and the ground surface recontoured to preconstruction contours. The activity would be performed in a work area of approximately 100 feet by 100 feet (0.23 acre) that encompasses the excavation area, soil stockpile area, and areas where equipment would be working.

**Change to Baseline Conditions.** Because the anode beds at newly constructed realigned pipelines would not require replacement during the Permit Term, there would be no change to baseline conditions.

#### G8 Pipeline Valve Repair or Replacement

SMUD has nine underground and three aboveground mainline valves that are located along the pipeline within fenced, graveled enclosures (valve stations). Valves on the pipeline occasionally malfunction or wear out, causing leaks, and would need to be repaired or replaced. Prior to valve repair or replacement, a portion of the pipeline would be blown down (i.e., natural gas would be removed from the affected section of pipeline at a control point). Then, a terraced hole (approximately 15 feet deep) would be excavated within the fenced valve station around and under the existing valve. The majority of the excavated area would be encompassed in the valve station, but the fencing may be removed to allow for easier access, and the hole may exceed the boundaries of the fenced area. Additionally, a staging area outside the valve station (approximately 100 feet by 100 feet, or 0.23 acre) may be required. If the old valve is to be replaced, it would be cut from the pipeline and replaced with a new valve. Once the new valve is installed, the valve welds would be x-rayed and the hole would be backfilled.

Equipment used for this activity could include a rough terrain crane, a truck and trailer, a backhoe, an excavator, a welding rig, flatbed trucks, a water truck, and pickup trucks. The activities associated with pipeline valve repair or replacement could result in vehicle movement, vehicle and equipment noise, human presence, dust generation from construction activities, lay down of vegetation, temporary vegetation removal, temporary ground disturbance, and ground vibration. SMUD would repair or replace one or two mainline valves over the 30-year Permit Term. No permanent loss of land cover would occur because of this Covered Activity. Valve repair or replacement could occur any time depending on weather and operational restrictions related to the need to shut down the pipeline temporarily and would last approximately 4 weeks.

**Change to Baseline Conditions.** Because pipeline valve repair and replacement (G8) would only involve existing facilities, there would be no change to baseline conditions.

#### G9 New Construction for Valve Stations and Pressure-Limiting Stations

In response to potential changes in the gas pipeline regulatory environment or commercial changes to gas pipelines, new mainline valves, associated valve stations, and gas pressure-limiting stations may be constructed during the 30-year Permit Term. Construction of a new pipeline valve station would consist of mowing or grading the new station location, excavating both sides of the existing pipeline to install new valve or pressure-limiting components, installing the new components, and establishing a new permanent fenced, graveled enclosure (the new valve or new pressure-limiting station). Installation of new stations can take place at any time of year, depending on weather and operational restrictions related to the need to shut down the pipeline temporarily.

Equipment used for this activity could include a rough terrain crane, a truck with trailer, an excavator, a backhoe, a flatbed truck, a water truck, welding rigs, and compressors. The installation of new stations could result in vehicle movement, vehicle and equipment noise, human presence, dust generation from construction activities, temporary vegetation removal, temporary ground disturbance within work areas, permanent vegetation and land cover loss, ground vibration, and temporary and permanent changes in hydrology or runoff. SMUD would install two new valve stations and one gas pressure-limiting station over the 30-year Permit Term. The new station would be fenced and graveled and would measure approximately 40 feet by 40 feet (0.04 acre). Construction for this activity would take approximately 1 to 2 months to complete.

**Change to Baseline Conditions.** With regard to new construction for valve stations and pressure-limiting stations (G9), the change to baseline conditions would be the installation of two new valve stations and one gas pressure-limiting station over the Permit Term.

#### G10 New Construction for Realigned Pipelines

SMUD may realign a section of pipeline in response to a request from another entity if a pipeline section is in conflict with a proposed project. SMUD estimates that one pipeline segment no longer than 3,000 feet long and 5 feet wide may need to be realigned approximately every 5 years. Realigning an existing pipeline would require one or a combination of three construction methods—trenching (G10a), HDD (G10b), or directional boring (G10c)—depending on site-specific circumstances. In addition, new construction for realigned pipelines would involve hydrostatic testing of the new pipeline (G10d).

The trenching method would involve excavating a trench; installing the new pipeline segment (including field coating, welding, inspection of welds, and backfilling); hydrostatic testing; adding corrosion protection; installing pipeline markers over the centerline of the pipeline to show its location, identifying the owner of the land where the pipeline easement is located, and conveying emergency information; erosion control; and cleanup. Trenching associated with realigned pipelines could occur outside existing SMUD easements. SMUD would establish a new easement if needed for the realigned segment. The width of the new pipeline easement would generally range from 10 to 35 feet.

The trench itself would be approximately 5 feet wide and excavated up to 15 feet deep depending on the minimum cover required for the conditions. The soil would be stockpiled directly adjacent to the excavation. If trench dewatering were necessary, SMUD would use a pump to transfer the water and dispose of it in accordance with state and federal law. Sections of new pipe would be assembled within the approximately 100-foot-wide work area so that the pipe conforms to the contours of the terrain. The pipe joints would be welded, x-rayed, inspected, and field-coated or fiber wrapped to prevent corrosion within the work area. Once the field-coating process or fiber wrapping of the weld is completed and inspected for defects, the pipeline would be lowered into the trench using a rubber-tire or track-mounted side boom. Next, the realigned pipeline segment would be hydrostatically tested under Covered Activity G10d prior to tie-in to the existing pipeline.

The new pipeline would be welded to the existing pipeline in the trench. After pipeline testing is completed, the trench would be backfilled with the excavated material. The site would be cleaned up and recontoured to preconstruction conditions. If a Covered Activity temporarily disturbs 0.1 acre or more of modeled habitat that contains herbaceous vegetation, SMUD field crews would reseed the area with a commercial seed mix that is certified weed free and appropriate for the habitat type.

Equipment used could include backhoes, excavators, welding equipment, water trucks, pickup trucks, side booms, bulldozers, and a construction trailer. Work within roadways could also require a jackhammer, a compressor, a compactor, and repaving equipment. Covered Activity G10a could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary vegetation removal, temporary ground disturbance within work areas, ground vibration, and temporary or permanent changes in hydrology or runoff. Trenching would be the most commonly used method to construct realigned pipelines and could occur at any time of year, depending on weather; restrictions related to the need to shut down the pipeline temporarily; and coordination with the third-party project schedules, which may be necessitating the realignment. This Covered Activity would not occur under emergency conditions. The work area would be approximately 7 acres, and the entire work area would be temporarily disturbed.

SMUD assumes trenching would be used for each of the six realigned pipelines over the 30-year Permit Term. SMUD estimates that 3,000 linear feet of trenching would occur and would take approximately 2 months to complete.

The HDD process would start with the transportation of a drilling rig to the site and excavation of a receiving pit and a launching pit (both approximately 5 feet by 15 feet). The drilling rig would drill a small pilot hole from the launching pit to the receiving pit along the designated underground path. The drilling rig would use a second stage drill bit to enlarge the pilot hole by passing a larger cutting tool known as a back reamer. In the third stage, the pipeline would be pulled through the enlarged hole behind the reamer to allow centering of the pipeline in the bore path. The entire pipeline segment to be installed via HDD would be welded at the surface before being pulled through the drill hole. After it is installed, the pipeline would be hydrostatically tested prior to tie-in to the existing pipeline. The new pipeline would be tied in to the existing pipeline in the receiving and launching pits. These welds would not be hydrostatically tested but would be entirely x-rayed in the pits.

After pipeline testing is completed, the receiving and launching pits would be backfilled with the excavated material. The site would be cleaned up and recontoured to preconstruction conditions. Pipeline markers would be installed over the centerline of the pipeline to show its location, identify the owner of the pipeline, and convey emergency information. Equipment used for this methodology could include a drilling rig, backhoes, excavators, welding equipment, water trucks, pickup trucks, side booms, and a bulldozer. Covered Activity G10b could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary vegetation removal,

temporary ground disturbance within work areas, and temporary ground vibration. HDD to install realigned pipelines would occur at any time of year. This Covered Activity would not occur under emergency conditions.

HDD would require two work areas of approximately 100 feet by 100 feet (an estimated 0.46 acre total) located at each end and would include soil stockpile, excavation, material lay down, and areas where equipment is working. Installation of 1,000 feet of pipeline using the HDD method would take approximately 3 weeks.

The directional bore technique can be used to cross under existing roadways and streams or other environmentally sensitive areas to minimize surface disturbance. This technique would involve the use of a pneumatic pipe ramming system, where a percussive hammer drives in pipe segments. For this construction method, pits approximately 15 feet by 50 feet (0.02 acre) would be dug on both the entry and exit points. The pneumatic ramming tool and pipe would be lowered into the pit using a truck-mounted crane and aligned at the appropriate depth and angle to achieve the desired exit location. A cutting shoe may be welded to the front of the pipe segment to help reduce friction and cut through the soil. An entire length of pipe can be installed at once, or for longer runs, one section at a time can be installed. In the case of longer runs, the ramming tool would be removed from the entry pit after each pipe segment is in place and a new segment would be welded onto the end of the newly installed segment. The pneumatic ramming tool would be lowered into the entry pit and connected to the new segment and ramming would continue. In certain installations, a winch lowered into the exit pit may be connected to the lead end of the pipe to assist in pulling it out. This would require installation of a connection via a pilot hole. Depending on the size of the installation, spoil from inside the pipe would be removed with compressed air, water, a pig system, or a combination of techniques. A seal cap would be installed in the starter pit side of the installation and spoil would be discharged into the 15- by 50-foot receiver pit.

Equipment used for this method could include a side boom, a 5-ton truck, an excavator, a backhoe, a flatbed truck, a compressor, a pneumatic ramming tool, a welding rig, a water truck, and pickup trucks. Covered Activity G10c could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary vegetation removal, temporary ground disturbance within work areas, and temporary ground vibration. Directional boring to install realigned pipelines would occur at any time of year. This Covered Activity would not occur under emergency conditions. Each 500-foot-long directional bore would temporarily disturb an estimated 0.46 acre. Installing 100 feet of pipeline using the directional bore method would take approximately 5 days.

Hydrostatic testing would be performed on all new pipeline segments before SMUD connects the new segment. Water would be the most commonly used test medium, but compressed air or compressed nitrogen gas would also be occasionally used. Testing pressure and duration would be determined by pipe diameter, pipe specifications, pipe wall thickness, and elevation. Prefabricated test heads would be installed on the section of new pipeline to be tested once the pipe is within the new trench or bore path. The

section would be then filled with water or alternative medium from an available source (such as a fire hydrant), transported to the site by water trucks, or transported through temporary aboveground water lines.

Once the test pipeline is filled, a hydrostatic pump would be used to increase the internal pressure to the designed test pressure. Upon successful completion of the hydrostatic test, pressure would be reduced, and the water would be expelled from the pipeline using air compressors and cylindrical foam pigs. Hydrostatic test water would be discharged into percolation areas, into existing trenches for percolation, into existing canals, back to water trucks, or overland if suitable conditions are present. If needed, SMUD would construct temporary settling ponds with straw bales, plastic, and silt fencing (no excavation would be involved). Percolation is the most common disposal method. SMUD assumes hydrostatic testing would be performed six times for new construction of realigned pipelines.

A total estimated 0.34-acre area could be used for discharge or hydrostatic test water. SMUD would expel and dispose of test water in a manner consistent with local water quality considerations and obtain any necessary water quality permits when disposing of test water. SMUD would discharge only clean water, and the water would not be released under pressure. Equipment used for this activity could include a hydrostatic pump, a flatbed truck, a water truck, and two pickup trucks. If nitrogen is used, then required equipment could also include nitrogen bottles and a compressor. Covered Activity G10d could result in vehicle movement, vehicle and equipment noise, human presence, dust generation from off-road travel, lay down of vegetation, temporary vegetation removal, temporary ground disturbance within work areas, and temporary changes in hydrology or runoff. Hydrostatic testing would occur as an integral portion of all realigned pipeline construction activities (six over the 30-year Permit Term) and would take approximately 3 days.

**Change to Baseline Conditions.** With regard to trenching (G10a), the change to baseline conditions would be trenching for realignment of six pipeline segments over the Permit Term. Issuance of the take authorizations and implementation of the proposed HCP would also enable three 1,000-linear-foot horizontal directional drilling activities (G10b), three 500-linear-foot directional bore events (G10c), and hydrostatic testing for each of the six realigned pipelines (G10d) over the Permit Term.

### **Telecommunications**

SMUD owns and operates a telecommunication system that includes fiber optics, microwave radio, two-way radio, power line carrier, infrared transmission, metallic cables, and leased services/circuits. The fiber-optic cable associated with the telecommunication system is approximately 200 miles in length and located on existing electric transmission, subtransmission, and distribution line poles and towers. SMUD has nine telecommunication towers that house microwave dishes for communication between SMUD's power operations and its hydroelectric powerhouses and thermal power plants. The towers are also used to house radio communications antennae.

Telecommunications Covered Activities include the following and are described in detail below.

- Telecommunication Tower Maintenance (T1)
- New Construction of Telecommunication Tower(s) (T2)
- Electrical Telecommunications Overhead Fiber-Optic Replacement and New Installation (T3)
- Electrical Telecommunications Underground Fiber-Optic Replacement and New Installation (T4)

### T1 Telecommunication Tower Maintenance

SMUD has nine telecommunication towers in the Permit Area that house microwave dishes for communication between SMUD's power operations and its hydroelectric powerhouses and thermal power plants. The towers are also used to house radio communications antennae. Annual visual inspections would be performed, and maintenance activities may be undertaken if warranted. This activity would occur in either a transmission substation or a SMUD facility on a paved or graveled lot. This activity may be performed at any time during the year and could occur under routine or emergency conditions.

The maintenance would be primarily completed by a worker climbing the tower; however, a crane may be used if work is required on a major telecommunication component. Equipment used for this Covered Activity would include pickup trucks, service trucks, a crane, and hand tools. The activities associated with telecommunication repairs could result in vehicle movement, vehicle and equipment noise, and human presence.

SMUD anticipates approximately 7 repairs annually and 210 repairs over the 30-year Permit Term. One repair every 5 years may require the use of a crane because a large component would either be removed or added to an existing tower.

All telecommunication towers are located within existing SMUD facilities, and no temporary disturbance or permanent loss of land cover would occur because of telecommunication tower maintenance. Telecommunication tower maintenance activities may take up to 2 days.

**Change to Baseline Conditions.** With regard to telecommunication tower maintenance (T1), the change to baseline conditions would be the maintenance of the two new telecommunication towers constructed over the Permit Term (refer to Covered Activity T2, *New Construction of Telecommunication Towers*).

### T2 New Construction of Telecommunication Towers

SMUD may have the need to construct two new telecommunication towers in the next 30 years for microwave and radio communications. New tower facilities would be within the footprint of one of the 18 existing SMUD electrical transmission substations, or in a new transmission substation when it is constructed. A self-supporting steel lattice tower approximately 15 feet by 15 feet by 185 feet would be constructed with four footings. A 3-foot-diameter hole would be drilled approximately 10 feet deep and filled with a steel reinforcing bar bundle and concrete to encase the bundle. The steel bar would be threaded on the aboveground end, and the base of the tower would be bolted to the four footings. Sections of the tower would be hoisted in place by a crane and then workers would bolt the new section to the lower section. Once the tower is erected, the communications components would be added. A communications shed or building approximately 10 feet by 20 feet would also be constructed within the substation. Telecommunications cable would be routed from the building to the tower and up to the components on the tower.

Equipment used for this activity would include pickup trucks, service trucks, a truck-mounted machine auger, a crane, and a flatbed truck. The activities associated with new telecommunication tower construction could result in vehicle movement, vehicle and equipment noise, human presence, dust generated from construction activities, temporary ground disturbance, and ground vibration.

The work area needed to construct new telecommunication towers is approximately 150 feet by 150 feet, including the area for staging a crane (0.52 acre each). Most of the work area would be within the existing substation; however, a crane would likely be staged outside the substation and would temporarily disturb an area approximately 25 feet by 100 feet (an estimated 0.06 acre each) from the crane footprint. The tower and communications shed would be constructed in the already disturbed substation; therefore, no permanent loss of land cover would occur because of new telecommunication tower construction. Erecting the new tower and communications building would take approximately 30 to 45 days to complete. New tower construction could occur at any time of the year, weather permitting, but would not occur under emergency conditions.

**Change to Baseline Conditions.** With regard to new construction of telecommunication towers (T2), the change to baseline conditions would be the construction of two new telecommunication towers over the Permit Term.

### T3 Electrical Telecommunications Overhead Fiber-Optic Replacement and New Installation

SMUD has approximately 200 miles of existing fiber-optic cable installed on existing transmission, subtransmission, and distribution line poles and towers in the Permit Area. SMUD expects to add or replace an additional 0.5 mile of new cable every year (maximum 15 miles of new fiber-optic cable over the Permit Term). To install new or replacement fiber-optic cable, travelers would be installed on each existing pole or tower using an

aerial lift on a service truck or line truck. Where an aerial lift cannot be used, a winch would be used to install the travelers. A helicopter could be used to install travelers in sensitive habitat areas that preclude the use of a service or line truck.

Two temporary pull sites and tension sites would be needed for each fiber-optic cable replacement and new installation project. Additional pull and tension sites may be needed if the project is more than 0.5 mile in length or if it will cross major roadways. At the pull sites, a truck- or trailer-mounted bull-wheel puller, a small truck- or trailer-mounted crane, and rewinders with collapsible reels would be used to pull the conductors through the travelers. Truck-mounted tensioners, conductor reel trailers, a crane, and conductor reels would be used to tension the conductors.

Before pulling the fiber-optic cable, shoo-fly structures may be installed at road crossings and other locations where necessary to prevent the fiber-optic cable from contacting existing electric or communication facilities or passing vehicles. Shoo-flies consist of wood poles and anchors temporarily installed to support the fiber-optic cable. After the fiber-optic cable is pulled into place, it would be tensioned by pulling it to a predetermined sag and tension. The new fiber-optic cable is then permanently attached to clamps on the poles or towers.

Equipment used for this activity could include pickup trucks, service trucks, line trucks, a flatbed delivery truck, a truck- or trailer-mounted bull-wheel puller, rewinders with collapsible reels, truck-mounted tensioners, conductor reel trailers, and conductor reels. The activities associated with fiber-optic cable replacement and new installation could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary vegetation removal, and temporary ground disturbance.

The work area needed to install new fiber-optic cable is a corridor 15 feet wide and as long as the project. SMUD assumes for this analysis that two projects would be completed each year, each approximately 1,300 feet long (the work area would be 0.45 acre). The temporary disturbance area corresponding to installing new or replacing fiber-optic cable 1,300 feet long would be an estimated 0.73 acre. Installation of new or replacement overhead electrical telecommunications fiber-optic would be performed in 1 week. This Covered Activity could occur at any time of the year, weather permitting, but would not occur under emergency conditions.

**Change to Baseline Conditions.** With regard to electrical telecommunications overhead fiber-optic replacement and new installation (T3), the change to baseline conditions would be the addition or replacement of up to 15 miles of new fiber-optic cable over the Permit Term.

#### T4 Electrical Telecommunications Underground Fiber-Optic Replacement and New Installation

SMUD has approximately 36.8 miles of existing underground fiber-optic cable installed in conduit that follows either underground electrical lines or the gas pipeline. Replacement

of fiber-optic cable in conduit would entail driving to the vault or pull box in a pickup truck and completing any activities in the vault or pull box. The damaged fiber-optic cable would be pulled out through the vault or pull box, and the new segment would be put in and then pulled through the conduit. Equipment used could include pickup trucks, service trucks, a truck- or trailer-mounted bull-wheel puller, rewinders with collapsible reels, truck-mounted tensioners, conductor reel trailers, and conductor reels.

SMUD assumes replacement of fiber-optic cable in conduit would occur once a year. A work area of approximately 100 feet by 100 feet at both ends (0.46 acre total), adjacent to existing vaults/pull boxes, would be used to complete this Covered Activity (0.46 acre annually). This Covered Activity could result in vehicle movement, vehicle and equipment noise, human presence, and dust generation and lay down of vegetation caused by off-road travel. Land cover would not be disturbed during the fiber replacement in vaults or pull boxes.

**Change to Baseline Conditions.** Because electrical telecommunications underground fiber-optic replacement and new installation (T4) would only involve existing facilities and use of existing conduits for new installation, there would be no change to baseline conditions.

### **Vegetation Management**

SMUD currently performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management Covered Activities would include the following and are described in detail below.

- Electrical Subtransmission and Distribution Easement Vegetation Management Inspections (V1)
- Electrical Subtransmission and Distribution Easement Vegetation Management (V2)
- Transmission Easement Vegetation Management (V3)
- Tree Removal Projects (V4)
- Elderberry Shrub Trimming and Removal (V5)
- Pole Vegetation Clearing (V6)
- Vegetation Management on Pipeline Easement (V7)

#### V1 Electrical Subtransmission and Distribution Easement Vegetation Management Inspections

SMUD would inspect each line segment and tree within or adjacent to the overhead subtransmission and distribution lines annually and record the location of all vegetation that could potentially come in contact with these lines. In addition to the location, the

number of trees, tree species, prescription for vegetation management, customer/location, and special instructions, such as access issues, would also be recorded. The inspections would also identify hazard trees that have the potential to fall into the subtransmission and distribution lines. Based on these inspections, SMUD planners would schedule vegetation management activities.

Visual inspections would be performed from the ground and consist of a brief (less than 1 day) drive-by. Inspections would be completed year-round and not under emergency conditions. Electrical subtransmission and distribution easement vegetation management inspections could result in vehicle movement, vehicle noise, human presence, and dust generation and lay down of vegetation caused by off-road travel.

**Change to Baseline Conditions.** With regard to electrical subtransmission and distribution easement vegetation management inspections (V1), the change to baseline conditions would be inspection of the 150 miles of new subtransmission lines (3,150 new poles) and 225 miles of new distribution lines (5,850 new poles) constructed under the proposed HCP over the Permit Term outside existing SMUD easements (refer to Covered Activity E13).

#### V2 Electrical Subtransmission and Distribution Easement Vegetation Management

SMUD would conduct routine vegetation management actions to maintain compliance with Public Resources Code Sections 4292 and 4293, NERC standard FAC-003-1, and CPUC General Order 95, Rule 35. These regulations identify, by voltage, specific clearance distances that must be maintained between vegetation and conductors. SMUD would maintain a database of all trees to be trimmed to track the activities and assist in scheduling.

SMUD would group its vegetation management activities on subtransmission and distribution lines into two types of clearance: Clearance 1 and Clearance 2. Clearance 1 would pertain to pruning cycles based on 3 years of growth (in-cycle pruning), according to tree species and soil conditions. Some trees, such as heritage trees or elderberry shrubs, require specific conditions to be met before pruning; therefore, they may not be compatible with a 3-year management cycle. In those cases, SMUD may shorten the pruning cycle (perform out-of-cycle pruning) in accordance with the tree's growth rate to achieve the proper clearance. Elderberry shrub maintenance is described below under Covered Activity V5, *Elderberry Shrub Trimming and Removal*.

Clearance 2 would pertain to maintaining the minimum acceptable clearance so that electricity does not jump from a conductor to adjacent vegetation, according to industry standard clearances for subtransmission and distribution line voltage. The area of pruning or trimming would be based on width and length of different conductors in woody vegetation. Clearance distances around conductors would range from 18 inches to 12 feet depending on the voltage.

Routine maintenance work for line clearance is based on a 3-year return cycle in all areas with the exception of the 334,607-acre Area 47 located in the rural south part of

Sacramento County. Approximately 35 percent of SMUD's overhead facilities are located in this area, which gets cleared on a 1-year return cycle. Pruning is performed to maintain clearances in accordance with all regulatory requirements and SMUD standards for a period of 3 years.

Because of growth characteristics and other factors, after routine cycle pruning, a small percentage of trees within the Permit Area would not maintain adequate clearances for a 3-year period. The SMUD Cycle Buster program is scheduled 18 months after routine maintenance cycle work. Requested Cycle Buster work includes line clearance tree pruning, tree and brush removal, and related work necessary to maintain vegetation clearances around distribution electric lines.

Tree trimming would be performed by crews climbing the tree or using an aerial lift on a service truck or line truck. Crews would use manual and mechanical hand tools for trimming. The trimmed branches would be chipped onsite and the material hauled back to SMUD's yard at the end of the day. At the request of the landowner, chipped material may be left in the easement; however, SMUD would not place it in or within 100 feet of aquatic land cover types.

Equipment used during vegetation management activities could include pickup trucks, service trucks, a dump truck (to haul chipped vegetation from the site), a chipper, and hand tools such as chainsaws and pole pruners. This activity could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, and temporary vegetation removal.

SMUD would perform approximately 25,200 routine vegetation management activities and 1,100 emergency (nonroutine) vegetation management activities annually that would trim 61,000 units of vegetation (1 unit equals any type of vegetation that is trimmed) along 3,748 miles of overhead subtransmission and distribution easement. These activities occur year-round. The work area needed for each vegetation management activity is approximately 50 feet by 50 feet (0.06 acre each, 1,578 acres annually, and 447,340 acres over the 30-year Permit Term). The work area would be used for parking vehicles and staging equipment.

**Change to Baseline Conditions.** With regard to electrical subtransmission and distribution easement vegetation management (V2), the change to baseline conditions would be management of the vegetation within the 150 miles of new subtransmission lines (3,150 new poles) and 225 miles of new distribution lines (5,850 new poles) constructed under the proposed HCP over the Permit Term outside existing SMUD easements (refer to Covered Activity E13).

### V3 Transmission Easement Vegetation Management

SMUD implements an Integrated Vegetation Management (IVM) program inside transmission line easements. The long-term goal of the IVM program is to convert tall-growing plant communities inside a transmission easement to low-growing plant communities and to control invasive weeds. SMUD has accomplished such conversions

by selectively removing tall-growing plants while preserving low-growing grasses, herbs, and woody shrubs over a period of many years. With proper management, the low-growing vegetation can eventually dominate the easement and suppress the growth of the tall-growing vegetation, thereby reducing the need for future tree removal.

The wire zone, which comprises the portion of the transmission easement directly beneath the transmission conductors plus 10 feet on either side, would be managed only for low-growing shrub-forb-grass plant communities (early successional), usually to establish a vegetation height of 1 foot. The border zone, which extends from the edge of the wire zone to the edge of the easement, would be managed for taller shrubs and brush communities (transition communities). Vegetation may reach a height around 10 feet depending on site topography and plant species composition. Tree species would be removed from wire zones and border zones. SMUD has established the vegetation zones in the Permit Area and would need to perform actions to maintain the zones. Management of vegetation within transmission easements would include inspections (V3a), tree trimming (V3b), and removal of brushy vegetation (V3c), which are described in more detail below.

Inspections of transmission lines for potential vegetation issues are completed annually. During ground patrol inspections, the transmission vegetation patrol person inspects each span of wire and tree within or adjacent to the transmission line corridor. A list is created of all vegetation that potentially could come into contact with transmission facilities for removal, pruning, or mitigation. Special care is taken to identify hazard trees that have died or that have suffered damage and could fall into the transmission easement, including trees inside and outside of the transmission easement. Information recorded at each property for locations requiring maintenance includes the number of trees, tree species, prescription for vegetation management, and customer/location and special instructions such as access issues.

Visual inspections would be performed from the ground and would consist of a brief (less than 1 day) drive-by. Inspections would be completed year-round and not under emergency conditions. Covered Activity V3a could result in vehicle movement, vehicle noise, human presence, dust generation, and lay down of vegetation caused by off-road travel.

Surveys occur via helicopter in the rural west and south. The helicopter would fly over the easement and may hover over SMUD facilities for focused inspection. The helicopter may fly as low as 100 feet off the ground. No ground or vegetation disturbance would occur because of the helicopter flying over SMUD facilities. Take-off and landing locations would include licensed airports or other licensed facilities located inside or outside the Permit Area. Air-based overhead facility inspections could result in temporary helicopter noise.

SMUD would group its vegetation management activities on transmission lines into two types of clearance: Line Clearance Routine Maintenance Work and Line Clearance Cycle Buster Work. Line Clearance Routine Maintenance Work would pertain to pruning cycles

based on 3 years of growth (in-cycle pruning), according to tree species and soil conditions. Some trees, such as heritage trees or elderberry shrubs, require specific conditions to be met before pruning and therefore, may not be compatible with a 3-year management cycle. In those cases, SMUD may shorten the pruning cycle (out-of-cycle pruning) in accordance with the tree's growth rate to achieve the proper clearance. Elderberry shrub management is described below under Covered Activity V5.

Line Clearance Cycle Buster Work would pertain to the minimum acceptable clearance to make sure that electricity does not jump from a conductor to adjacent vegetation, according to industry standard clearances for transmission line voltage. Approximately 15 percent of each tree would be trimmed during this activity. Equipment used during transmission line vegetation management would include pickup trucks or service trucks, a dump truck, and a chipper. Tree trimming would be performed by climbing the tree or from an aerial lift on the service truck. Large diameter woody vegetation would be removed with chainsaws. Woody vegetation would generally be chipped and distributed onsite; however, SMUD would not place it in or within 100 feet of aquatic land cover types.

Covered Activity V3b could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, and temporary vegetation removal. This Covered Activity could occur year-round and may occur under emergency conditions. SMUD would conduct 140 transmission line easement vegetation management actions each year that trim and remove approximately 400 units of vegetation. The work area needed for each vegetation management activity is approximately 50 feet by 50 feet (0.06 acre each, 8.4 acres annually, and 252 acres over the 30-year Permit Term). The work area would be used for parking vehicles and staging equipment.

SMUD regularly maintains areas with brushy vegetation growing in the wire and border zones. First, crews would remove incompatible tree species, such as privet, oak spp., eucalyptus spp., cottonwood, and conifer trees that are 4 inches or less in diameter at breast height. Crews would then use mowers or other equipment to remove the brushy vegetation. Areas with only an herbaceous layer would not be mowed.

Equipment used during brushy vegetation management would include two to three pickup trucks or service trucks, a dump truck, and a chipper. Other equipment used could include cutters, mowers, brush hogs, hydro-axes, Brontosauruses, Slashbusters, brush rakes, and hand tools. Covered Activity V3c could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, and temporary vegetation removal. This Covered Activity would not occur under emergency conditions. Six sites with brushy vegetation could be cleared over the Permit Term. SMUD assumes that each work area could be up to 7 acres. Approximately 50 to 75 percent of the vegetation would be cleared at each site. Using these assumptions, up to approximately 5.25 acres of brushy vegetation would be mowed during each event, corresponding to 31.5 acres over the 30-year Permit Term. Mowing of brushy vegetation would take approximately 2 weeks.

**Change to Baseline Conditions.** Because vegetation management along transmission easements would only involve existing facilities, there would be no change to baseline conditions (V3).

#### V4 Tree Removal Projects

SMUD crews would remove select trees near overhead transmission, subtransmission, and distribution facilities in conjunction with routine vegetation management activities. Trees would be removed in accordance with local tree protection ordinances, and only with landowner permission. Trees that pose an imminent threat to SMUD facilities (hazard trees) would also be removed.

Several factors would be evaluated before tree removal, including line voltage, location of the tree in relation to conductors, height of the tree, history of the tree being problematic, tree species, prescription for tree removal, customer and location, and special conditions such as access issues. Examples of species considered for removal include palms and redwoods, in part because they cannot be directionally trimmed. SMUD would also target the removal of small, fast-growing trees growing directly under the conductors that would become a hazard in the future. This would prevent the addition of fast-growing trees to SMUD's trimming inventory that would add to maintenance costs. Crews would use manual and mechanical hand tools for removal of branches and cutting of the trunk. Stump profiles of cleared trees would be kept as low as possible, but stumps and tree roots would not be removed from the ground (no ground disturbance would occur). The trimmed branches would be chipped onsite and the material hauled back to SMUD's yard in the chipper. At the request of the landowner, chipped material may be left in the easement; however, SMUD would not place it in or within 100 feet of aquatic land cover types.

Equipment used during tree removal projects could include pickup trucks or service trucks, a dump truck, and a chipper. Tree trimming could be performed by climbing the tree or using an aerial lift on a service truck. Trees could be removed with chainsaws and other mechanical tools as well as hand tools. This Covered Activity could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, and permanent vegetation removal. Tree removal projects would occur year-round and may occur under emergency conditions.

SMUD would perform approximately 360 tree removals each year in transmission easements and approximately 10,830 tree removals (for multi-stemmed trees, each stem is counted as a separate tree) each year in subtransmission and distribution easements in the Permit Area. Depending on the size of the tree, each tree removal would take approximately 4 hours, but could range from 1 hour to 2 days. The work area needed for each tree removal is approximately 50 feet by 50 feet (an estimated 0.06 acre each, 671.4 acres annually).

**Change to Baseline Conditions.** With regard to tree removal projects (V4), the change to baseline conditions would be tree removal near newly constructed subtransmission

and distribution facilities (refer to Covered Activity E13) and up to nine additional tree removals each year over the 30-year Permit Term.

#### V5 Elderberry Shrub Trimming and Removal

SMUD currently has approximately 135 elderberry shrubs growing within its utility easements and into existing conductors. Additionally, one shrub is growing over the gas pipeline in Yolo County. SMUD anticipates that additional shrubs will be found within SMUD's utility easements over the next 30 years, for an estimated total of 300 shrubs. SMUD has not been able to maintain adequate clearance from its overhead lines by only trimming elderberry stems less than 1 inch in diameter. Covered Activities would include trimming elderberry stems (V5a), removal and transplantation of elderberry shrubs (V5b), and removal of elderberry shrubs by cutting (V5c).

SMUD would conduct elderberry trimming to maintain compliance with state and federal regulations that identify, by voltage, specific clearance distances that must be maintained between vegetation and conductors. SMUD would maintain a database of all elderberry shrubs to be trimmed to track the activities and assist in scheduling. Where trimming of elderberry shrubs is required, it is anticipated that the shrubs would be pruned down to a height of 12 feet (measured from ground height) unless site-specific safety conditions warrant pruning less than 12 feet. In those cases, SMUD would trim elderberry shrubs within its easement to a height of 6 feet. Elderberry trimming would be performed by SMUD from the ground or using an aerial lift on a service truck or line truck. Crews would use manual and mechanical hand tools for trimming. The trimmed branches would be chipped onsite and the material hauled back to SMUD's yard with no additional trips required. Equipment used during vegetation management activities could include pickup trucks, service trucks, a chipper, and hand tools such as chainsaws and pole pruners. Covered Activity V5a could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, and temporary vegetation removal.

SMUD estimates that approximately 200 shrubs with branches greater than 1 inch would be trimmed annually. The work area needed for each elderberry trimming activity is approximately 50 feet by 50 feet (0.06 acre each, 1.38 acres annually, and 41.4 acres over the 30-year Permit Term).

SMUD would transplant up to 10 elderberry shrubs in accordance with the transplanting procedure in USFWS Guidelines. The shrubs would be moved to a conservation/mitigation bank (upon approval by bank signatories) or other location as approved by USFWS. Equipment used during shrub removal activities could include pickup trucks, service trucks, a backhoe, a dump truck, and a front-end loader. Covered Activity V5b could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary vegetation removal, temporary ground disturbance, temporary changes in hydrology or runoff, and spread of invasive or exotic plants. This Covered Activity would not occur under emergency conditions.

The work area needed for each elderberry transplant activity is approximately 75 feet by 75 feet (an estimated 0.13 acre each). Removal of each elderberry shrub would temporarily disturb an estimated 0.004 acre each (0.04 acre over the 30-year Permit Term). Each elderberry shrub removal would take less than 1 day.

SMUD would also remove up to 100 identified elderberry shrubs. These shrubs would not be transplanted because of difficult logistics related to the shrub's location or because the shrub would not be likely to survive transplantation.

Equipment used during shrub removal activities could include pickup trucks, service trucks, a backhoe, a dump truck, a front-end loader, and hand tools such as chainsaws and pole pruners. Covered Activity V5c could result in vehicle movement, vehicle and equipment noise, human presence, dust generation, lay down of vegetation, temporary ground disturbance, permanent vegetation loss, and temporary changes in hydrology or runoff. This Covered Activity would not occur under emergency conditions.

The work area needed for each elderberry shrub removal by cutting is approximately 50 feet by 50 feet (0.057 acre each, 5.13 acres over the 30-year Permit Term).

**Change to Baseline Conditions.** With regard to trimming elderberry stems (V5a), the change to baseline conditions would be the trimming of up to 200 elderberry shrubs with stems greater than 1 inch within SMUD's easements over the Permit Term. In addition, the change to baseline conditions would be transplanting 10 elderberry shrubs (V5b), and removal of 100 elderberry shrubs over the Permit Term (V5c).

#### V6 Pole Vegetation Clearing

As discussed previously, Public Resources Code Section 4292 requires firebreak clearances within the SRA, around poles or towers on which a switch, fuse, transformer, or lightning arrester is attached. Therefore, SMUD would maintain vegetation-clear zones around 927 poles, all of which are located within the eastern portion of the Permit Area and south of Highway 50. SMUD maintains a map and database to track this activity.

All woody or herbaceous vegetation within a radial distance of 10 feet from the pole/tower must be cleared up to the height of the conductor (376.8 square feet, or 0.009 acre cleared around each pole). SMUD would clear vegetation around each pole using small mowers and manual and mechanical hand tools. Mowed and cut vegetation would be hauled offsite. In some cases, because of regrowth, vegetation would be cleared more than once during a season. A service truck and trailer, small mowers, and manual and mechanical hand tools would be used for this Covered Activity.

The Pole Vegetation Clearing activity could result in vehicle movement, vehicle and equipment noise, human presence, dust generation and lay down of vegetation caused by off-road travel, and permanent vegetation loss. This Covered Activity would not occur under emergency conditions. This Covered Activity would result in the permanent loss of an estimated 8.34 acres of habitat because vegetation would be removed annually.

**Change to Baseline Conditions.** With regard to pole vegetation clearing (V6), the change to baseline conditions would be vegetation clearing for installation of 150 new distribution line poles (refer to Covered Activity E13).

#### V7 Vegetation Management on Pipeline Easement

SMUD would manage grasses, brush, and trees along its natural gas pipeline easement to prevent damage to the natural gas facilities, facilitate inspections, and comply with all pertinent state and federal regulations. SMUD would manage vegetation over approximately 14 percent (11 miles) of its 76-mile pipeline; the remaining portion is under agricultural cultivation, or in urban areas. SMUD would identify areas within the easement requiring vegetation removal during their routine pipeline inspections. Vegetation management activities over the pipeline would typically occur in a corridor 8 to 12 feet wide. SMUD would remove any large diameter (over 4 inches) woody vegetation with chainsaws. Other vegetation within the easement boundary would be mechanically removed to ground level (2 to 3 inches in height) using masticators, flail mowers, and hand-operated brush clearing equipment. Vegetation management required where the pipeline crosses under drainages or waterways would be completed using hand-operated brush clearing equipment. The activities would occur once every 5 years in the late summer/early fall and take approximately 3 weeks. The removed vegetation would be chipped onsite and hauled offsite. At the request of the landowner, chipped material may be left in the easement; however, SMUD would not place it in or within 100 feet of aquatic land cover types.

SMUD estimates that a corridor approximately 10 feet wide (within a 12-foot-wide easement) and 11 miles long would be temporarily disturbed every 5 years along the pipeline easement, resulting in a total of an estimated 13.3 acres of temporarily disturbed habitat. Equipment used to manage vegetation could include pickup trucks, service trucks, masticators, flail mowers, and hand-operated brush clearing equipment. Vegetation management activities along the pipeline easement could result in vehicle movement, vehicle and equipment noise, human presence, dust generation and lay down of vegetation, and temporary loss of vegetation. This Covered Activity would not occur under emergency conditions.

**Change to Baseline Conditions.** With regard to vegetation management on pipeline easements (V7), the change to baseline conditions would be management of the vegetation on the six realigned pipeline segments (refer to Covered Activity G10).

#### **Conservation and Enhancement Activities**

The following Covered Activities would take place at the SMUD Bank for conservation and enhancement purposes: Oak Tree Planting (C1), and SMUD Bank Management (C2). These activities were identified as a part of the SMUD Nature Preserve Mitigation Bank Project and addressed in the CEQA document for that project. This document has been incorporated by reference in this EIR, as described in Section 3.0, *Introduction to the Analysis*, of this document.

Because these two activities are already approved and have been the subject of an approved CEQA document, the impacts of these two activities are not analyzed in this EIR.

The SMUD Bank comprises approximately 1,132 acres and is located in the southeastern portion of the HCP Permit Area, in the eastern and southern portions of SMUD's Rancho Seco property (Figure 2-2). The SMUD Bank provides high-quality habitat for most of the Covered Species. The SMUD Bank is within the USFWS Cosumnes/Rancho Seco Vernal Pool Recovery Core Area and within a designated Critical Habitat Unit of Sacramento Orcutt grass, vernal pool fairy shrimp, vernal pool tadpole shrimp, and CTS. The Final Mitigation BEI, which describes the establishment and future use, operation, and habitat monitoring and management of the SMUD Bank, was enacted in January 2014. The U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, USFWS, and CDFW are signatories to the Final BEI.

### C1 SMUD Bank Oak Tree Planting

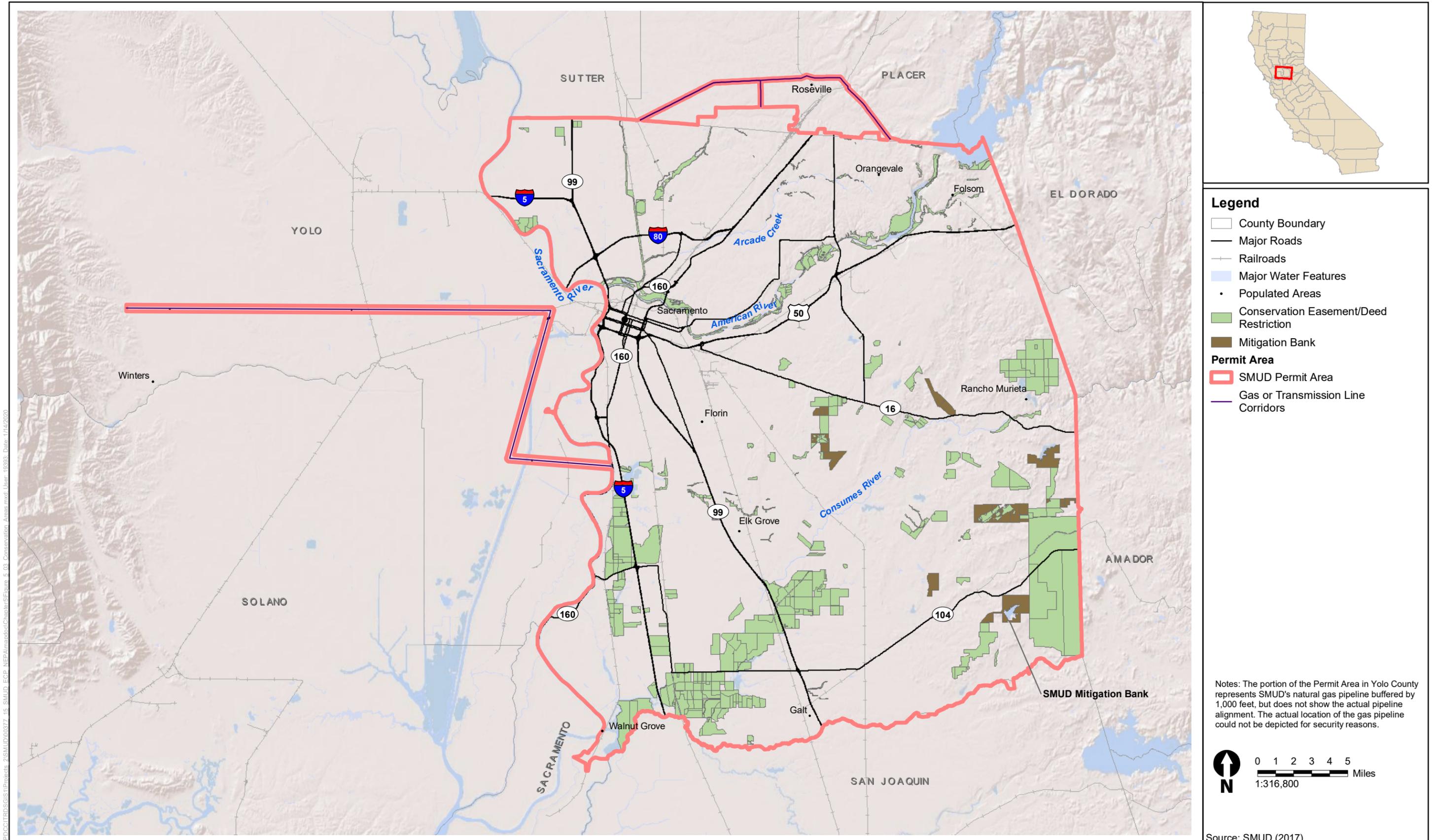
SMUD plans to diversify the native habitat and enhance raptor habitat on the SMUD Bank by restoring oak savanna within approximately 282 acres located primarily in the northern portion of the SMUD Bank, where there are few aquatic habitat features, upon the approval of the Interagency Review Team. This activity was described in detail as a part of the SMUD Nature Preserve Mitigation Bank Project.

**Change to Baseline Conditions.** With regard to SMUD Bank oak tree planting (C1), the change to baseline conditions would be restoration of oak savanna within approximately 282 acres of the SMUD Bank. However, as described above, this activity was identified as a part of the SMUD Nature Preserve Mitigation Bank Project and addressed in the CEQA document for that project.

### C2 SMUD Bank Management

Take authorization of listed species on the SMUD Bank during management and monitoring activities described in the BEI was authorized under a Nationwide Permit that expired. Therefore, the federal 10(a)(1)(B) permit issued for the proposed HCP would authorize take for the following activities for Covered Species at the SMUD Bank. SMUD Bank management and monitoring activities include the following.

- Wet-season sampling of vernal pools for vernal pool invertebrates and CTS and monitoring other Covered Species
- Removing invasive plant species
- Grazing
- Draining perennial aquatic habitat for the benefit of CTS
- Removing invasive fish and bullfrogs



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**Legend**

- County Boundary
- Major Roads
- Railroads
- Major Water Features
- Populated Areas
- Conservation Easement/Deed Restriction
- Mitigation Bank

**Permit Area**

- SMUD Permit Area
- Gas or Transmission Line Corridors

Notes: The portion of the Permit Area in Yolo County represents SMUD's natural gas pipeline buffered by 1,000 feet, but does not show the actual pipeline alignment. The actual location of the gas pipeline could not be depicted for security reasons.

↑  
N

0 1 2 3 4 5  
 Miles  
 1:316,800

Source: SMUD (2017)

**Figure 2-2**  
**Existing Conservation Areas**  
**SMUD HCP**



- Maintaining fences and gates
- Erosion control

**Change to Baseline Conditions.** Because management of the SMUD Bank would involve existing facilities and activities, there would be no changes from issuance of the take authorizations or implementation of the proposed HCP for this Covered Activity (C2). As described above, this activity was identified as a part of the SMUD Nature Preserve Mitigation Bank Project and addressed in the CEQA document for that project.

### **Miscellaneous Covered Activities**

Miscellaneous Covered Activities include those completed by SMUD that do not fit into the categories described above. The three miscellaneous activities that are covered under the proposed HCP are described below.

#### M1 Operation of the Cosumnes Power Plant

SMUD currently operates the Cosumnes Power Plant (CPP), and continued O&M of the plant is included as a Covered Activity under the proposed HCP. Operation of the CPP includes staff driving to and from the site, staff parking in the parking lot, deliveries to the site, scheduled and unscheduled power plant maintenance activities, and warehousing activities including the use of forklifts. Scheduled and unscheduled maintenance activities could involve vehicle movement around the site and movement of material, equipment, and staff.

**Change to Baseline Conditions.** Because operation of the CPP would involve only existing facilities and activities, there would be no changes associated with operation of these facilities.

#### M2 Cosumnes Power Plant Water Pipeline Management

SMUD operates and maintains an underground water pipeline approximately 5 miles long that conveys water from the Folsom South Canal to Rancho Seco Lake. Typically, water is pumped through the pipeline into Rancho Seco Lake at night (when energy costs are low) and gravity flows out of the lake during the day to serve the CPP. Approximately 3,300 feet of pipeline are located within the SMUD Bank. Covered Activities associated with M2 would include installing 17 cathodic protection test stations on the water pipeline, installing a valve that would increase reliability, and repair and/or replacement of pipeline segments, which are described below.

Installation of cathodic protection test stations would include 12 that would be installed in existing vaults, and five that would require excavation to the pipeline. This would require soil excavation to locate the pipe joint where the test station would be installed. Each test station location would have a maximum footprint of 100 feet by 100 feet including an excavation area and soil stockpile area. To reduce the risk of damaging the pipe, most

holes would be dug using hand tools (e.g., augers, shovels), but in some instances a backhoe may be used.

The new valve that would be installed would be located along the existing pipeline just north of the CPP. Construction of a new pipeline valve would consist of constructing a temporary access road from Clay East Road to the work area, mowing and/or grading the work area, excavating both sides of the existing water pipeline to install the new valve components, installing the new components, and establishing a new permanent fenced, graveled enclosure. Equipment used for this activity could include a rough terrain crane, truck with trailer, excavator, backhoe, flatbed truck, water truck, and truck and trailer rig.

Repair and/or replacement of pipeline segments is expected to include draining or removing water from the pipeline, excavation around the damaged pipeline segment(s), removal and replacement of the damaged section, backfilling the excavated area, and restoring the site to preconstruction contours. SMUD assumes that two sections of pipe would need to be repaired for each pipeline repair event, and that two repair events would occur during the 30-year Permit Term. The work area would be approximately 100 feet by 100 feet. Equipment used for this Covered Activity would include pickup trucks, a backhoe, a crane, an equipment trailer, and a water truck.

All of these activities could result in vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance, and permanent vegetation and land cover loss.

**Change to Baseline Conditions.** With regard to cathodic protection installation (M2a), the change to baseline conditions would be installation of 17 cathodic protection test stations. Additional changes to baseline conditions would be installation of a valve on an existing water pipeline (M2b) and replacement of two sections of an existing water pipeline (M2c).

### M3 Rancho Seco Property Operation and Maintenance

SMUD owns approximately 2,400 acres at its Rancho Seco property. There are a variety of uses on this property including the decommissioned Rancho Seco Nuclear Generation Facility; electrical generation at the CPP and the Rancho Seco PV I and II projects; Rancho Seco Solar II Conservation Area; recreational uses at the Rancho Seco Lake and Park, including the Howard Ranch Trail; cattle grazing operations; and the Performing Animals Welfare Society parcel. Covered Activities to maintain this property would include annual clearing of fire breaks (up to 48 acres) and installation of new and replacement of old fencing.

In addition to the Covered Activities discussed above for the entire Rancho Seco property, O&M activities at the Rancho Seco Solar II Conservation Area would also include the following.

- Wet-season sampling of wetlands for CTS.

- Removing invasive plant species.
- Grazing.
- Draining perennial aquatic habitat for the benefit of CTS and removing invasive fish and bullfrogs.
- Maintaining fences and gates.
- Erosion control.

**Change to Baseline Conditions.** Because operation of the Rancho Seco Property would involve only existing facilities and activities, there would be no changes associated with operation of these facilities.

### 2.3.5 *Summary of Conservation Strategy and Covered Activities as Analyzed in this EIR*

The impact analysis categorizes the Conservation Strategy (described in Section 2.3.3) and Covered Activities (described in Section 2.3.4, *Covered Activities (Indirect Actions)*) into six groups for analysis as shown on Table 2-10.

- Conservation Strategy
- O&M - Operation and Maintenance
- NC - New Construction
- VM - Vegetation Management
- CEA - Conservation and Enhancement Activities
- MCA - Miscellaneous Covered Activities

As described above in Section 2.3.4, while all Covered Activities would have the potential to result in incidental take of a Covered Species, not all Covered Activities would constitute a change to baseline conditions. In accordance with CEQA Guidelines Section 15125(a), this expected change is the focus of the analysis in this EIR, while activities that are part of the baseline are not analyzed for their potentially significant environmental effects and are not considered for purposes of determining mitigation and avoidance measures. Table 2-10 summarizes which Covered Activities would result in a change to baseline conditions.

In addition, Table 2-10 summarizes what parts of the Conservation Strategy would result in a change to baseline conditions and what elements of the Conservation Strategy would not result in any physical environmental changes.

**Table 2-10 Conservation Strategy and Covered Activities Summary**

Conservation Strategy and Covered Activities <sup>1, 2</sup>	Category <sup>3</sup>	Location (County) <sup>4</sup> As shown on Figure 2-2				What elements of this activity would change from baseline conditions?	
		Sacramento	Placer	Yolo	San Joaquin		
<b>Conservation Strategy</b>							
Use Credits at SMUD Bank	Conservation Strategy	✓				Nothing. Current SMUD practice. (No physical environmental effects)	
<b>Purchase Credits at Other Conservation/Mitigation Bank</b>	Conservation Strategy	✓		✓	✓	Not currently conducted. (No physical environmental effects)	
<b>Participate in Overlapping HCP</b>	Conservation Strategy	✓	✓	✓		Not currently conducted. (No physical environmental effects)	
<b>Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank</b>	Conservation Strategy	✓				Not currently conducted. Habitat enhancement, species introduction and 5 years of monitoring	
HCP Long Term Monitoring at SMUD Bank	Conservation Strategy	✓				Additional monitoring data would be recorded in conjunction with the long-term monitoring required as part of the SMUD Bank BEI (and Covered Activity C2). (No physical environmental effects)	
<b>Covered Activities</b>							
<b>Electrical Covered Activities</b>							
E1	Overhead Facilities Inspections						
<b>E1a</b>	<b>Ground-based Overhead Line Inspection</b>	O&M	✓	✓		✓	Inspection of newly constructed overhead lines and wood poles (E13).
E1b	Overhead Transmission Facilities Inspection by Air	O&M	✓	✓			Nothing. Only involves existing facilities (HCP/Covered Activities include replacement and repair of existing overhead transmission facilities, not construction of new overhead transmission facilities).

Conservation Strategy and Covered Activities <sup>1, 2</sup>		Category <sup>3</sup>	Location (County) <sup>4</sup> As shown on Figure 2-2				What elements of this activity would change from baseline conditions?
			Sacramento	Placer	Yolo	San Joaquin	
E2	Underground Facilities Inspection						
<b>E2a</b>	<b>Underground Subtransmission and Distribution Components</b>	O&M	✓	✓	✓		Inspection of newly constructed underground subtransmission and distribution components (E14).
E2b	Underground Transmission Lines	O&M	✓				Nothing. Only involves existing facilities.
<b>E3</b>	<b>Substation Insulator Washing</b>	O&M	✓				Insulator washing at one new substation over the Permit Term.
<b>E4</b>	<b>Substation Inspection, Maintenance and Minor Upgrades</b>	O&M	✓				Inspection, maintenance, and minor upgrade activities for 49 new substations over Permit Term (E16).
E5	Emergency Outage Inspection and Minor Repair	O&M	✓	✓	✓	✓	Nothing. No anticipated increase in outage events.
E6	Wood Pole Testing and Treatment						
<b>E6a</b>	<b>Wood Pole Testing</b>	O&M	✓	✓		✓	Only for poles 10 years or older. An average of 428 by the end of the 30-year Permit Term.
<b>E6b</b>	<b>Wood Pole Treatment–Fiber Wrapping</b>	O&M	✓	✓		✓	Up to 11 more wood poles would be fiber wrapped each year by the end of the 30-year Permit Term.
<b>E6c</b>	<b>Wood Pole Repair – Trussing</b>	O&M	✓	✓		✓	Only for poles 10 years or older. SMUD estimates approximately 34 poles by the end of the 30-year Permit Term.
<b>E7</b>	<b>Overhead Component Repair and Replacement</b>	O&M	✓	✓		✓	Repair and replacement of overhead components mounted on newly constructed poles (E13).
<b>E8</b>	<b>Pole Replacement</b>	O&M	✓	✓		✓	Up to 40 more pole replacements per year due to overall increase in number of poles (E13).

Conservation Strategy and Covered Activities <sup>1, 2</sup>		Category <sup>3</sup>	Location (County) <sup>4</sup> As shown on Figure 2-2				What elements of this activity would change from baseline conditions?
			Sacramento	Placer	Yolo	San Joaquin	
E9	Underground Component Repair and Replacement						
E9a	<b>Cable Replacement in Conduit</b>	O&M	✓	✓	✓		New underground facilities installed for Covered Activity E14.
E9b	<b>Pad-Mounted Transformer Repair and Replacement</b>	O&M	✓	✓	✓		Repair and replace of pad-mounted transformers installed with Covered Activity E14; up to 3 new pad-mounted transformers installed by SMUD during the 30-year Permit Term.
E9c	Direct-Buried Cable Replacement - Trenching	O&M	✓	✓	✓		Nothing. Only involves existing facilities.
E9d	Direct-Buried Cable Replacement – Horizontal Directional Drilling (HDD)	O&M	✓	✓	✓		Nothing. Only involves existing facilities.
E9e	Cable Repair (Third Party Damage/Dig In)	O&M	✓	✓	✓		Nothing. No anticipated increase in damage events.
E10	Steel Lattice Tower Repair and Replacement						
E10a	Steel Lattice Tower Superstructure Repair	O&M	✓	✓			Nothing. Only involves existing facilities.
E10b	Steel Lattice Tower Foundation Repair	O&M	✓	✓			Nothing. Only involves existing facilities.
E10c	Steel Lattice Tower Replacement – with a Tubular Steel Pole	O&M	✓	✓			Nothing. Only involves existing facilities.
E10d	Lattice Tower Replacement – with a New Lattice Tower	O&M	✓	✓			Nothing. Only involves existing facilities.

Conservation Strategy and Covered Activities <sup>1, 2</sup>		Category <sup>3</sup>	Location (County) <sup>4</sup> As shown on Figure 2-2				What elements of this activity would change from baseline conditions?
			Sacramento	Placer	Yolo	San Joaquin	
E11	Overhead Reconstruction and Reconductoring	O&M	✓	✓		✓	Nothing. This activity is already done at the same frequency/distance and it is not expected to do this activity on poles/lines installed during the Permit Term.
E12	No longer included in the proposed HCP as a Covered Activity and not discussed further in this EIR.						
E13	<b>New and Relocated Overhead Subtransmission and Distribution Line Construction</b>	NC	✓	✓		✓	150 miles of new subtransmission lines (3,150 new poles) and 225 miles of new distribution lines (5,850 new poles) over the Permit Term. Outside existing SMUD easements.
E14	New Underground Subtransmission and Distribution Line Construction						
E14a	<b>Trenching</b>	NC	✓	✓		✓	Trenching 8 new underground lines annually. Trenching three longer (2,200-foot) underground lines annually. Installation of pull boxes. (Pull boxes would be installed at both ends of the line and approximately every 700 feet; for a project that is 2,000 feet long, four pull boxes would be installed.)
E14b	<b>Horizontal Directional Drilling (HDD)</b>	NC	✓	✓		✓	Two HDD activities approximately 100 feet long and two pull boxes annually.
E15	<b>Existing Distribution Substation Expansion</b>	NC	✓				Expansion of 6 existing substations over Permit Term.
E16	<b>New Substation Construction</b>	NC	✓				4 new transmission substations and 45 new distribution substations over Permit Term. However, SMUD anticipates the construction of only two 0.5-acre distribution substations over the 30-year Permit Term that would not be permitted by the developer and are Covered Activities in the proposed HCP.

	Conservation Strategy and Covered Activities <sup>1, 2</sup>	Category <sup>3</sup>	Location (County) <sup>4</sup> As shown on Figure 2-2				What elements of this activity would change from baseline conditions?
			Sacramento	Placer	Yolo	San Joaquin	
<b>Natural Gas Transmission Facilities O&amp;M and Construction Activities</b>							
G1	Pipeline Inspections						
<b>G1a</b>	<b>Abnormal Operation Conditions Inspections</b>	O&M	✓		✓	Inspection of newly constructed realigned pipelines (quarterly) (G10).	
<b>G1b</b>	<b>Gas Leak Inspections</b>	O&M	✓		✓	Inspection of newly constructed realigned pipelines (annually) (G10).	
<b>G1c</b>	<b>Storm-Related Inspections</b>	O&M	✓		✓	Inspection of newly constructed realigned pipelines (after storm events; assume 8 per year) (G10).	
<b>G2</b>	<b>Pipeline Valve Station Inspections</b>	O&M	✓		✓	Inspection of newly constructed valve stations (5 times per year) (G9).	
<b>G3</b>	<b>Pipeline Cathodic Protection Test Station Inspection</b>	O&M	✓		✓	Inspection of newly constructed test stations (5 times per year) (G6).	
<b>G4</b>	<b>Internal Pipeline Inspection</b>	O&M	✓		✓	Inspection of newly constructed realigned pipelines (quarterly) (G10).	
G5	Pipeline Maintenance and Repair						
<b>G5a</b>	<b>Aboveground Pipeline Maintenance and Repair</b>	O&M	✓		✓	Maintenance and repair of the newly constructed realigned pipelines (G10).	
<b>G5b</b>	<b>Underground Pipeline Maintenance and Repair</b>	O&M	✓		✓	Maintenance and repair of the newly constructed realigned pipelines (G10).	
<b>G6</b>	<b>Pipeline Cathodic Protection Test Station Installation</b>	O&M	✓		✓	Seven new cathodic protection test stations, three replacement stations (same location).	
G7	Pipeline Anode Bed Replacement	O&M	✓		✓	Nothing. Anode bed of newly constructed realigned pipelines would not require replacement during Permit Term.	

Conservation Strategy and Covered Activities <sup>1, 2</sup>		Category <sup>3</sup>	Location (County) <sup>4</sup> As shown on Figure 2-2				What elements of this activity would change from baseline conditions?
			Sacramento	Placer	Yolo	San Joaquin	
G8	Pipeline Valve Repair or Replacement	O&M	✓		✓		Nothing. Only involves existing facilities.
<b>G9</b>	<b>New Construction for Valve Stations and Pressure-Limiting Stations</b>	NC	✓		✓		Installation of two new valve stations and one gas pressure-limiting station.
G10	New Construction for Realigned Pipelines						Realignment of one pipeline segment no longer than 3,000 feet long and 5 feet wide may occur every 5 years (six realignments over the Permit Term).
<b>G10a</b>	<b>Trenching</b>	NC	✓		✓		Trenching would be used for each of the six realigned pipelines over the Permit Term.
<b>G10b</b>	<b>Horizontal Directional Drilling</b>	NC	✓		✓		Three 1,000-linear-foot HDD activities over the Permit Term.
<b>G10c</b>	<b>Directional Boring</b>	NC	✓		✓		Three 500-linear-foot directional bore events over the Permit Term.
<b>G10d</b>	<b>Hydrostatic Testing</b>	NC	✓		✓		Testing would be conducted for each of the six realigned pipelines over the Permit Term.
<b>Telecommunications</b>							
<b>T1</b>	<b>Telecommunication Tower Maintenance</b>	O&M	✓	✓			Maintenance of 2 newly constructed towers (T2).
<b>T2</b>	<b>New Construction of Telecommunication Tower(s)</b>	NC	✓	✓			Two new telecommunication towers over Permit Term.
<b>T3</b>	<b>Electrical Telecommunications Overhead Fiber-Optic</b>	O&M (replacement)/ NC (new installation)	✓	✓			Addition or replacement of 0.5 mile of new cable every year (maximum 15 miles of new fiber-optic cable over the Permit Term).

Conservation Strategy and Covered Activities <sup>1, 2</sup>	Category <sup>3</sup>	Location (County) <sup>4</sup> As shown on Figure 2-2				What elements of this activity would change from baseline conditions?
		Sacramento	Placer	Yolo	San Joaquin	
<b>Replacement and New Installation</b>						
T4 Electrical Telecommunications Underground Fiber-Optic Replacement and New Installation	O&M (replacement)/ NC (new installation)	✓	✓			Nothing. Only involves existing facilities (would be repaired or replaced in existing conduit).
<b>Vegetation Management Activities</b>						
V1 <b>Electrical Subtransmission and Distribution Easement Vegetation Management Inspections</b>	VM	✓	✓		✓	Inspection within and adjacent to newly constructed overhead subtransmission and distribution lines (E13).
V2 <b>Electrical Subtransmission and Distribution Easement Vegetation Management</b>	VM	✓	✓		✓	Routine vegetation management actions within newly constructed overhead subtransmission and distribution line easements (E13).
V3 Transmission Easement Vegetation Management						
V3a Inspections	VM	✓	✓	✓	✓	Nothing. Only involves existing facilities.
V3b Transmission Vegetation Management – Tree Trimming	VM	✓	✓			Nothing. Only involves existing facilities.
V3c Transmission Vegetation Management – Brushy Vegetation	VM	✓	✓			Nothing. Only involves existing facilities.

Conservation Strategy and Covered Activities <sup>1, 2</sup>		Category <sup>3</sup>	Location (County) <sup>4</sup> As shown on Figure 2-2				What elements of this activity would change from baseline conditions?
			Sacramento	Placer	Yolo	San Joaquin	
V4	Tree Removal Projects	VM	✓	✓		✓	Tree removals near newly constructed subtransmission and distribution facilities (E13). Up to 9 more tree removals each year by the end of the 30-year Permit Term.
V5	Elderberry Shrub Trimming and Removal						
V5a	Trimming Elderberry Stems	VM	✓	✓	✓	✓	200 shrubs with branches greater than 1 inch would be trimmed over the Permit Term.
V5b	Removal and Transplantation of Elderberry Shrubs	VM	✓	✓	✓	✓	Transplanting 10 elderberry shrubs over the Permit Term in a conservation/mitigation bank or other location as approved by USFWS.
V5c	Removal of Elderberry Shrubs by Cutting	VM	✓	✓	✓	✓	Removal of 100 elderberry shrubs over the Permit Term.
V6	Pole Vegetation Clearing	VM	✓			✓	Vegetation clearing for newly constructed poles (E13) within the State Responsibility Area (SRA) (SMUD anticipates that 20 new poles would be added annually in the SRA).
V7	Vegetation Management on Pipeline Easement	VM	✓		✓		Vegetation maintenance of (approximately 14%) the newly constructed realigned pipelines (G10).
<b>Conservation and Enhancement Activities</b>							
C1	SMUD Bank Oak Tree Planting	CEA	✓				Restoring oak savanna within approximately 282 acres of the SMUD Bank. This activity was subject of an approved CEQA document (SMUD Nature Preserve Mitigation Bank Project); therefore, the impacts are not analyzed in this EIR.
C2	SMUD Bank Management	CEA	✓				Nothing. All existing activities with no anticipated increased in frequency or range. This activity was subject of an approved CEQA document (SMUD Nature Preserve Mitigation Bank Project); therefore, the impacts are not analyzed in this EIR

Conservation Strategy and Covered Activities <sup>1, 2</sup>		Category <sup>3</sup>	Location (County) <sup>4</sup> As shown on Figure 2-2				What elements of this activity would change from baseline conditions?
			Sacramento	Placer	Yolo	San Joaquin	
<b>Miscellaneous Covered Activities</b>							
M1	Operation of the Cosumnes Power Plant	MCA	✓				Nothing. Only involves existing facilities/activities.
M2	Cosumnes Power Plant Water Pipeline Management						
<b>M2a</b>	<b>Cathodic Protection Installation</b>	MCA	✓				Installation of 17 cathodic protection test stations.
<b>M2b</b>	<b>Water Pipeline Valve Installation</b>	MCA	✓				Install a valve on existing water pipeline.
<b>M2c</b>	<b>Water Pipeline Segment Replacement</b>	MCA	✓				Replace 2 sections of an existing water pipeline.
M3	Rancho Seco Property Operation and Maintenance	MCA	✓				Nothing. Only involves existing facilities/activities.

<sup>1</sup> Activities shown in **bold text** have some element that would change from baseline conditions.

<sup>2</sup> Conservation Strategy activities are not Covered Activities.

<sup>3</sup> O&M = operation and maintenance; NC = new construction; VM = vegetation management; MCA = miscellaneous covered activities; CEA = conservation and enhancement activities

<sup>4</sup> Locations of Covered Activities are subject to change.

## 2.4 Required Approvals

SMUD is the lead agency under CEQA with the discretionary actions of whether to adopt the proposed HCP. Before deciding whether to adopt the proposed HCP, SMUD is required to certify that the EIR was prepared in compliance with CEQA, that the decision makers have reviewed and considered the information in the EIR, and that the EIR reflects the independent judgement of the lead agency.

Implementation of the proposed HCP would also require permits and approvals (i.e. take authorizations) from other federal and state agencies. Table 2-11 summarizes the permits and approvals associated with implementation of the proposed HCP.

**Table 2-11 Summary of Permits and Approvals for the Proposed HCP**

Agency	Legal Authority	Permit or Approval
<b>Federal</b>		
U.S. Fish and Wildlife Service	Federal Endangered Species Act, Section 7	Biological Opinion
	Federal Endangered Species Act, Section 10(a)(1)(B)	Incidental Take Permit
<b>State</b>		
California Department of Fish and Wildlife	California Fish and Game Code, Section 2081	Incidental Take Permit & Memorandum of Understanding (MOU)
<b>State and Federal</b>		
SMUD Bank Interagency Review Team. The Interagency Review Team is made up of staff members from the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife.	Oversight of SMUD Bank operation	Review of monitoring and compliance

### 2.4.1 U.S. Fish and Wildlife Service

#### Endangered Species Act Section 10

USFWS will consider issuance of an ESA Section 10(a)(1)(B) ITP for the species under its jurisdiction that are covered under the proposed HCP (a total of seven plant and animal species). ESA Section 10(a)(2)(B) requires that specific issuance criteria be met before USFWS may issue ITPs. The determination as to whether the criteria have been met will be described in USFWS's decision package: a biological opinion pursuant to Section 7 of ESA; a Findings and Recommendations for the issuance of a Section 10(a)(1)(B) permit; and a National Environmental Policy Act (NEPA) decision document. These decision documents are produced at the end of the environmental review process and will contain the rationale behind USFWS's decision to either approve or deny a Section 10(a)(1)(B)

permit application. USFWS may decide to issue the ITP, which will contain standard terms and conditions and may also contain additional terms and conditions as deemed appropriate by USFWS.

### **Endangered Species Act Section 7**

Issuance of an ITP is also a federal action subject to Section 7 of ESA. Section 7(a)(2) requires all federal agencies, in consultation with USFWS, to ensure that any action “authorized, funded, or carried out” by any such agency “is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of critical habitat. Because issuance of a Section 10 permit involves a federal authorization, it is subject to this provision. In this case, because it is issuing the authorization, USFWS will conduct an internal consultation. Although the provisions of Section 7 and Section 10 are similar, Section 7 and its regulations require an analysis of the proposed HCP’s direct and indirect effects, a jeopardy analysis for federally listed plants, and effects on critical habitat. The results of this internal consultation will be documented in a biological opinion, which will be produced at the end of the process.

### **National Environmental Policy Act**

Issuance of an ITP is a federal action subject to NEPA. An environmental impact statement (EIS) or environmental assessment (EA) is required when the project or activity that would take place under the proposed HCP is a major federal action that would significantly affect the quality of the human environment, though an agency may produce an EIS or EA at its discretion even when the action is not likely to result in significant effects. NEPA compliance for the proposed HCP will occur under a separate process from this EIR. As the federal lead agency under NEPA, USFWS will determine what type of document is required to satisfy the requirements of NEPA.

#### *2.4.2 California Department of Fish and Wildlife*

### **Section 2081 Incidental Take Permit**

CESA prohibits the “take” of any species listed as endangered, threatened or candidate by the California Fish and Game Commission (California Fish and Game Code 2080). Under Fish and Game Code Section 2080, and Sections 1900–1913 (the Native Plant Protection Act [NPPA]), the take of species listed as endangered, threatened, or rare is prohibited except as otherwise provided under CESA and NPPA.

Under Section 2081(a), CDFW may authorize, by memorandum of understanding (MOU) for individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess endangered, threatened or candidate species for scientific, educational, or management purposes.

Under Section 2081(b), CDFW may authorize, by permit, the taking of state-listed endangered, threatened, rare, and candidate species (but not fully protected species,) if all of the following conditions are met.

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- The measures required to meet this obligation must be roughly proportional in extent to the impact of the authorized take of the species. Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation.
- The applicant must ensure adequate funding to implement the minimization and mitigation measures, and for monitoring compliance with, and effectiveness of, those measures.
- The permit will not jeopardize the continued existence of a state-listed species.

### **California Environmental Quality Act**

As described above, SMUD is the lead agency under CEQA for the preparation of this EIR.

Issuance of 2081(b) and 2081(s) take authorizations are discretionary actions by CDFW that would also require compliance with CEQA. CDFW is a responsible and trustee agency and will adopt its own findings related to the EIR to satisfy its CEQA requirements.

**Table 2-12 Avoidance and Minimization Measures**

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
<b>General</b>			
G-AMM1	<p><b>Annual Environmental Training.</b> Employees and contractors performing Covered Activities (SMUD field crews) will receive annual environmental training on the proposed HCP. This training will include a review of permit requirements, avoidance and minimization measures, and other relevant environmental laws and guidelines that must be followed by all personnel to avoid or minimize take of Covered Species during Covered Activities. Crews will be informed on the implementation of the proposed HCP and conditions in the take permits, including use of SMUD’s job packet<sup>1</sup> (or equally effective documentation) and their responsibilities to ensure compliance. Training will include the importance of the Covered Species and the purpose and necessity of protecting them, handouts or cards containing Covered Species or modeled habitat information, as well as penalties for noncompliance. Information will also be presented to inform personnel of methods to minimize the spread of invasive or nonnative plants during Covered Activities. New employees will receive the training prior to the start of work on Covered Activities.</p>	All	SMUD Environmental Services
G-AMM2	<p><b>Minimize Impacts of Work Area.</b> To the extent possible, SMUD field crews will reduce the work area footprint and the duration of work at a work area to reduce the potential for take of Covered Species.</p>	All	SMUD field crew
G-AMM3	<p><b>Work Area Access.</b> SMUD field crews will use existing paved and unpaved roads to access the work area where available. Vehicles and equipment will be parked on pavement, existing roads, or previously disturbed areas to the maximum extent feasible. When this is not feasible, SMUD will implement G-AMM4: Off-Road Speed Limit, VP-AMM1: Avoid Driving through Vernal Pools, and VP-AMM2: Minimize Vehicle Impacts on Vernal Pools.</p>	All	SMUD field crew
G-AMM4	<p><b>Off-Road Speed Limit.</b> When driving off of paved roads in Covered Species habitat, vehicles will not exceed a speed limit of 15 miles per hour.</p>	All	SMUD field crew
G-AMM5	<p><b>Work Area General Guidelines.</b> Trash dumping, littering, open fires (such as barbecues), hunting, and pets will be prohibited in Covered Activity work areas. All garbage will be removed from the project site at the end of each workday.</p>	All	SMUD field crew

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
G-AMM6	<p><b>Erosion Control Measures.</b> SMUD field crews will utilize standard erosion and sediment control BMPs (pursuant to the most current version of the <i>California Stormwater Best Management Practices Handbook</i>) to prevent construction site runoff into SMUD HCP Riverine; Open Water/Fringe; Other Depressional Wetland; and Vernal Pool, Seasonal Wetland, and Swale land cover types when Covered Activities are the source of potential erosion. Soil will be stockpiled within established work area boundaries, and stockpiles will be located so as not to enter waterbodies, stormwater inlets, or other standing bodies of water. Stockpiled soil will be covered prior to precipitation events. Erosion control materials will be removed once the site has been stabilized.</p>	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M2, M4, T2, T3, T4, C1	SMUD field crew
G-AMM7	<p><b>Equipment Refueling.</b> SMUD field crews will not refuel or conduct equipment maintenance activities within 250 feet of SMUD HCP Vernal Pool, Seasonal Wetland, and Swale, and within 100 feet of any Riverine, Open Water/Fringe, or Other Depressional Wetlands land cover types. If refueling must be conducted closer to wetlands, SMUD field crews will construct a secondary containment area subject to review by an environmental specialist and/or biologist. SMUD field crews will maintain spill prevention and cleanup equipment in refueling areas.</p>	All	SMUD field crew
G-AMM8	<p><b>Hazardous Materials Clean Up.</b> SMUD field crews will clean up any spilled oil, fuel, or other automotive fluids. SMUD field crews will ensure that all construction areas have proper spill clean-up materials (absorbent pads, sealed containers, booms, etc.) to contain the movement of any spilled substances.</p>	All	SMUD field crew
G-AMM9	<p><b>HDD Drilling Fluids Management.</b> For Covered Activities that require HDD located in or within 50 feet of aquatic Modeled Habitats, SMUD field crews will install preventative measures such as secondary containment and follow a frac-out<sup>2</sup> contingency plan as directed by SMUD Environmental Services to avoid the runoff or intrusion of any drilling fluids (i.e., bentonite or polymer material) into water ways. Following the completion of Covered Activities that involve HDD, SMUD field crews will remove and properly dispose of all drilling fluids and related materials from the launching and receiving pits. Open pits will be filled with soils, and disturbed areas will be stabilized by compacting soils and returning to pre-project contours so that they are commensurate with the topography of the surrounding soil.</p>	E9d, E14b, G10b	SMUD field crew, SMUD Environmental Services

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
G-AMM10	<p><b>Covered Species Entrapment Prevention.</b> SMUD field crews will cover any open trenches and/or holes at the end of the work day to prevent the accidental entrapment of CTS or GGS. Any excavations that cannot easily be covered will be ramped and/or sloped at the end of the work day to allow trapped animals an escape route. Prior to the start of work activities and each day, any trenches and/or open holes are open, SMUD field crews or an approved biologist will inspect any open trench or hole for trapped Covered Species. If necessary, an approved biologist will relocate any trapped individuals.</p>	E6, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M1, M2, M4, T2, T3, T4, C1	SMUD field crew, qualified biologist (Section 7.1.4, <i>Biologists</i> )
G-AMM11	<p><b>Stabilization of Disturbed Areas.</b> SMUD field crews will remove any temporary fill or construction debris and will backfill all excavation sites with native soil, and with crushed gravel around the bases of poles for compaction, following completion of Covered Activities. Disturbed areas will be stabilized by compacting soils and returning to pre-project contours so that the areas are commensurate with the topography of the surrounding soil, or qualified stormwater personnel will prescribe BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the site during construction. SMUD field crews will not move weed-infested gravel, rock, and other fill materials to undisturbed areas that are relatively free of weeds, but will focus fill in areas that have previously been disturbed.</p>	E6, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M1, M2, M4, T2, T3, T4, C1	SMUD field crew
G-AMM12	<p><b>Excess Soil.</b> When excess soil is spread out following an excavation activity, SMUD will not place soil in SMUD HCP Riverine; Open Water/Fringe; Other Depressional Wetlands; or Vernal Pool, Seasonal Wetland, and Swale land cover types or in Covered Species modeled habitat that contains burrows.</p>	E6, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M1, M2, M4, T2, T3, T4, C1	SMUD field crew
G-AMM13	<p><b>Soil Management.</b> SMUD field crews will stockpile soil within established work area boundaries and position stockpiles so as not to enter SMUD HCP Riverine; Open Water/Fringe; Other Depressional Wetlands; or Vernal Pool, Seasonal Wetland, and Swale land cover types or in modeled habitat with burrows. SMUD field crews will cover stockpiled soil with visqueen or tarps prior to precipitation events.</p>	E6, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M1, M2, M4, T2, T3, T4, C1	SMUD field crew

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
G-AMM14	<b>Revegetation of Work Areas.</b> If a Covered Activity temporarily disturbs 0.1 acre or more of modeled habitat for a Covered Species that contains herbaceous vegetation, SMUD field crews will revegetate the area with a native weed-free seed mix within 6 months of disturbance.	E6, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M1, M2, M4, T2, T3, T4, C1	SMUD field crew
G-AMM15	<b>Temporary Vehicle Access to Work Areas.</b> SMUD field crews will minimize clearing vegetation and grading for temporary vehicle access to the maximum extent feasible. Any temporary road will be returned to pre-project contours and the soil compacted for stabilization, or qualified stormwater personnel will prescribe BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the site during construction.	All	SMUD field crew
G-AMM16	<b>Chipped Plant Material Management.</b> SMUD field crews will either remove chipped plant matter created during vegetation management activities from the work area or leave it in place at the request of the landowner. If left in place, SMUD field crews will not place it in or within 100 feet of SMUD HCP Riverine; Open Water/Fringe; Other Depressional Wetland; or Vernal Pool, Seasonal Wetland, and Swale land cover types (dry or inundated).	V2, V3, V4, V5, V6, V7	SMUD field crew
G-AMM17	<b>Night Lighting.</b> For Covered Activities that occur at night, SMUD field crews will position any temporary lights needed away from any Covered Species habitat. For lighting at permanent facilities, such as substations, all lighting will be oriented downward towards major equipment to minimize glare onto surrounding property.	E5, E7, E8, E9d, E14b, E15, E16, G5b, G10b, G10d	SMUD field crew
G-AMM18	<b>Unanticipated Covered or ESA and CESA–Listed Species.</b> SMUD field crews will stop work and contact SMUD Environmental Services if a species listed under the ESA and CESA or a Covered Species is found within the work area or within 100 feet of a work area. SMUD Environmental Services will have authority to stop activities, and will do so, until appropriate corrective measures have been completed or it is determined that the individual ESA and CESA–listed or Covered Species will not be taken (including harmed). If the ESA and CESA–listed or Covered Species is in immediate danger, only a qualified biologist can capture and relocate the Covered Species. USFWS and CDFW must be contacted if the species is ESA and CESA listed, but is not a Covered Species.	All	SMUD field crew; SMUD Environmental Services; qualified biologist

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
G-AMM19	<p><b>Discharge of Hydrostatic Test Water.</b> Following a hydrostatic testing event SMUD field crews will not allow discharging of water into Vernal Pool, Seasonal Wetland, or Swale land cover type. For discharge of hydrostatic test water within 250 feet of Vernal Pool, Seasonal Wetland, or Swale land cover type, a biological monitor will be present to ensure that the hydrostatic test water discharged does not enter into any Vernal Pool, Seasonal Wetland, or Swale land cover type.</p>	G10d	SMUD field crew
<b>Vernal Pool, Seasonal Wetland, and Swale Associated Covered Species</b>			
VP-AMM1	<p><b>Avoid Driving through Vernal Pools.</b> SMUD field crews will avoid driving through SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover to the maximum extent feasible. When this is not feasible, SMUD will implement VP-AMM2: Minimize Vehicle Impacts on Vernal Pools.</p>	All	SMUD field crew
VP-AMM2	<p><b>Minimize Vehicle Impacts on Vernal Pools.</b> If a Covered Activity work area or access to the work area is located on SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover, SMUD field crews will evaluate site conditions and determine if soil moisture is present. If soil moisture is present, the field crew will coordinate with the Environmental Services team to identify alternative measures to minimize disturbance of Covered Species modeled habitat. Alternative measures may include laying down rubber matting, creating temporary bridges over swales, or using alternate access routes as prescribed by SMUD Environmental Services to minimize impacts. If it is not feasible for SMUD to avoid driving through Vernal Pool, Seasonal Wetland, and Swale land cover while moisture is present, SMUD will track the acres of disturbance, and those acres will count toward take limits provided in HCP Chapter 4, <i>Impact Analysis and Levels of Take</i>, and mitigated consistent with HCP Section 5.4, <i>Mitigation</i>.</p>	E5, E6, E7, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, T3, T4, V2, V3, V4, V5, V6, V7	SMUD field crew; SMUD Environmental Services

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
VP-AMM3	<p><b>Vernal Pool Covered Species Soil Stockpile.</b> For Covered Activities in SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover, SMUD field crews will stockpile the upper 4 inches of topsoil from within the ordinary high water mark of any aquatic features separately during excavations. This topsoil will be replaced within the aquatic feature and manipulated so as to restore the original contours within the aquatic feature. Soil compaction will be minimized to the extent consistent with utility standards. Erosion control measures such as straw wattles, coconut fiber rolls/blankets, silt fencing, and as determined by the qualified biologist, will be implemented where necessary to protect topsoil stockpiles and keep the seed bank and/or cysts in the stockpiled soil viable.</p>	E6, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M2, T3, T4, C1	SMUD field crew, qualified biologist
VP-AMM4	<p><b>Avoid Occupied Orcutt Grass Habitat.</b> SMUD Environmental Services will review design plans to ensure that no new poles or other facilities are placed in vernal pools that are known (as noted in an up to date [current at time of project implementation] California Natural Diversity Database query) to support slender Orcutt grass or Sacramento Orcutt grass.</p>	E8, E10, E11, E13	SMUD Environmental Services
VP-AMM5	<p><b>Avoid Vernal Pools during Trenching.</b> SMUD Environmental Services will review design plans to ensure that no trenching occurs in SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover. SMUD field crews will avoid trenching through SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover.</p>	E9c, E14a, G10a	SMUD field crew, SMUD Environmental Services
VP-AMM6	<p><b>Covered Vernal Pool Invertebrate Work Window.</b> When Vernal Pool Invertebrate Covered Species modeled habitat is present within 250 feet of Covered Activities, Environmental Services will schedule the Covered Activity to occur in the dry season (approximately April 15 through October 15) and prior to the first significant rain (0.25 inch in 24 hours) to the maximum extent feasible. If the Covered Activity cannot be performed in the dry season, the field crew will implement additional measures as prescribed by SMUD Environmental Services to avoid or minimize impacts. Additional measures could include, but are not limited to, directing crews on access, use of erosion/sediment fencing, use of access mats or other techniques to avoid direct or indirect effects, requiring foot access, or requiring a biological monitor during the activity. If additional measures do not result in total avoidance, SMUD will mitigate at a 0.5:1 ratio for temporary and/or 3:1 for permanent direct habitat disturbance or loss.</p>	E5, E6, E7, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, T3, T4, V2, V3, V4, V5, V6, V7, C1	SMUD field crew, SMUD Environmental Services

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
VP-AMM7	<p><b>Vernal Pool Biological Monitor.</b> If Covered Activities will directly impact SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover (modeled habitat), a qualified biologist will be present onsite and monitor the Covered Activity to ensure that all applicable AMMs are implemented correctly and that no unnecessary ground disturbance or take of species occurs. The qualified biologist will have the authority to stop all activities that could result in such take or destruction, and will do so, until appropriate corrective measures have been completed. SMUD will report any unauthorized take to USFWS and/or CDFW within 24 hours.</p>	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M1, M2, T3, T4, C1	Qualified biologist
<b>Valley Elderberry Longhorn Beetle</b>			
<b>Trimming Activities</b>			
VELB-AMM1	<p><b>Park outside the Drip Zone.</b> If use of a bucket truck is necessary to trim an elderberry shrub, SMUD field crews will park the bucket truck outside of the drip line of the elderberry shrub to avoid root damage.</p>	V5a	SMUD field crew
VELB-AMM2	<p><b>Avoid Trimming during Valley Elderberry Longhorn Beetle Active Period.</b> SMUD field crews will conduct trimming activities between November and February. If work must be done outside this period to maintain public safety, SMUD field crews will implement other measures as prescribed by SMUD Environmental Services including vegetation removal by hand, keeping off-road vehicle speeds below 15 miles per hour, and an onsite biological monitor during the activity. Impacts on the shrub will be mitigated at a permanent mitigation ratio.</p>	V5a	SMUD field crew; SMUD Environmental Services
<b>Shrub Removal</b>			
VELB-AMM3	<p><b>Follow Shrub Removal Protocols.</b> SMUD Environmental Services will oversee elderberry shrub removal. If SMUD determines that the shrub is habitat for valley elderberry longhorn beetle because they have stems greater than 1 inch in diameter, then the 2017 <i>Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle</i> (USFWS 2017) or the currently approved protocol will be followed for any shrubs to be removed.</p>	V5b, V5c	SMUD Environmental Services

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
<b>All Other Covered Activities</b>			
VELB-AMM4	<p><b>Preconstruction Elderberry Survey.</b> For Covered Activities occurring in valley elderberry longhorn beetle Modeled Habitat, SMUD Environmental Services or a qualified biologist will survey proposed project sites for the presence of elderberry shrubs. If elderberry shrubs are found on or within 165 feet of the project site, the habitat will be assessed to determine if the project area is in riparian or non-riparian habitat. Depending on the size, duration, and/or type of proposed project, the larger area surrounding the project site may also be surveyed for the presence and number of elderberry shrubs. If the project site is non-riparian and contains elderberry shrubs, exit hole surveys will be used to evaluate the site for potential occupancy. In the absence of exit holes, a qualified biologist will evaluate the project area using the following criteria:</p> <p>(1) Is there a riparian area or are there elderberry shrubs or known valley elderberry longhorn beetle records within 2,526 feet of the proposed project?</p> <p>(2) Was the site continuous with a historical riparian corridor?</p>	E6, E7, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, T3, T4, V2, V3, V4, V5, V6, V7	Qualified biologist, SMUD Environmental Services
VELB-AMM5	<p><b>Elderberry Exclusion Buffer.</b> Activities that may damage or kill an elderberry shrub (e.g., trenching, paving) may need an avoidance area of at least 20 feet from the drip-line, depending on the type of activity. A qualified biologist will monitor any activity within 20 feet of an elderberry shrub, work with personnel to minimize effects on the shrub, report on any potential effects on the shrub, and report the number of times this AMM is implemented.</p>	E6, E7, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, T3, T4, V2, V3, V4, V5, V6, V7	Qualified biologist
VELB-AMM6	<p><b>Fencing.</b> All areas to be avoided during construction activities will be fenced and/or flagged at the avoidance boundary (i.e., the distance at which adverse effects would be avoided, for example in the case of an individual shrub the drip-line of that shrub).</p>	E6, E7, E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, T3, T4, V2, V3, V4, V5, V6, V7	SMUD field crew, qualified biologist
VELB-AMM7	<p><b>Mowing.</b> Mowing by SMUD field crews within the drip-line of the shrub will be limited to the season when adults are not active (August–February) and will avoid damaging the elderberry (e.g., stripping away bark through careless use of mowing/trimming equipment). Elderberry shrubs will be flagged and a qualified biological monitor will be present.</p>	V2, V3, V6, V7	SMUD field crew, qualified biologist

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
VELB-AMM8	<b>Chemical Usage.</b> Herbicides will not be used within the drip-line of the shrub. Insecticides will not be used within 98 feet (30 meters) of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method. No take of ESA-listed or Covered Species from application of any chemical may result from pesticide use.	V2, V3, V6, V7	SMUD field crew
<b>California Tiger Salamander</b>			
CTS-AMM1	<b>Daily California Tiger Salamander Avoidance Measures.</b> If construction activities must occur within suitable tiger salamander habitat during the wet season (generally November 1–April 30), such construction will avoid all suitable aquatic habitat. No construction activities will be conducted in modeled upland habitat areas where tiger salamanders may occur regardless of the month if there is a greater than 70% chance of rain based on the National Oceanic and Atmospheric Administration’s National Weather Service forecast or within 48 hours following a rain event greater than 0.25 inch, unless approved by the qualified biological monitor. Earthmoving and construction activities will cease no less than 30 minutes before sunset and will not begin again until no less than 30 minutes after sunrise. Except when necessary for driver or pedestrian safety, artificial lighting at a worksite will be prohibited during the hours of darkness. Where lighting is necessary, lighting will be directed inwards towards the construction footprint and will not be cast on CTS habitat outside of the construction area.	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M2, T3, T4, C1	SMUD field crew
CTS-AMM2	<b>Pre-Work Clearance Survey.</b> When a Covered Activity would occur between October 15 and July 15 in CTS modeled habitat within Conservation Lands or for activities greater than 0.1 acre with modeled habitat, the qualified biologist will conduct a pre-work clearance survey for CTS. The clearance survey will be conducted 24 hours prior to the start of the Covered Activity. Any CTS found in the work area will be relocated, in accordance with CTS-AMM7: California Tiger Salamander Handling.	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M2, T3, T4, C1	Qualified biologist

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
CTS-AMM3	<p><b>California Tiger Salamander Biological Monitoring.</b> A qualified biologist will be onsite during Covered Activities in CTS modeled habitat (1) when the activities is on Conservation Lands, or (2) other locations if the activities are greater than 0.1 acre within Modeled Habitat, and will have the authority to stop work if personnel are out of compliance with the AMMs until corrective actions are taken to be in compliance with the AMMs. If a CTS is observed in the work area and there is a risk that injury or mortality may occur, the biological monitor will halt work and implement relocation protocols described in CTS-AMM7. Prior to the start of work each day the monitor will perform a preconstruction survey of the work area.</p>	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M2, T3, T4, C1	Qualified biologist
CTS-AMM4	<p><b>Avoid Inundated California Tiger Salamander Habitat.</b> SMUD field crews will not perform Covered Activities within CTS aquatic modeled habitat when water is present.</p>	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M2, T3, T4, C1	SMUD field crew, qualified biologist
CTS-AMM5	<p><b>California Tiger Salamander Exclusion Fencing.</b> CTS are most likely to be dispersing between October 15 and July 15 on nights that are wet (either from rainfall or fog). If SMUD field crews must perform Covered Activities during this period in upland modeled habitat and the Covered Activity is going to take more than 1 week, amphibian exclusion fencing must be installed around the work area to minimize the potential for CTS to enter the work area.</p>	E9, E10, E14, E15, E16, G5, G8, G9, G10, M1, M2, M4,	SMUD field crew
CTS-AMM6	<p><b>Avoid Usage of Plastic Mono-filament Erosion Control Materials in California Tiger Salamander Modeled Habitat.</b> SMUD field crews will not use erosion control materials that contain plastic mono-filament in CTS modeled habitat. SMUD field crews will use tightly woven fiber netting (with a mesh size less than 0.25 inch) or similar material for erosion control or other purposes in CTS modeled habitat to ensure that CTS do not get trapped. Coconut coir matting/rolls are an acceptable erosion control material.</p>	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, M2, T3, T4, C1	SMUD field crew

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
CTS-AMM7	<p><b>California Tiger Salamander Handling.</b> California tiger salamanders found at Rancho Seco facilities will be relocated in accordance with a wildlife agency-approved relocation plan developed for Rancho Seco, and individuals will be relocated sites identified in the SMUD HCP CTS Relocation Plan (Appendix G). For activities greater than 0.1 acre that occur in CTS modeled habitat, a CTS relocation plan shall be prepared and approved by the Wildlife agencies within 30 days or it can assumed approved. The relocation plan shall follow the format of the SMUD HCP CTS Relocation Plan in HCP Appendix G, <i>Relocation Plans</i>. Only a qualified biologist may capture or handle CTS. Bare hands will be used to capture CTS. Qualified biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating individuals. To avoid transferring disease or pathogens of handling of the amphibians, qualified biologists will follow the Declining Amphibian Populations Task Force's <i>Code of Practice</i> or currently accepted protocols. The qualified biologist will immediately relocate any CTS found to suitable habitat a minimum of 300 feet outside of the work area but within the same habitat patch affected if feasible, at a location predetermined prior to commencement of construction. If no suitable location can be identified at least 300 feet from the Covered Activity and within the same habitat patch affected, SMUD will coordinate with the wildlife agencies prior to the activity to identify an alternative site for relocating CTS and develop a CTS site-specific relocation plan (see Appendix G).</p>	All	Qualified biologist
CTS-AMM8	<p>SMUD would install and maintain a permanent CTS exclusion fence around the perimeter of the CPP to avoid affecting CTS during O&amp;M of CPP. The fencing would be metal flashing at least 2 feet tall above the soil surface and buried to a minimum depth of 4 inches below the soil surface. The barrier would be designed to prevent CTS from climbing over it or under it through burrows or cracks. SMUD would monitor the exclusion fencing and maintain it for the life of CPP, checking it annually prior to each rainy season. If the metal flashing does not perform as expected, SMUD will use adaptive management to implement a more effective barrier such as a concrete curb. Cover board will be placed on the outside of the CPP fence and in areas most frequented by California tiger salamanders to provide refuge to migrating CTS that have been redirected by the fencing.</p>	M1	SMUD field crew, Qualified biologist

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
CTS-AMM9	<p><b>Cover holes, trenches, and perform inspections.</b> All excavated steep-walled holes and trenches (more than 6 inches deep) will be covered with plywood (or similar material) and/or provided with one or more escape ramps at an angle of <math>\leq 30</math> degree, constructed of earth fill or wooden planks at the end of each workday or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the Qualified Biologist each morning (including non-workdays) that the trench or hole is open to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within California tiger salamander modeled habitat will be inspected for California tiger salamander by the qualified biologist prior to being moved.</p>	E9, E10, E14, E15, E16, G5, G8, G9, G10, M1, M2, M4,	SMUD field crew, qualified biologist
<b>Giant Garter Snake</b>			
GGS-AMM1	<p><b>Giant Garter Snake Biological Monitor.</b> A qualified biologist will be onsite during Covered Activities in GGS modeled habitat on Conservation Lands or for activities greater than 0.1 acre in modeled habitat. The qualified biologist will have the authority to stop work if personnel are out of compliance with the AMMs and until corrective actions are taken to be in compliance with AMMs, or if there is a risk that incidental take (mortality) of GGS may occur. Prior to the start of work each day the monitor will perform a preconstruction survey of the work area and will flag burrows to avoid stockpiling soil over burrows.</p>	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, T3, T4, V2, V3b, V3c, V4, V5, V7	Qualified biologist

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
GGS-AMM2	<p><b>Giant Garter Snake Seasonal Work Windows.</b> Covered Activities in GGS upland modeled habitat will be initiated between May 1 and October 1. This is the active period for GGS, and direct mortality is lessened because snakes are expected to actively move and avoid danger. If limiting work to the period from May 1 to October 1 is not feasible, new temporary and permanent impacts will be mitigated at the direct permanent impact ratio of 3:1. That is, a higher mitigation ratio will be required for areas where new ground disturbance occurs between October 2 and April 30. If limiting work to the period from May 1 to October 1, is infeasible, a qualified biologist will monitor activities in GGS habitat. If a GGS is encountered, construction activities shall immediately cease. SMUD will notify the Wildlife Agencies immediately. The GGS should be allowed to leave the area on its own accord and construction activities may not start back up until the GGS has safely moved out of harms way. If the GGS cannot move out of harms way on its own, then the designated biologist shall relocate individuals as necessary consistent with the Giant Garter Snake Relocation Plan (HCP Appendix G).</p>	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, T3, T4, V2, V3, V4, V5, V7	SMUD field crew; SMUD Environmental Services
GGS-AMM3	<p><b>Minimize Vegetation Clearing.</b> SMUD field crews will minimize vegetation clearing to the minimal area necessary to facilitate Covered Activities within upland and aquatic modeled habitat. For work in GGS aquatic modeled habitat, SMUD field crews will use hand tools to clear vegetation or debris.</p>	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, T3, T4, V2, V3b, V3c, V4, V5, V7,	SMUD field crew

AMM Number	AMM Description	Applicable Covered Activities	Staff Responsible for Implementation
GGG-AMM4	<p><b>Dewatering.</b> If dewatering of GGS aquatic modeled habitat is necessary, the work area will remain dry for at least 15 consecutive days between March 15 and October 15, and prior to excavating or filling of the dewatered habitat. After aquatic habitat has been dewatered 15 days prior to Covered Activities, exclusion fencing will be installed extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent snakes from attempting to move under the fence into the construction area. In addition, high-visibility fencing will be erected to identify the construction limits and to protect adjacent habitat from encroachment of personnel and equipment. GGS habitat outside construction fencing will be avoided by all construction personnel. The fencing and the work area will be inspected by the Approved Biologist to ensure that the fencing is intact and that no snakes have entered the work area before the start of each workday. The fencing will be maintained by the contractor until completion of the project.</p>	E8, E9, E10, E11, E13, E14, E15, E16, G5, G6, G7, G8, G9, G10, T3, T4, V2, V3b, V3c, V4, V5, V7	SMUD field crew

AMM = avoidance and minimization measure

BMP = best management practice

CDFW = California Department of Fish and Wildlife

CESA = California Endangered Species Act

CPP = Cosumnes Power Plant

CTS = California tiger salamander

ESA = federal Endangered Species Act

GGG = giant garter snake

HDD = horizontal directional drilling

O&M = operation and maintenance

SMUD = Sacramento Municipal Utility District

USFWS = U.S. Fish and Wildlife Service

<sup>1</sup> A "job packet" is a packet of information for SMUD personnel containing relevant information about a project including, but not limited to, design plans, easement information, contact information, cost, and avoidance and minimization measures.

<sup>2</sup> A "frac-out" is the unintentional return of drilling fluids to the surface during horizontal directional drilling.

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### **3 Environmental Setting, Impacts, and Mitigation Measures**

This chapter discusses common terminology used in this environmental impact report (EIR), its organization, the approach taken to define existing conditions and analyze the effects of the permits and implementation of the Operations, Maintenance, and New Construction Habitat Conservation Plan (HCP).

#### **3.0 Introduction to the Analysis**

##### **3.0.1 *Resource Topics Considered***

Resource considerations in this EIR were derived from Appendix G of the State California Environmental Quality Act (CEQA) Guidelines, and input received from the public during the scoping period. Based on this information, the Sacramento Municipal Utility District (SMUD) has determined that the proposed Project (i.e., issuance of take authorizations and implementation of the proposed HCP) could affect the resources discussed in the following sections of this chapter.

- Section 3.1, *Aesthetics*
- Section 3.2, *Agricultural and Forest Resources*
- Section 3.3, *Air Quality*
- Section 3.4, *Biological Resources*
- Section 3.5, *Cultural Resources*
- Section 3.6, *Energy*
- Section 3.7, *Geology, Soils, and Paleontological Resources*
- Section 3.8, *Greenhouse Gas Emissions*
- Section 3.9, *Hazards and Hazardous Materials*
- Section 3.10, *Hydrology and Water Quality*
- Section 3.11, *Land Use and Planning*
- Section 3.12, *Minerals*
- Section 3.13, *Noise*
- Section 3.14, *Population and Housing*
- Section 3.15, *Public Services*

- Section 3.16, *Recreation*
- Section 3.17, *Transportation*
- Section 3.18, *Tribal Cultural Resources*
- Section 3.19, *Utilities and Service Systems*
- Section 3.20, *Wildfire*

### 3.0.2 *Resource Chapter Organization*

Each resource section of this EIR describes the affected environment (existing conditions), explains the methodology and significance criteria considered, and discusses the environmental impacts and mitigation measures.

- Regulatory Setting
- Environmental Setting
- Environmental Impacts and Mitigation Measures
  - Methodology and Assumptions
  - Thresholds of Significance
  - Impact Analysis

Environmental justice impacts are addressed in Chapter 4, *Environmental Justice Analysis*. Although not required by CEQA, SMUD has elected to prepare an evaluation of potential environmental justice issues related to the proposed Project. Cumulative impacts are addressed in Chapter 5, *Cumulative Impacts*. Growth-inducing impacts are discussed in Chapter 6, *Other CEQA Sections*.

### 3.0.3 *Approach to the Environmental Impacts Analysis*

#### **Regulatory Setting**

The Regulatory Setting section in Sections 3.1 through 3.20 describes the laws, regulations, and policies that affect the resource or the assessment of impacts on the specific resource. The section establishes the regulatory framework for the analysis of each resource. Regulations that apply to all resource topics, including the federal Endangered Species Act (ESA) and CEQA, are described in Chapter 1, *Introduction*, and Chapter 2, *Project Description*. Because most activities will occur in unincorporated areas, the regulatory setting provides detail on relevant county general plans, and only lists cities in which some activities will occur.

## **Environmental Setting**

The Environmental Setting section in Sections 3.1 through 3.20 characterizes the existing physical environment for the specific resource and describes historical changes and trends affecting it. Existing information is used, when available, to describe baseline conditions for each resource.

## **Environmental Impacts and Mitigation Measures**

### ***Methodology and Assumptions***

Sections 3.1 through 3.20 each include a description of the resource-specific methodology used to identify and assess the potential environmental impacts that may result from implementation of the proposed Project.

### ***Thresholds of Significance***

The significance criteria discussion in Sections 3.1 through 3.20 describes thresholds of significance and other criteria to determine the potential significance of impacts. The thresholds and criteria for determining the significance of impacts for this analysis are based on the Environmental Checklist in Appendix G of the State CEQA Guidelines and other resource-specific sources as described in each section. The thresholds and criteria derived from the checklist have been modified as appropriate to meet the circumstances of the proposed Project (23 California Code of Regulations 3777(a)(2)).

### ***Impact Analysis***

#### **Project Analyzed in this EIR**

As explained in Chapter 2, the proposed Project considered in this EIR consists of:

- Application for and issuance and implementation of take authorizations by the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

SMUD, as a public agency that will carry out the proposed Project, pursuant to CEQA Guidelines Section 15051(a), is the lead agency for CEQA review. The Covered Activities, when they take place as individual projects, may require discretionary permits or approvals from various responsible agencies in addition to coverage under the take authorizations.

Under CEQA, an EIR must be prepared when there is substantial evidence that supports a fair argument that significant effects may result from project implementation. Consistent with Section 15121(a) of the CEQA Guidelines, this EIR is a public information document that assesses and discloses the potential environmental effects not only of SMUD's discretionary application for and implementation of the take authorizations and

implementation of the HCP, but also its broader consideration and approval of the whole of the action under CEQA, which includes the direct and reasonably foreseeable indirect effects caused by the Covered Activities that will result with issuance of the take authorizations, and the Conservation Strategy covered by the ITPs and HCP. In combination, these activities constitute the proposed “Project” for purposes of CEQA.

SMUD’s lead agency approval of the proposed Project implements the HCP and proposed take authorizations, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity, or comment SMUD to any future approval of same. Implementation of the proposed Project, instead, will condition how SMUD implements the Covered Activities it elects to implement when the Covered Species are or may be present. CDFW’s issuance of the state take authorizations would comply with the California Endangered Species Act and USFWS’s issuance of the federal take authorization would authorize implementation of the proposed HCP and comply with the ESA. Issuance of the take authorizations enables only the take of Covered Species as a result of the implementation of the Covered Activities; the take authorizations do not, however, enable the Covered Activities.

Pursuant to CEQA, this EIR discloses and analyzes the potential direct and indirect environmental effects caused by SMUD’s Conservation Strategy (Direct Actions) and Covered Activities (Indirect Actions), as a result of the requested issuance of the take authorizations and implementation of the HCP. The take authorizations will provide incidental take coverage for seven species—California tiger salamander, giant garter snake, slender Orcutt grass, Sacramento Orcutt grass, valley elderberry longhorn beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp—for the next 30 years. This EIR is intended to serve as an informational document for the public agency decision makers and the general public regarding the characteristics and objectives of the proposed Project, potential environmental impacts, recommended mitigation measures and feasible alternatives to the proposed Project. This includes, in turn, feasible measures proposed by SMUD specifically to avoid or substantially lessen significant or potentially significant environmental effects that may be caused by the Conservation Strategy and Covered Activities generally. The analysis in this EIR discloses the impacts of the Conservation Strategy and the Covered Activities, specifically those that have the potential to result in a direct or indirect physical change in the environment and would result in a change in baseline conditions.

Significance conclusions are identified for the impacts of Direct Actions because the proposed Project analyzed in this EIR includes approval of implementation of those actions. Impacts of Indirect Actions are described to provide a complete analysis of the whole of the action consistent with CEQA Guidelines Section 15378(a), but significance conclusions are not identified because it would require speculation to determine the connection between implementation of the proposed Project and impacts from implementation of Covered Activities. Additionally, the detailed potential environmental effects of Indirect Actions cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration are not known. As part of SMUD’s standard environmental screening process, SMUD will determine whether

implementation of individual Covered Activities is subject to CEQA, and the appropriate CEQA document that is required for compliance. The only exception is within the biological resources section where significance conclusions are identified for the impacts of Indirect Actions to all Covered Species. The EIR was able to determine conclusions for Covered Species because of the reliance on the estimated and quantified effects of the Indirect Actions on the Covered Species included in the proposed HCP.

Covered Activities Considered in the 2010 SMUD Nature Preserve Mitigation Bank Project Initial Study and Mitigated Negative Declaration

Impacts associated with SMUD's Nature Preserve Mitigation Bank (SMUD Bank) Oak Tree Planting (C1) and SMUD Bank Management (C2) were analyzed in the 2010 SMUD Nature Preserve Mitigation Bank Project Initial Study and Mitigated Negative Declaration (IS/MND) document for the Bank (SMUD 2010; SCH #2008022151), which is hereby incorporated by reference and is available for review on SMUD's website at [www.SMUD.org/CEQA](http://www.SMUD.org/CEQA). These two Covered Activities were described as a part of the SMUD Nature Preserve Mitigation Bank Project in Section 2.7.4 (Oak Tree Planting) and 2.8.2 (Long Term Management and Monitoring, i.e., SMUD Bank Management). The findings of the 2010 IS/MND were that the proposed Project would be implemented without causing a significant adverse impact on the environment with the mitigation measures for potential impacts associated with air quality, biological resources, cultural resources, geology and soils (erosion), hydrology and water quality, hazards and hazardous materials, and noise. Of the identified mitigation measures, the following were identified as required for these two Covered Activities to ensure that impacts would be less than significant:

- Air Quality—None required for impacts of Oak Tree Planting or Long-Term Management and Monitoring/SMUD Bank Management
- Biological Resources—BIO-2 through BIO-14, BIO-17, and BIO-18
- Cultural Resources—CUL-1 through CUL-4
- Geology and Soils (erosion)—GEO-1 and GEO-2
- Hazards—HAZ-1 through HAZ-3
- Hydrology/Water Quality—GEO-1 and GEO-2 and HAZ-1
- Noise—None required for impacts of Oak Tree Planting or Long Term Management and Monitoring/SMUD Bank Management

Because these two Covered Activities (C1 and C2) have been the subject of an approved CEQA document and have not been materially modified since the analysis in that document, the impacts of these two activities are not analyzed in this EIR.

### Definition of Direct and Indirect Actions

Throughout this EIR, each resource section's impact analysis distinguishes potential impacts resulting from Direct Actions and those resulting from Indirect Actions. Direct Actions and Indirect Actions are defined below; in summary, Direct Actions are the Conservation Strategy actions and the Indirect Actions are the Covered Activities.

Section 2.3.3, *Conservation Strategy (Direct Actions)*, and Section 2.3.4, *Covered Activities (Indirect Actions)*, describe the Conservation Strategy and Covered Activities. Section 2.3.5, *Summary of Conservation Strategy and Covered Activities as Analyzed in this EIR* categorizes the Conservation Strategy and Covered Activities into six groups (summarized in Table 2-10), as described below. The impact analysis is structured into these categories, as impacts related to activities in these categories would be similar in nature.

#### *Conservation Strategy*

Activities associated with implementation of the Conservation Strategy are specifically described in Section 2.3.3. The Conservation Strategy are the Direct Actions as described below.

#### *O&M, Operation and Maintenance*

Operation and maintenance (O&M) activities are associated with Electrical Covered Activities, Natural Gas Transmission Facilities Covered Activities, and Telecommunications Covered Activities and are specifically described in Section 2.3.4 under these areas of Covered Activities. O&M activities are Indirect Actions as described below.

#### *NC, New Construction*

New construction activities are associated with Electrical Covered Activities, Natural Gas Transmission Facilities Covered Activities, and Telecommunications Covered Activities and are specifically described in Section 2.3.4 under these areas of Covered Activities. O&M activities are Indirect Actions as described below.

#### *VM, Vegetation Management*

Vegetation management activities are a single category as described in Section 2.3.4. O&M activities are Indirect Actions as described below.

#### *CEA, Conservation and Enhancement Activities*

Conservation and enhancement activities consist of oak tree planting at and management of the SMUD Bank as specifically described in Section 2.3.4. O&M activities are Indirect Actions as described below. This activity was the subject of an approved CEQA document

(SMUD Nature Preserve Mitigation Bank Project) as described above; therefore, the impacts are not analyzed in this EIR.

### *MCA - Miscellaneous Covered Activities*

Miscellaneous Covered Activities are specifically described in Section 2.3.4 and are primarily associated with operation of existing facilities. O&M activities are Indirect Actions as described below.

### Direct Actions

The Conservation Strategy includes specific conservation measures to mitigate unavoidable impacts from the Covered Activities. These Direct Actions would be directly enabled by the proposed HCP as authorized by the take authorizations issued by USFWS and CDFW. The Direct Actions are:

- Use Credits at SMUD Bank
- Purchase Credits at Other Conservation/Mitigation Banks
- Participate in Overlapping HCPs
- Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank
- HCP Long Term Monitoring at the SMUD Bank

These Direct Actions are described in Section 2.3.3. Because, as described in Table 2-10, where the Conservation Strategy activities (Direct Actions) are presented, the only Direct Action with potential physical environmental effects is the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank, other Direct Actions are not required to be and are not analyzed in this EIR.

For the purposes of analysis, the following assumptions were made regarding the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity:

- Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management, neither of which would include the use of heavy equipment.
- All Orcutt grass enhancement and introduction activities and plant management would be accomplished using only hand tools.
- Introduced slender Orcutt grass and Sacramento Orcutt grass seeds will not be watered.

- Monitoring in the first 5 years of enhancement will not involve any physical disturbance to the site.
- Conservatively assuming that each crew member would commute to and from the SMUD Bank using a vehicle, a maximum of 24 trips could be generated per year during the first 5 years and two per year after the first 5 years.

### Indirect Actions

Indirect Actions are the Covered Activities covered by the take authorizations. The Indirect Actions are not entitled by the actions covered by this EIR. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations, but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action.

In addition to disclosing the impacts of the Direct Actions which have potential physical impacts, this EIR also discloses reasonably foreseeable impacts associated with implementation of Covered Activities (Indirect Actions) because the take authorizations authorize take of Covered Species that may occur as a result of implementing Covered Activities. The Indirect Actions are the other five groups described in Section 2.3.4 and summarized in Table 2-9.

### Change from Baseline Conditions

Pursuant to the requirements of CEQA, the analysis considers how implementation of the Direct and Indirect Actions would change from the baseline condition, including current practices to new construction and changed practices consistent with issuance of the take authorizations and implementation of the proposed HCP. Under CEQA, the impacts of a proposed project must be evaluated by comparing expected environmental conditions after project implementation to baseline (generally, existing environmental) conditions. The changes in environmental conditions, from the baseline to what would occur under the project, comprise the environmental impacts of the proposed project.

The only exception to this approach is within the biological resources section. To inform and facilitate the process of approving the take authorizations, the EIR provides a thorough description and analysis of the effects on biological resources of both new and baseline activities, impacts from activities that are a part of baseline conditions and would not change following approval of the proposed Project are analyzed. In the biological resources impact analysis, these baseline activities are identified as *Covered Activities—Indirect Actions that are part of Baseline Conditions*. Section 2.3.4 explains in more detail which Covered Activities would be a change in baseline.

SMUD has been conducting most of the Covered Activities, specifically those pertaining to O&M of SMUD's electrical, natural gas, and telecommunication systems, as well as vegetation management practices within the Permit Area since SMUD took ownership of existing facilities, or facilities were constructed, for more than 75 years. As described in Chapter 2, these ongoing O&M Covered Activities are part of baseline conditions, and

Table 2-10 summarizes which specific elements of Covered Activities would change from baseline conditions.

SMUD's O&M and minor new construction activities, and the maintenance needs of SMUD's gas and electric systems, albeit dynamic year to year, are not expected to materially increase on average over the course of the next 30 years. During the 30-year term of the proposed HCP, SMUD anticipates that some components of its system will need to expand to meet demand related to growth in SMUD's service area (e.g., more poles would need to be replaced on an annual basis than occurs under baseline conditions). This growth-related development, specifically the Covered Activities needed to implement this development, would constitute a change in the baseline. In addition, there are certain Covered Activities that SMUD does not currently conduct (i.e., removal of elderberry shrubs); these new Covered Activities also constitute a change in the baseline.

### Mitigation Measures

Specific measures are proposed in this EIR, when necessary, to avoid, reduce, minimize, or compensate for adverse environmental effects of the Direct Actions, which, as described above, under *Impact Analysis*, are what are authorized by the proposed Project analyzed in this this EIR. CEQA requires that, whenever possible, agency decision makers adopt feasible mitigation to reduce a project's potentially significant impacts to a less-than-significant level.

Mitigation measures included in this EIR are considered to be potentially feasible by the authors of the document; however, the ultimate determination of feasibility can be made only by agency decision makers. This EIR addresses whether mitigation presented would reduce a potential impact to a less-than-significant level, analyzed against the thresholds of significance presented in each resource section.

#### 3.0.4 *Terminology Used in the EIR*

This EIR uses the following terms to describe the level of significance of impacts identified during the environmental analysis:

- **No Impact.** This impact would cause no discernible change in the environment as measured by the applicable significance criteria; therefore, no mitigation would be required.
- **Less than Significant.** This impact would cause no substantial adverse change in the environment as measured by the applicable significance criteria; therefore, no mitigation has been identified.
- **Potentially Significant.** This impact exceeds the defined thresholds of significance and can be reduced to a less-than-significant level through implementation of feasible mitigation measures. If such measures are not available

or would not reduce the level of impact below the threshold of significance, the impact would be determined to be significant and unavoidable.

- **Significant and Unavoidable.** This impact would cause a substantial adverse change in the environment that cannot be avoided or mitigated to a less-than-significant level if the proposed action is implemented. Even if the impact finding is still considered significant with the application of mitigation, SMUD would be obligated to incorporate all feasible measures to reduce the severity of the impact.

### 3.1 Aesthetics

Visual resources are defined as the visible natural and human-built features of the landscape that contribute to an attractive landscape appearance and the public's enjoyment of the environment.

This section summarizes regulations applicable to visual resources, describes the existing visual resources within the Permit Area, and provides an assessment of potential changes to those conditions that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP). Effects of the proposed Project on the visual environment are generally defined in terms of the proposed Project's physical characteristics and the potential visibility of those changes (including changes in lighting and glare), the extent to which the proposed Project would change the perceived visual character and quality of the visual environment where it is located, and the expected level of sensitivity of the viewing public in the area.

No questions or concerns related to aesthetics were raised in the responses to the Notice of Preparation.

#### 3.1.1 *Regulatory Setting*

##### **Federal**

##### ***Wild and Scenic Rivers Act***

The Wild and Scenic Rivers Act protects and enhances the values for which each river or river segment was designated, while providing for public recreation and resource uses that do not adversely affect or degrade those values. The lower American River from its confluence with the Sacramento River to Nimbus Dam has been designated as a "Recreational River" under the National Wild and Scenic Rivers Act (U.S. Bureau of Land Management et al. 2020).

Recreational river areas may contain existing bridge crossings and other development; however, the recreational classification does not imply that future development will be considered consistent with the purposes of the Act. The Wild and Scenic Rivers Act does not provide authority to halt development and use of a river; rather, the intent is to encourage and work toward preservation and enhancement of the values that led to the river's being designated.

##### **State**

##### ***California Wild and Scenic Rivers Act***

The California Wild and Scenic Rivers Act (Public Resources Code 5093.50 et seq.) was passed in 1972 to preserve designated rivers possessing extraordinary scenic, recreation, fishery, or wildlife values. As with the federal Wild and Scenic Rivers Act, the

lower American River, from Nimbus Dam to its junction with the Sacramento River, is designated as Recreational under the California Wild and Scenic Rivers Act (Sacramento County 2010).

### ***California Scenic Highway Program***

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the highways. State Route (SR) 160 in Sacramento County is designated as a state scenic highway. SR 160 parallels the Sacramento River and is designated scenic between the Contra Costa/Sacramento County line and the south city-limit line for the City of Sacramento (Caltrans 2019).

### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### ***Sacramento County General Plan***

The *Sacramento County General Plan* (Sacramento County 2017) Public Facilities Element contains policies related to aesthetics. These include policies to minimize the visual intrusion related to utility facilities (Policies PF-85, PF-87, PF-101, PF-104, PF-106, PF-108), preserve scenic resources (Policies PF-67, PF-95), use vegetative screening (Policies PF-68, PF-96, PF-105), and minimize glare (Policies PF-68, PF-80).

### ***Yolo County General Plan***

The *Yolo County 2030 Countywide General Plan* (Yolo County 2009) Land Use and Community Character Element contains policies related to aesthetics. These include policies to minimize the visual intrusion related to utility facilities (Policies CC-1.8, CC-1.9, CC-1.18) and preserve scenic resources (Policies CC-1.4, CC-1.5, CC-1.10, CC-1.12, CC-1.13, CC-1.16).

***Placer County General Plan***

The *Placer County Countywide General Plan* (Placer County 2013) Land Use Element and Public Facilities and Services Element contain policies related to aesthetics. These include policies to minimize the visual intrusion related to utility facilities (Policies 1.K.5, 1.L.3, 4.A.4) and preserve scenic resources (Policies 1.K.1 through 1.K.6).

***Amador County General Plan***

The *Amador County General Plan* (Amador County 2016) Circulation and Mobility Element contains a policy related to protection of scenic corridors (Policy CM-4.1).

***San Joaquin County General Plan***

The *San Joaquin County General Plan* (San Joaquin County 2016) Natural and Cultural Resources Element contains policies related to aesthetics. These include policies to minimize the visual intrusion related to utility facilities (Policy NRC-7.8), preserve scenic resources (Policies NRC-7.1, NRC-7.4), and reduce light pollution (Policy NRC-7.7).

***City General Plans***

In addition to county general plans, the cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, Folsom, and Roseville all have general plan policies related to aesthetics. Similar to the county general plans, these policies are related to preserving scenic resources and corridors, minimizing the visual intrusion of utility facilities, and minimizing light and glare. These policies are applicable to residential, commercial, and industrial development.

***3.1.2 Environmental Setting***

Visual resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Therefore, the environmental setting for aesthetics considers the visual quality and character of the Permit Area and vicinity as well as sensitivity of viewers.

**General Methodology for Visual Impact Analysis**

When evaluating the impacts of implementing the proposed HCP on the visual environment, the focus is on three overarching parameters: existing visual conditions; how these would be altered by the proposed Project; and the significance of the change on scenic qualities of the landscape and publicly available viewpoints. Visual resources considered in this evaluation include those features in the natural and cultural landscapes that comprise the visible world and contribute to a viewer's understanding of and reaction to the scene before them. Visual resources include both natural elements, such as topography, vegetation, and water, as well as constructed features, such as earthworks, roads, and structures.

This visual analysis considers visual quality, viewer sensitivity, viewer exposure (visibility, number of viewers duration of view), and visual change. Visual quality is an expression of the visual impression or appeal of a given landscape and the associated public value attributed to the resource. Visual quality is evaluated using the approach to visual analysis adopted by the Federal Highway Administration and Caltrans, employing the concepts of vividness, intactness, and unity. Viewer sensitivity represents the reaction of a viewer to landscape changes in the viewshed (defined as the area visible from a fixed vantage point). For example, viewers have a high expectation for scenic quality of areas designated as a scenic area, scenic corridor, open space, recreational, and residential areas. Viewer exposure is a function of three elements: visibility, number of viewers, and duration of view.

Visual change is a function of contrast, dominance, and view blockage or disruption. Contrast and dominance contribute more to the degree of visual change than view disruption.

## **Affected Environment**

### ***Regional Setting***

The Permit Area and vicinity are within California's Central Valley, at the southern end of the Sacramento Valley. Views within the valley region are generally characterized by broad sweeping panoramas of flat agricultural lands and open space dotted with trees, divided by numerous rivers and creeks, and populated with scattered towns and cities. To the east, the Sierra Nevada and their foothills form a background, and the Coast Range provides a backdrop on the western horizon.

Dominant visual characteristics include open areas of the valley floor, urban areas, agriculture, rivers and creeks, and trees. Visual resources within the undeveloped portions of the Central Valley are predominantly agricultural in nature, with expansive vistas consisting of open farmland and rangeland, orchards, vineyards, and distant views to the surrounding mountains. Because the unincorporated areas in this region consists of relatively flat terrain, views of these resources are available from roadways throughout the area including Interstate 5, Interstate 80, Highway 50, SR 99, SR 16, and SR 160/River Road. Distant views of the Sierra Nevada, Coast Range, Mount Diablo, and Sutter Buttes can be visible under clear conditions and are also considered part of Sacramento County's visual heritage. Large urban areas are also found throughout the Central Valley including residential, commercial, and industrial development primarily concentrated around major roadways. Visual characteristics of these areas are dominated by human-made structures including buildings, roadways, parking areas, airports, and utilities. These human-made structures are typically interspersed with trees, parks, and recreation areas, but are generally of lower visual quality than natural areas and buildings in many areas obstruct distant views.

### ***Permit Area Setting***

The Permit Area encompasses a diversity of existing land cover types, including urban land covers, grasses and forbs, cropland, woodlands, and different aquatic features. Elevation ranges from just below sea level near the Delta region to over 800 feet above sea level in the foothills of the Sierra Nevada in the northeastern part of the Permit Area (U.S. Department of Agriculture Soil Conservation Service [USDA SCS] 1993). There are two physiographic regions in the Permit Area: the Sierra Nevada foothills and the lower Sacramento Valley (USDA SCS 1993).

The Sierra Nevada foothills are undulating to hilly, from 140 to 830 feet in elevation. This region is located along the northeast edge of the Permit Area. The remainder of the Permit Area consists of the lower Sacramento Valley and is nearly level to gently rolling, with some areas in the eastern part rolling to hilly. Elevation ranges from sea level in the southwestern part to about 400 feet above sea level in the eastern part. The lower Sacramento Valley contains the Sacramento, American, and Cosumnes Rivers and tributaries and their associated nearly level floodplains. North of the American River and east of the Sacramento River, there are basin and terrace remnant landforms in the American Basin, which historically contained intermittent lakes before the area was protected by levees. A low stream terrace occurs along the upstream areas of the American River and along some of the small creeks in the east. The most extensive area is the main valley floor, which consists of primarily level, low terraces, basin rims, and local basins. There are also gently rolling to hilly areas where dissection of the high terraces is so complete that the original surface of the terrace no longer exists. The lower Sacramento Valley and Sierra Nevada foothills contain vernal pools in some areas of nearly level to gently sloping topography (USDA SCS 1993). The Permit Area also includes SMUD's Nature Preserve Mitigation Bank (SMUD Bank), a 1,132-acre property located in southeastern Sacramento County. The SMUD Bank provides hiking and wildlife viewing opportunities along the Howard Ranch Trail that passes through the northeastern area of the SMUD Bank.

In addition, the Permit Area includes agriculture and grazing areas, recreation areas, and urban, commercial, and industrial development. Recreation areas include county and city parks, the Rancho Seco Recreation Area, which contains an artificial lake, boating, and camping facilities, and the Amanda Blake Memorial Wildlife Refuge.

Urban areas are concentrated in the center and norther portions of the Permit Area and include the cities of Sacramento, Elk Grove, and Rancho Cordova. The city of Galt and other communities are scattered throughout the Permit Area. Visual characteristics of these urban areas are similar to the urban areas in the surrounding area and are dominated by human-made features.

Industrial facilities include the decommissioned Rancho Seco Nuclear Generating Station and the Cosumnes Power Plant (CPP), which dominate views in the areas surrounding these facilities. Existing SMUD facilities throughout the Permit Area include overhead electrical lines, substations, and natural gas transmission facilities.

### ***Scenic Views, Vistas, and Resources***

Visual resources are classified in two categories: scenic views and scenic resources. A scenic view is a high-quality visual environment experienced beyond an observer's immediate surroundings. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually middle ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. For a hiker or roadway traveler, a scenic view would not include only the trail or road, but also the terrain immediately surrounding the trail or road. Scenic vistas are broad, long-range scenic views that can be described as panoramic and having exceptional landscape-scale scenic quality. Sometimes, scenic vistas are recognized by public agencies through designation with protective policies in land management plans or placement of special destinations for viewers, such as an elevated vista point.

Scenic resources are described in Appendix G of the State California Environmental Quality Act (CEQA) Guidelines as specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

The numerous rivers, creeks, and waterways located within or adjacent to the unincorporated areas of the Permit Area serve as a visual transition from natural scenic corridors to urban, suburban, and rural areas. Important scenic waterway corridors in the Permit Area include the: Sacramento River, American River, Cosumnes River, Dry Creek, Morrison Creek, Laguna Creek, Elder Creek, Deer Creek, and Dry Creek South. The riparian areas associated with these waterways are considered some of the most biologically rich regions in California's Central Valley and greatly enhance the aesthetic and visual character of the area (Sacramento County 2010).

County parks, parkways, and nature preserves such as the American River Parkway, Dry Creek Parkway, Cosumnes River Preserve, Beach-Stone Lakes, Mather Lake and the Mather Regional Park include both scenic views and scenic resources such as large mature oaks, oak and riparian woodlands, and vernal pools. The southern portion of Folsom Lake, a visually prominent waterway, is also within the Permit Area, and as discussed above, the lower American River (from the Nimbus Dam to its confluence with the Sacramento River) is classified as a "Recreational" river, as defined by the federal and California Wild and Scenic River Acts because of its aesthetic qualities and abundance of recreational opportunities.

SR 160 is a designated state scenic highway. Scenic views along this corridor include the Sacramento River, agricultural fields, and orchards, patches of riparian forest, several historic homes, and buildings. In addition, the Scenic Highways Element of the existing Sacramento County General Plan designates River Road, Garden Highway, Scott Road (from White Rock Road south to Latrobe Road), Latrobe Road, Michigan Bar Road, and Twin Cities Road (from SR 160 east to SR 99) as scenic corridors. The Yolo County General Plan designated South River Road from West Sacramento city limits to the Sacramento County line as a local scenic highway. While River Road and South River

Road are outside of the Permit Area boundary, activities within the Permit Area may be visible from this roadway.

### ***Viewer Groups and Viewer Sensitivity***

Public access is available throughout most of the Permit Area. Two of the largest viewer groups in the Permit Area are residents and motorists on local roadways. Viewer groups in the Permit Area also include employees (e.g., construction workers) and recreationists.

Sensitivity of the viewers is based on the visibility of resources in the landscape, proximity of the viewers to the visual resource, elevation of the viewers relative to the visual resource, frequency and duration of views, numbers of viewers, and types and expectations of individuals and viewer groups. Residents have a high sense of ownership over their adjacent views. Because of their long-term exposure to such views and sense of ownership, these residents are considered to have high sensitivity to changes in the viewshed. Although motorists provide a large number of potential viewers, the sensitivity of this viewer group to local scenic conditions is limited by the fact that a driver's focus is predominantly on the road and surrounding vehicles, and the vehicle is in motion, limiting opportunities for extended views of particular resources. Motorists are therefore of moderately low viewer sensitivity. Employees are likely to be primarily occupied with their work activities, only spending short periods looking beyond the immediate area. Therefore, this viewer group is considered to have moderate sensitivity to changes in views. Viewer sensitivity is high among recreationists using the Permit Area because they are more likely to value the natural environment highly, may focus on their surroundings for extended periods, appreciate the visual experience, have a high sense of ownership, and be more sensitive to changes in views.

### ***Light and Glare***

The Permit Area is made up of many land uses such as agricultural lands, residential, open space, recreation areas, and commercial/industrial uses. There are numerous sources of light and glare. Urban areas are heavily lit due to commercial development including light from building interiors and exteriors, street lighting, landscape lighting, and vehicle lights. Remote and more rural areas generally contain few light sources.

Glare is caused by either direct light from the sun or moon, artificial light sources, or by a reflective surface. In urban areas within the Permit Area, reflective building materials are the primary source of glare, and in rural and semi-developed areas, natural sources (e.g., open water) are the primary source of glare.

#### ***3.1.3 Environmental Impacts and Mitigation Measures***

### **Methodology and Assumptions**

The evaluation of potential impacts of the proposed HCP on aesthetics was based on consideration of both the visual character and quality of the resource affected, and the value given the resource by viewers. Viewer valuation or response is a combination of

viewer exposure and viewer sensitivity. Viewer exposure is a function of the visibility of the affected area, number of viewers, and viewing duration.

Changes in foreground views from a position where large numbers of viewers are relatively stationary for extended periods would generate greater viewer exposure than changes in a background view seen by a limited number of viewers driving rapidly past the viewing site. Viewer sensitivity relates to viewer expectations and the extent of the public's concern for a particular viewshed. Viewers undertaking recreational activities in a location known for high-quality aesthetic resources is expected to have higher expectations and express greater concern relative to preservation of scenic conditions than workers in an industrial setting in an urban area. The significance of the change on scenic qualities of the landscape and publicly available viewpoints is evaluated using the thresholds below. Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, implementation of the proposed HCP would result in a potentially significant impact on aesthetics if it would do the following.

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a scenic highway.
- In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings.
- In urbanized areas, conflict with applicable zoning or other regulations governing scenic quality.
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

## Impact Analysis

### ***Impact 3.1-1: Have a substantial adverse effect on a scenic vista***

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There are no designated scenic vistas within the Permit Area, although there are prominent viewpoints and long-range scenic views. In addition, conservation/mitigation banks such as the SMUD Bank are generally considered of high visual quality and may offer scenic viewpoints for recreationists. The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Any short-term, adverse visual change resulting from Orcutt grass enhancement and introduction at the SMUD Bank would not be substantial. Moreover, these activities could improve quality of views in the long term. This impact would be **less than significant**.

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There are no designated scenic vistas within the Permit Area; however, there are prominent viewpoints and long-range scenic views. Generally, Covered Activities could result in short-term, temporary changes in scenic views resulting from minor ground disturbance, removal of vegetation, and the presence of equipment, personnel, and supplies. Some Covered Activities, specifically those entailing new construction, could result in long-term changes in scenic views by introducing a new feature on the landscape (e.g., installing taller facilities in urban areas or a new substation in a rural area).

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Conservation/mitigation banks are generally considered of high visual quality and may offer scenic viewpoints for recreationists. The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would result in short-term, negligible changes in views related to use of vehicles and presence of personnel and minor ground-disturbing activities such as planting and invasive plant removal. Any adverse visual change resulting from these short-term activities would not

be substantial. This activity would improve views of the SMUD Bank in the long term. Therefore, this impact would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

Operation and maintenance (O&M) Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. O&M activities could result in short-term, temporary changes in scenic views resulting from minor ground disturbance and the presence of equipment, personnel, and supplies. Those activities that could result in short-term changes in existing scenic views include O&M of new substations (E3, E4), new telecommunications towers (T1); realigned gas pipelines (G5, G6); repair and replacement of transformers (E9b); and pole treatment (E6) and replacement (E8). The primary visual change associated with O&M would be the temporary presence of crews and equipment conducting the activity. Although O&M activities may be visible from scenic viewpoints within the Permit Area, these activities are not expected to substantially affect these viewpoints because O&M activities would be infrequent and of short duration, and maintenance of the aforementioned new facilities would be similar to O&M of existing facilities present throughout the Permit Area and would not involve long-term changes that would alter the vividness, intactness, and unity of these views. The HCP general AMMs could be implemented to reduce the visible change within the viewshed if an adverse effect to a viewshed could be substantial.

- G-AMM2 (Minimize work area footprint)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

The installation of new facilities is addressed under New Construction, below.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. Construction of new facilities may also require trenching and boring along existing or realigned gas pipelines or transmission corridors and creating temporary access roads. These facilities would include new facilities that have the potential to obstruct or alter the vividness, intactness, and unity of views from scenic viewpoints. Short-term activities related to construction of these facilities could result in temporary changes in views similar to those described above for O&M activities.

Long-term visual changes resulting from the installation of new facilities could affect limited areas within or immediately adjacent to existing SMUD easements and, if constructed within or adjacent to these existing easements, would likely be consistent with the general visual character of the easement, which is typically dominated by existing energy and other industrial infrastructure. Most aboveground structures that may be installed would likely have relatively small footprints and would either be low profile (e.g., gas facilities) or be consistent with existing overhead utilities (e.g., electrical distribution facilities). Covered Activities under the category of new construction may result in changing the type of facility present, such as upgrading wood utility poles to steel poles with a concrete foundation (E8), along an existing electrical transmission corridor.

New telecommunication towers (T2) would be tall facilities (up to 185 feet tall) that could be visible from scenic viewpoints. These facilities could be within the footprint of existing SMUD electrical transmission substations, which are industrial in appearance, or in a new transmission substation when it is constructed. New substations would also be larger facilities (0.5 acre each) that may be visible from scenic viewpoints. Given their industrial nature and the large, diverse geographical area within which they could be located, the potential exists that substations and telecommunication towers could be inconsistent with the visual character of the area and could result in a substantial adverse change in views from scenic viewpoints.

The HCP general AMMs as well as measures similar to those listed below could be implemented to reduce changes on the landscape from new construction activities if an adverse effect on a viewshed could be substantial.

- G-AMM2 (Minimize work area footprint)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- Use non-reflective material to reduce glare
- Install visual barriers consistent with those used within the vicinity around the substation

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Vegetation removal would occur at SMUD facilities throughout the Permit Area, which could temporarily increase the visibility of facilities from scenic viewpoints by providing less screening. These visual changes could make the industrial nature of the easements occasionally more prevalent

as vegetation grows back and needs to be maintained. The HCP general AMMs listed below could be implemented to reduce this visual change if an adverse effect on a viewshed could be substantial.

- G-AMM2 (Minimize work area footprint)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

#### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). These activities would include installation of cathodic protection test stations (M2a), installation of a new pipeline valve (M2b), and replacement of pipeline segments (M2c). These new facilities would be small, would be visually consistent with existing structures, and would not obstruct or change views from any scenic viewpoints. In addition, O&M of these facilities would be minimal and of the same character as existing O&M activities. The HCP general AMMs listed below could be implemented to reduce impacts from miscellaneous activities on the landscape if an adverse effect on a viewshed could be substantial.

- G-AMM2 (Minimize work area footprint)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

Therefore, construction of these new facilities is not expected to result in a substantial adverse effect on a scenic viewpoint.

#### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any short-term, adverse visual change resulting from this activity would not be substantial, and could improve views in the long term. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term, temporary changes in views to scenic viewpoints. New construction activities, specifically the installation of new telecommunication towers and substations could result in long-term adverse effects on views from scenic viewpoints if located a visually sensitive area. Measures similar to the AMMs identified above, as refined as part of project-specific CEQA review, could reduce impacts by minimizing the visual contrast of new facilities with the surrounding landscape in sensitive viewsheds. For these reasons it is unlikely that adverse aesthetics impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures would be required if a potentially significant aesthetics impact was identified.

#### ***Impact 3.1-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. While implementation of this Direct Action could result in some short-term changes in views, Orcutt grass enhancement and introduction at the SMUD Bank would not result in tree removal or damage to any rock outcroppings or historic buildings. Therefore, there would not be any long-term adverse changes in views from a scenic resource and no substantial damage to scenic resources within a scenic corridor. This impact would be **less than significant**.

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Generally, Covered Activities could result in short-term, temporary changes in views from a scenic corridor resulting from minor ground disturbance, removal of vegetation, and the presence of equipment, personnel, and supplies. Some Covered Activities, specifically those entailing new construction, could result in long-term changes in views from a scenic corridor if one or more trees within a scenic corridor in the Permit Area are removed.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would enhance the viewshed. There are no state scenic highways located within or adjacent to the SMUD Bank and the SMUD Bank is not visible from the lower American River, which is designated as a recreational river under the federal and state Wild and Scenic River Acts. While restoration activities could result in short-term changes in views from a county-designated scenic corridor, implementation of this Direct Action would not

result in tree removal or damage to any rock outcroppings or historic buildings. Therefore, there would not be any long-term adverse changes in views from a scenic viewpoint and no substantial damage to scenic resources within a scenic corridor. This impact would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

As discussed under Impact 3.1-1 above, O&M of new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, would constitute a change from baseline conditions. These O&M activities could result in short-term, temporary changes in views related to maintenance of newly constructed or relocated facilities. There is the potential for the activities to be visible from one state scenic highway (SR 160), several county-designated scenic roadways, and a designated recreational river (lower American River) within the Permit Area. However, O&M activities would be short-term, would primarily occur in the vicinity of existing facilities already subject to periodic O&M, and would not remove trees or damage rock outcroppings or historic buildings. Therefore, O&M activities would not substantially damage the existing nature of the scenic resources within a scenic corridor. The installation of new facilities is addressed under New Construction, below.

New Construction Activities that would constitute a change from baseline conditions include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. As described under Impact 3.1-1, new construction activities may include new or expanded facilities (e.g., substations [E15, E16]) or result in changing the type of facility present that could be visible from a scenic corridor. These changes would be most visible to motorists or recreationists, and construction of new facilities could alter views from these scenic corridors. These activities would not damage rock outcroppings or historic buildings. New substations (up to 0.5 acre) and new telecommunication towers (T2) (up to 185 feet tall) are the largest facilities under this Covered Activity type and could be visible from a scenic corridor. New transmission substations are usually located in industrial areas with limited aesthetic value, or visually isolated agricultural areas. SMUD generally designs new construction to be consistent with the developed setting, and sites are generally to be adjacent to existing electrical infrastructure, minimizing visual impacts

A new telecommunication tower would most likely be within the footprint of an existing SMUD electrical transmission substation, and consistent with the industrial character of the substation. It could also be located in a new transmission substation when it is constructed.

While Covered Activities include four new substations and two new telecommunication towers over the next 30 years, this is within the 571,382-acre area in which SMUD has electrical facilities. While these projects may have local effects that will be addressed in design and, potentially in CEQA review, it is unlikely that these projects will have a substantial effect across the entire landscape within the 30-year timeframe.

Implementation of measures such as installing visual barriers consistent with those used within the vicinity and using non-reflective materials could minimize the visibility of new structures in sensitive landscapes. If tree removal is required for the construction of a new facility within a scenic corridor, minimizing the footprint and duration of work (i.e., G-AMM2), or implementing landscaping buffers or similar measures could prevent substantial damage to this scenic resource within a scenic corridor.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include removal of up to nine additional trees annually (V4), which could occur within the designated scenic corridors that exist within the Permit Area. If trees are removed within the viewshed of SR 160, a county-designated scenic roadway, or the lower American River corridor, it could affect scenic resources (trees) within a scenic corridor. However, areas of vegetation management in most cases would result in removal of hazard trees and/or thinning of vegetation rather than complete vegetation removal. Therefore, given the limited extent of vegetation management activities and that vegetation is currently being maintained in many of the areas that would be affected by these activities, any damage to a scenic resource within a scenic corridor would not likely be substantial. Implementation of HCP general AMMs as well as measures similar to those listed below could further avoid impacts from vegetation management activities on the landscape if substantial damage to a scenic resource within a scenic corridor could occur.

- G-AMM2 (Minimize work area footprint)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). There are no designated state or county scenic highways in the vicinity of the CPP water pipeline, and this property is not visible from the lower American River. In addition, O&M of the pipeline (i.e., cathodic protection test stations [M2a], pipeline valve [M2b], two new segments of pipeline [M2c]) would be minimal and would not be visible from a scenic corridor. Therefore, these activities would not substantially damage scenic resources within a scenic corridor.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any short-term,

adverse visual change resulting from this Direct Action would not be substantial. The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would not include tree removal or substantially degrade views from a scenic corridor. This impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term, temporary changes in views from scenic corridors. Minor construction activities, specifically the installation of new telecommunication towers and substations and tree removal could result in long-term adverse effects on views from a scenic corridor. Measures similar to those identified above, as refined as part of project-specific CEQA review, could reduce impacts by minimizing the visual contrast of new facilities with the surrounding landscape and minimizing tree removal within scenic corridors. For these reasons it is unlikely that adverse aesthetics impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures to reduce visual change would be required if a potentially significant aesthetics impact were identified in a scenic corridor.

#### ***Impact 3.1-3: In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would occur in a nonurbanized area and have the potential to result in short-term temporary changes in visual character or public views. However, in the long term, Orcutt grass enhancement and introduction at the SMUD Bank would enhance the visual character of these natural areas. This impact would be **less than significant**.

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Approximately 66 percent of the Permit Area encompasses nonurbanized land cover types. In addition, there are public viewpoints throughout the Permit Area such as from adjacent roadways and recreation areas. Generally, Covered Activities could result in short-term, temporary changes in visual character or public views resulting from minor ground disturbance, removal of vegetation, and the presence of equipment, personnel, and supplies. Some Covered Activities, specifically those entailing new construction, could result in long-term changes in the visual character of nonurbanized areas or public views.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would enhance the viewshed encompassing the SMUD Bank. Conservation/mitigation banks are located in nonurbanized areas and are generally considered of high visual quality and may offer scenic views to recreationists that are on trails or viewing wildlife. Restoration activities at the SMUD Bank could result in negligible changes in views resulting from the presence of vehicles and personnel. However, restoration or creation of native habitats would enhance the visual character of these natural areas in the long term. This impact would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

As discussed under Impact 3.1-1, O&M activities for new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, could result in short-term, temporary changes in views. There is the potential for the presence of equipment, personnel, and supplies in nonurbanized areas to degrade the visual quality of the area or alter public viewpoints. O&M activities would occur at new facilities; however, they would be short term and similar to existing O&M activities that occur through the Permit Area. Therefore, the relative vividness, intactness, and unity of views would remain intact, and O&M activities would not substantially degrade the existing visual character in nonurbanized areas. Implementation of HCP general AMMs could further minimize impacts of O&M activities on the visual character and public viewpoints if the existing visual character or quality of public views would be substantially degraded.

- G-AMM2 (Minimize work area footprint)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

The installation of new facilities is addressed under New Construction, below.

#### New Construction

Construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. New construction activities would include some vegetation clearing and some earthwork. Vegetation removal would create a denuded ground surface that may

contrast with the surrounding nonurbanized area in terms of color and visual texture. Grading would further modify the work site by producing barren cut-and-fill areas; it may also create slopes that are unnaturally steep or unnaturally flat areas compared with the surrounding area. However, in some cases, vegetation clearing would be temporary and minor changes in topography are not expected to substantially degrade the visual character of the area.

Although limited visual degradation may result from these activities, the severity of the impact would be dependent on the nature of the surrounding viewshed and the sensitivity of the viewer groups, which would include motorists, rural residents, and recreationists. These changes are most likely to be more intense in areas of high visual quality and/or with a high number of viewer groups, where sensitivity to changes in the viewshed is typically highest. Most new or modified facilities would be small in scale, would be consistent with existing SMUD facilities, and would not result in extensive disturbance or substantial alterations to the visual character.

Minor construction activities, such as telecommunication towers and distribution substations, that would result in large new or expanded aboveground facilities in nonurbanized areas have the potential to result in a substantial change to the existing visual character and quality in areas of high visual quality or are visible from viewer groups with a high sensitivity to visual changes (i.e., rural residences, recreationists). However, new telecommunication facilities would be constructed within the footprint of one of the existing SMUD electrical transmission substations, or in a new transmission substation when it is constructed. Therefore, they could be consistent with the surrounding visual character of the area. In areas of high visual quality, SMUD would implement the HCP general AMMs and could implement measures similar to those listed below to avoid substantial degradation of a site and its surroundings from new construction activities if substantial degradation to the existing visual character or quality of public views would occur.

- G-AMM2 (Minimize work area footprint)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- Use non-reflective material to reduce glare
- Install visual barriers consistent with those used within the vicinity around the substation

### Vegetation Management

Vegetation management activities include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and

distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Vegetation management in nonurbanized areas has the potential to degrade the visual character of the area, particularly in areas that are visible from sensitive viewer groups including rural residents and recreationists. However, areas of vegetation management would be dispersed throughout the Permit Area and in most cases would result in thinning of vegetation rather than complete removal. Therefore, given the limited geographical extent of the vegetation management activities and that vegetation is currently being maintained in many of the areas affected, vegetation management is not expected to substantially degrade the visual character of nonurbanized areas. Implementation of the HCP general AMMs could reduce impacts of vegetation management on visual resources if substantial degradation to the existing visual character or quality of public views would occur.

- G-AMM2 (Minimize work area footprint)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

#### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). The new cathodic test stations (M2a) and valve (M2b) associated with the CPP water pipeline would be new, small industrial facilities surrounded by nonurbanized areas. The primary viewer group for these activities would be SMUD employees, which have a low sensitivity to visual changes. These activities would be small facilities that would not substantially degrade the visual character of a nonurbanized area because they would result in little or no change in the visual character and would not be visible to sensitive viewer groups.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any short-term, adverse visual change resulting from this Direct Action would not be substantial. The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would enhance the visual character of these natural areas in the long term. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term, temporary changes in visual character or public views. Minor construction activities, specifically the installation of new telecommunication towers and substations and tree removal could result in long-term degradation of visual character or public views. Measures similar to those identified above, as refined as part of project-specific CEQA review, could reduce impacts by minimizing the visual contrast of new facilities with the surrounding landscape and minimizing tree removal. For these reasons it is unlikely that adverse aesthetics impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures to reduce visual change would be required if a potentially significant aesthetics impact were identified in a non-urbanized area.

#### ***Impact 3.1-4: In urbanized areas, conflict with applicable zoning and other regulations governing scenic quality***

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Implementation of Direct Actions would not occur within an urbanized area. **No impact** would occur.

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With the exception of new construction of transmission lines, which is not a Covered Activity, and substations, SMUD's activities are exempt from county and city zoning and building ordinances. However, SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts. Local ordinances governing scenic quality are typically related to degradation of views from scenic viewpoints or scenic corridors, removal of scenic trees, and minimizing light and glare. Generally, Covered Activities could result in short-term, temporary changes in scenic quality in urban areas resulting from minor ground disturbance, removal of vegetation, and the presence of equipment, personnel, and supplies. Some Covered Activities, specifically those entailing new construction, could result in long-term changes in scenic quality in urban areas.

#### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would enhance the viewshed encompassing the SMUD Bank. The SMUD Bank is not in an urbanized area. There would be **no impact**.

## ***Indirect Actions***

### Operation and Maintenance

O&M Covered Activities that would constitute a change from baseline conditions would include O&M of new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. O&M activities would be short term and would not increase light and glare. O&M activities would be short term and occur infrequently, and would therefore not result in an aesthetic change that would conflict with regulations or zoning related to scenic quality. Implementation of G-AMM2 (Minimize work area footprint) could further avoid impacts of O&M activities on scenic viewpoints and scenic resources protected by local ordinances if conflicts with such ordinances would occur.

### New Construction

Construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. New construction activities would include some vegetation clearing and some ground disturbance at the work site. However, vegetation removal is expected to be minimal. In addition, while there could be temporary degradation of views of an area related to minor construction of new facilities, the long-term changes in views or visual character are expected to be consistent with existing SMUD facilities and the urban character of the area.

Minor construction that would result in large new or expanded aboveground facilities in urbanized areas has the potential to result in a substantial change to the existing visual character and quality that could be inconsistent with other uses within the vicinity. New telecommunication towers (T2) would be within the footprint of one of the existing SMUD electrical transmission substations, or in a new transmission substation when it is constructed. Therefore, they would be consistent with the visual character of the area. Implementation of the HCP general AMMs as well as measures similar to those listed below could minimize these changes to scenic viewpoints and scenic resources protected by local ordinances if conflicts with such ordinances would occur.

- G-AMM2 (Minimize work area footprint)
- Designing structures to minimize the visibility of new structures in sensitive landscapes or creating landscaping buffers
- G-AMM17 (Direct temporary night lighting away from Covered Species habitat and orient permanent lighting downward to minimize glare) would facilitate consistency with ordinances related to light and glare.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Minor vegetation thinning or trimming would not conflict with any regulations or zoning related to scenic quality, and vegetation is currently being maintained throughout the Permit Area. Although tree removal within scenic corridors could conflict with local regulations related to scenic or heritage trees, areas of vegetation management would be limited to removal of hazard trees or those providing fire risks, and this limited scope of vegetation management would not substantially damage scenic resources or degrade scenic viewpoints. Therefore, vegetation management would not conflict with any regulations or zoning governing scenic quality.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). The CPP water pipeline is an existing facility, and the addition of new or replacement components/facilities (i.e., cathodic test stations [M2a], valve [M2b], pipeline segments [M2c]) would not change existing land uses or conflict with existing regulations and zoning governing scenic quality. The CPP is not in an urbanized area; therefore, no impact would occur.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The SMUD Bank is not in an urbanized area. Therefore, there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term, temporary changes in visual quality. Minor construction activities, specifically the installation of new telecommunication towers and substations and tree removal could result in long-term degradation of quality, which could conflict with regulations or zoning governing scenic quality. Measures similar to those identified above, as refined as part of project-specific CEQA review, could reduce impacts by minimizing

the visual contrast of new facilities with the surrounding landscape and minimizing tree removal. For these reasons it is unlikely that adverse aesthetics impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures to reduce visual change would be required if a potentially significant aesthetics impact were identified in an urbanized area.

***Impact 3.1-5: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Orcutt grass enhancement and introduction at the SMUD Bank would not create any new temporary or permanent sources of light or glare that would adversely affect day or nighttime views in the Permit Area. There would be **no impact**.

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There are currently numerous sources of light and glare within the Permit Area. Urban areas are heavily lit due to commercial development, including light from building interiors and exteriors, street lighting, landscape lighting, and vehicle lights. Remote and more rural (i.e., nonurban) areas generally contain few light sources. Generally, Covered Activities could result in short-term, temporary night lighting required for repairs being made under emergency conditions. Some Covered Activities, specifically those entailing new construction, could also result in a long-term increase in light and glare from new stationary sources within the Permit Area.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects, which would enhance the viewshed encompassing the SMUD Bank. This Direct Action would not create any new temporary or permanent sources of light or glare that would adversely affect day or nighttime views in the Permit Area. There would be **no impact**.

***Indirect Actions***

Operation and Maintenance

O&M Covered Activities that would constitute a change from baseline conditions would include O&M activities for new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. O&M would not create a permanent source of light or glare. O&M activities would generally be limited to daytime hours; temporary nighttime lighting would only be needed

for limited cases to conduct O&M and therefore would not result in new sources of light or glare. Operation of new and relocated facilities that could result in light or glare is addressed under New Construction, below.

### New Construction

Construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. Most new facilities constructed with minor construction activities would not require new permanent sources of lighting and would be constructed of non-reflective materials; however, there is the potential that some new facilities (e.g., new substations) would require security lighting. In addition, new construction may result in changing the type of facility present, such as upgrading wood utility poles to tubular steel poles. Construction of new facilities or replacing existing facilities with reflective materials has the potential to increase glare. Construction of new facilities could result in a minor increase in light and glare within the Permit Area, and any increase would be more prominent in nonurban areas. Construction activities would generally be limited to daytime hours; temporary nighttime lighting would only be needed for limited cases to conduct O&M and therefore would not result in new sources of light or glare. SMUD could implement minimum lighting standards and position any temporary lights downward and away from sensitive receptors and use non-reflective materials, or implement similar measures, to minimize any increase in light or glare.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). These vegetation management activities would not create any new temporary or permanent sources of light or glare that would adversely affect day or nighttime views in the area.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). Construction of new cathodic test stations (M2a), valve (M2b), or pipeline segments (M2c) would not require the installation of any new temporary or permanent sources of light or create any new sources of glare that would adversely affect day or nighttime views in the Permit Area.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would not create any new temporary or permanent sources of light or glare. There would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, vegetation management and miscellaneous Covered Activities would not create any new temporary or permanent sources of light or glare. New construction activities could result in a minimal long-term increase in light and glare within the Permit Area. Measures similar to those identified above, as refined as part of project-specific CEQA review, could reduce impacts by minimizing light and glare. For these reasons it is unlikely that adverse aesthetics impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures to reduce light and glare would be required if a potentially significant aesthetics impact were identified.

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## 3.2 Agricultural and Forestry Resources

This section summarizes regulations applicable to agricultural and forestry resources, describes agricultural and forestry resources in the Permit Area, and analyzes effects on agricultural and forestry resources that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

No questions or concerns related to agricultural and forestry resources were raised in the responses to the Notice of Preparation.

### 3.2.1 Regulatory Setting

#### **Federal**

No federal plans, policies, regulations, or laws related to agricultural resources are applicable to the proposed Project (i.e., implementation of the proposed HCP).

#### **State**

##### ***California Department of Conservation Farmland Mapping and Monitoring Program***

Important Farmland in California is classified and mapped according to the California Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP). Authority for the FMMP comes from Government Code Section 65570(b) and the Public Resources Code (PRC) Section 612. Government Code Section 65570(b) requires DOC to collect or acquire information on the amount of land converted to or from agricultural use for every mapped county and to report this information to the legislature. PRC Section 612 requires DOC to prepare, update, and maintain Important Farmland series maps and other soils and land capability information. The classifications in the Important Farmland Inventory System are described below.

- Prime Farmland: Land that has the best combination of features for the production of agricultural crops
- Farmland of Statewide Importance: Land other than Prime Farmland that has a good combination of physical and chemical features for the production of agricultural crops
- Unique Farmland: Land of lesser quality soils used for the production of the state's leading agricultural cash crops
- Farmland of Local Importance: Land that is of importance to the local agricultural economy
- Grazing Land: Existing vegetation that is suitable to grazing

- Confined Animal Agriculture: Land that includes poultry facilities, feedlots, dairy facilities, and fish farms.
- Nonagricultural and Natural Vegetation: Land that includes heavily wooded, rocky, or barren areas; riparian and wetland areas; grassland areas that do not qualify for grazing land due to their size or land management restrictions; small waterbodies; and recreational water ski lakes.
- Semi-Agricultural and Rural Commercial Land: Land that includes farmsteads, agricultural storage and packing sheds, unpaved parking areas, composting facilities, equine facilities, firewood lots, and campgrounds.
- Vacant or Disturbed Land: Land that includes open field areas that do not qualify for an agricultural category, mineral and oil extraction areas, off-road vehicle areas, electrical substations, channelized canals, and rural freeway interchanges.
- Rural Residential Land: Land that includes residential areas of one to five structures per 10 acres.
- Urban and Built-up Land: Occupied by structures with a building density of at least one dwelling unit to 1.5 acres.
- Water: Perennial waterbodies with an extent of at least 40 acres.

Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance are often described together under the term *Important Farmland*.

### ***California Land Conservation Act of 1965 (Williamson Act)***

The California Land Conservation Act of 1965, or the Williamson Act, preserves agricultural and open space lands through property tax incentives and voluntary restrictive use contracts. Private landowners voluntarily restrict their land to agricultural and compatible open space uses under minimum 10-year rolling term contracts. In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use rather than potential market value.

Cancellation involves an extensive review and approval process, in addition to a payment of fees of up to 12.5 percent of the property value. Under a nonrenewal, a notice is filed by the property owner, after which the 10-year contract expires over time. The nonrenewal allows for tax rates to gradually increase over the remainder of the contract, reaching the market value rate by the end of the term.

### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for

transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### ***Sacramento County General Plan***

The *Sacramento County General Plan* (Sacramento County 2019) Agricultural Element and Conservation Element contains policies related to agricultural resources. These include policies to direct development away from prime or statewide importance farmlands (Policy CO-51), minimize the visual intrusion related to protect prime, statewide importance, unique and local importance farmlands (Policies AG-1 and AG-10), mitigation measures for the loss of prime, statewide importance, unique and local importance farmlands (Policies AG-1, AG-10), and conserve agricultural resources (Policy AG-17).

### ***Yolo County General Plan***

The *Yolo County 2030 Countywide General Plan* (Yolo County 2009) Agriculture and Economic Development Element and Land Use Element contain policies related to agricultural resources. These include policies to protect agricultural resources (Policies AG-1.1, AG-1.3-AG-1.5), mitigate for loss of farmland or conversion of land designated or zoned for agriculture (Policy AG-1.6), preserve agricultural lands (Policy AG-1.14), encourage habitat protection that does not restrict onsite agriculture (Policy AG-2.10), and preserve agricultural resources (Policies LU-2.1, LU-2.6, LU-7.1).

### ***Placer County General Plan***

The *Placer County Countywide General Plan* (Placer County 2013) Land Use Elements and Agricultural and Forestry Resources contain policies related to agricultural resources. These include policies to protect agricultural uses (Policies LU 1.H.5, LU 1.H.6, LU 1.N.3, AG 7.A.1, AG 7.A.7) and enforcement of the Right-to-Farm Ordinance (Policy AG 7.B.4).

### ***Amador County General Plan***

The *Amador County General Plan* (Amador County 2016) Land Use Element contains policies related to agricultural resources. These include policies to protect agricultural uses (Policies LU-1.3 and LU-1.6) and encourage viability of agriculture areas (Policy LU-1.5).

### ***San Joaquin County General Plan***

The *San Joaquin County General Plan* (San Joaquin County 2016) Land Use Element, Communities Element, contains policies related to agricultural resources. These include

policies to preserve and protect agricultural areas (Policies LU-1.5, LU-7.1, C-4.3, C-4.9), promote compatible development adjacent to agricultural settings (Policy LU-2.1), establish buffers between agricultural and nonagricultural land uses (Policy LU-7.7), mitigation measures for conversion of agricultural lands to nonagricultural uses (Policy LU-7.12), and maintain Williamson Act Contracts (Policy LU-7.115).

### ***City General Plans***

In addition to county general plans, the cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, Folsom, and Roseville all have general plan policies related to agricultural and forestry resources. Similar to the county general plans, these policies are related to protecting and preserving agricultural and forestry resources and mitigation measures for potential land use conversions. These policies are applicable to residential, commercial, and industrial development, not to implementation of the Conservation Strategy and Covered Activities

#### ***3.2.2 Environmental Setting***

The Permit Area encompasses SMUD's service territory, which is largely made up of Sacramento County but also includes smaller portions of Placer, Amador, San Joaquin, and Yolo Counties, as shown in Figure 2-1.

### **Regional Setting**

#### ***Agricultural Resources***

The Permit Area and vicinity are within California's Central Valley, at the southern end of the Sacramento Valley. Agricultural resources throughout the Plan Area are varied and include farms, vineyards, and orchards of all sizes as well as grazing, equestrian, ranching, and other related uses.

#### ***Important Farmland***

The total size of the Permit Area is approximately 577,554 acres (Figure 2-1). The majority of the Permit Area's farmland is in the broad category of Important Farmland—approximately 158,300 acres or 27 percent of the total Permit Area. Farmland of Local Importance makes up approximately 47,896 acres or 8 percent of the total Permit Area; Farmland of Statewide Importance makes up approximately 44,457 acres or 8 percent of the total Permit Area; Prime Farmland make up approximately 49,590 acres or 8 percent of the total Permit Area; and Unique Farmland makes up approximately 16,357 acres or 3 percent of the total Permit Area. The majority of Important Farmland is located in Sacramento County.

#### ***Forest Land***

The Sacramento County General Plan and the Yolo County General Plan do not designate any forest resources within either county (Yolo County 2009:LU-9). The Yolo

County General Plan addresses forests and forest land only as related to woodland habitats because the County has no commercial forest land or timber resources (Yolo County 2009:CO-5). The Amador County General Plan contains areas designated as forest resources but does not contain any timberland product zones (TPZ). Approximately half of Placer County to the east is designated forest resources by the Placer County General Plan. In addition, Placer County contains areas designated as TPZs. San Joaquin County General Plan does not designate areas as forest resources, does not designate any areas as timberland resources, and does not contain any TPZs.

### **Permit Area Setting**

Urban areas are concentrated in the center and northern portions of the Permit Area and include the cities of Sacramento, Elk Grove, and Rancho Cordova. The city of Galt and other communities are scattered throughout the Permit Area. Cities and communities include agricultural, residential, commercial, industrial, public uses, recreation, open space, and other lands. Agricultural Zones make up a total of 314,149 acres, of these approximately 555 acres are found in Placer County, approximately 307,223 acres are in Sacramento County, and approximately 6,371 acres are in Yolo County.

Land under Williamson Act contract is located in disjunct areas throughout the Permit Area, but is primarily concentrated in the eastern and southern areas of Sacramento County.

#### *3.2.3 Environmental Impacts and Mitigation Measures*

### **Methodology and Assumptions**

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under the California Environmental Quality Act (CEQA), which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

The evaluation of potential impacts of the proposed Project on agricultural and forestry resources was based on a review of spatial data from the FMMP (2016) to identify Important Farmland in the Permit Area, a review of spatial data for farmland protected under the Williamson Act, and a review of zoning designations for each county as they pertain to agricultural resources in the Permit Area.

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, the proposed Project would result in a potentially significant impact related to agricultural and forestry resources if it would do the following.

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to nonagricultural use.
- Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of forest land (as defined in PRC 12220(g)), timberland (as defined by PRC 4526), or timberland zoned Timberland Production (as defined by Government Code 51104(g)).
- Loss of forest land or conversion of forest land to non-forest use.
- Result in other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.

### **Impact Analysis**

#### ***Impact 3.2-1: Convert Farmland to nonagricultural use or result in other changes that could result in conversion of Farmland to nonagricultural use***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would occur at the existing SMUD Bank, which is a nonurbanized area that does not

contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. There would be **no impact**.

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Most Covered Activities would generally occur within easements that already contain existing utility infrastructure. Conversion could potentially result if new facilities are located in areas designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The SMUD Bank is located in a nonurbanized area that does not encompass any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, Direct Actions conducted therein would not result in conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. There would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

SMUD has been conducting most of the Covered Activities, specifically those pertaining to O&M of SMUD's electrical, natural gas, and telecommunication systems, within the Permit Area for more than 75 years. O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Maintenance of the aforementioned new facilities would be similar to existing O&M activities. Given that O&M would be conducted on existing facilities, it would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The installation of new facilities is addressed under New Construction, below.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. Construction of new facilities may also require trenching and boring along existing or new gas pipelines or subtransmission and distribution line easements and creating temporary access roads. New construction would generally occur within dedicated easements or public utility easements that already contain existing SMUD infrastructure and facilities, but could occur on land that is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. New construction would likely be located in areas that local planning documents have identified for development and that do not involve other changes in the existing environment that, because of their

location or nature, could result in conversion of farmland to nonagricultural use or conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. New construction activities would result in temporary disturbances of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, for example the off-road vehicle access and excavation of pipelines and other underground infrastructure. Implementation of G-AMM14 would require that any temporary impacts greater than 0.1 acre will be revegetated and recontoured. In addition, whenever possible excavated material would be placed in a pile where and reused as backfill to conserve important soil.

Permanent conversion could potentially result if new facilities (i.e., transmission substations [E16]) are located in areas designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Although the likelihood of permanent conversion is low because SMUD would site its substation to avoid such conversion, if any new construction is proposed on land that is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, such that conversion would result, implementation of the HCP general AMM as well as measures similar to those listed below could reduce impacts.

- G-AMM2 (Minimize work area footprint)
- Conserve soil during construction for areas designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
- Compensate for loss of agricultural production

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Currently, vegetation is being maintained throughout the Permit Area. Given that vegetation management would be conducted on existing facilities, it would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The installation of new facilities is addressed under New Construction, above.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the Cosumnes Power Plant (CPP) water pipeline (M2). These activities would occur on or adjacent to the CPP water pipeline within an existing pipeline easement; these areas are not designated Important Farmland and would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only Orcutt grass enhancement and introduction at the SMUD Bank could result in physical environmental effects. There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance at the SMUD Bank; therefore, conversion would not occur. There would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M activities would be similar in nature and location to those that have occurred over the past 75 years. O&M activities for new facilities would be similar to O&M activities for existing facilities and therefore would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. New construction activities would likely occur on or nearby existing SMUD easements without Farmland, but could result in conversion of Important Farmland if new facilities (i.e., transmission substations [E16]) are located in such areas; G-AMM2 as well as measures similar to those identified above could reduce impacts. Miscellaneous Covered Activities would not result in Important Farmland conversion because Farmland is not present at the existing CPP. For these reasons it is unlikely that adverse impacts on agricultural and forestry resources would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures would be required if a potentially significant conversion of farmland would occur.

### ***Impact 3.2-2: Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would occur at the SMUD Bank, which does not contain land that is under a Williamson Act contract. In addition, implementation of this Direct Action does not include rezoning of existing land zoned as agricultural. There would be **no impact**.

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Most Covered Activities would generally occur within dedicated easements that already contain existing SMUD utility infrastructure and are not expected to conflict with existing zoning for agricultural use or conflict with a Williamson Act contract.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The SMUD Bank does not contain land under Williamson Act contract. Implementation of Direct Actions would not require any rezoning. Because the existing zoning designation for agricultural use will not be modified by or otherwise in conflict with implementation of Direct Actions and there are no Williamson Act contracts in effect, no conflict with any existing zoning for agricultural use or a Williamson Act contract would occur. There would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

SMUD has been conducting most of the Covered Activities, specifically those pertaining to O&M of SMUD's electrical, natural gas, and telecommunication systems, within the Permit Area for more than 75 years. O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Maintenance of the aforementioned new facilities would be similar to existing O&M activities. Given that O&M would be conducted on existing facilities, it would not conflict with any existing zoning for agricultural use or a Williamson Act contract. The installation of new facilities is addressed under New Construction, below.

#### New Construction

Construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. New facilities, such as new towers and poles and their respective lines, would typically be located within existing rights-of-way or areas that local planning documents have identified for development. Facilities sited in such locations would not require modification of or otherwise conflict with existing zoning designation for agricultural use, and would not be under Williamson Act contract.

Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract could potentially result if new facilities (i.e., transmission substations [E16]) are located in areas with such zoning or contracts. The likelihood of conflict is low because SMUD would site its substation to avoid such conflict, and gas and electric facilities are considered a compatible use in agricultural preserves, which may also be under a Williamson Act

contract, under Section 51238 of the California Government Code. However, if a conflict would occur, preservation of offsite agricultural land or landowner compensation may reduce impacts.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Currently, vegetation is being maintained throughout the Permit Area. Given that vegetation management would be conducted on existing facilities, it would not conflict with agricultural zoning or Williamson Act contracts. The installation of new facilities is addressed under New Construction, above.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). The land that the CPP is located on is currently under an active Williamson Act contract. However, installation of cathodic protection test stations (M2a), installation of a new pipeline valve (M2b), and replacement of pipeline segments (M2c) would occur on or adjacent to the CPP water pipeline within an existing pipeline easement and would not conflict with the Williamson Act contract or existing zoning designations.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not conflict with existing zoning for agricultural use or conflict with a Williamson Act contract in the SMUD Bank. There would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M activities would be similar in nature and location to those that have occurred over the past 75 years. O&M, vegetation management, and miscellaneous Covered Activities would be conducted on existing facilities and therefore would not conflict with any existing zoning for agricultural use or a Williamson Act contract. New construction activities would

likely occur on or nearby existing SMUD easements or areas that local planning documents have identified for development. Facilities sited in such locations would not require modification of or otherwise conflict with existing zoning designation for agricultural use, and would not be under Williamson Act contract. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract could potentially result if new facilities (i.e., transmission substations [E16]) are located in areas with such zoning or contracts. Although the likelihood of this conflict occurring is low, measures similar to those identified above could reduce impacts. For these reasons it is unlikely that adverse impacts on agricultural and forestry resources would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.2-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]).***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not occur in any land zoned as forest land or timberland or conflict with any existing zoning of forest land. **No impact** would occur.

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***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The SMUD Bank does not contain forest land or timberland. Implementation of this Direct Action would not occur in any land zoned as forest land or timberland or conflict with any existing zoning of forest land. **No impact** would occur.

***Indirect Actions***

Indirect Actions, including O&M, vegetation management and miscellaneous Covered Activities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, would not result in changes in land use that would conflict with land zoned as forest land or timberland. Indirect Actions also do not include rezoning of any land. Implementation of the proposed HCP would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. For these reasons it is unlikely that adverse impacts on agricultural and forestry resources would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP

implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Conclusion***

#### Direct Actions

Implementation of Direct Actions would not occur in any land zoned as forest land or timberland or conflict with any existing zoning of forest land. **No impact** would occur.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Indirect Actions do not include in changes in land use that would conflict with land zoned as forest land or timberland, or rezoning of any land. For these reasons it is unlikely that adverse impacts on agricultural and forestry resources would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation would be subject to review and approval by SMUD when an activity is proposed.

#### ***Impact 3.2-4: Loss of forest land or conversion of forest land to non-forest use.***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not occur on forest land and, therefore, would not cause the loss of forest land or conversion of forest land to non-forest use. **No impact** would occur.

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#### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would occur at the existing SMUD Bank, which does not encompass any forest land. Therefore, this Direct Action would not cause the loss of forest land or conversion of forest land to non-forest use. **No impact** would occur.

#### ***Indirect Actions***

No forest land is designated in Sacramento or Yolo Counties, which comprise the large majority of the Permit Area. Any Indirect Actions conducted in these counties, including

miscellaneous Covered Activities at the CPP, would not result in the loss or conversion of forest land. O&M and vegetation management would occur on new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. would not result in the loss or conversion of forest land. The largest new facilities would be distribution (0.5 acre) and transmission substations (11 acres), both of which would be located in Sacramento County, which does not contain forest land. Given the small size footprint of other new facilities that would constitute a change from baseline conditions (e.g., subtransmission and distribution lines (E13)), if new construction occurred on forest land (outside of Sacramento or Yolo County), forest land uses could still be maintained. Implementation of the proposed HCP would not cause loss of forest land or conversion of forest land to non-forest use. For these reasons it is unlikely that adverse impacts on agricultural and forestry resources would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Conclusion***

#### Direct Actions

The only Direct Action that could result in physical environmental effects, Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity, would occur at the existing SMUD Bank, which does not encompass any forest land. Therefore, Orcutt grass enhancement and introduction at the SMUD Bank would not cause the loss of forest land or conversion of forest land to non-forest use. **No impact** would occur.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

No forest land is designated in Sacramento or Yolo Counties, which comprise the large majority of the Permit Area. Any Indirect Actions conducted in these counties, including miscellaneous Covered Activities at the CPP water pipeline, would not result in the loss or conversion of forest land. Additionally, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### 3.3 Air Quality

This section summarizes regulations applicable to air quality, describes the existing air quality conditions in the Permit Area, and analyzes potential impacts on air quality that could result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

In response to the Notice of Preparation, the Sacramento Metropolitan Air Quality Management District (SMAQMD) recommended that the environmental impact report's (EIR) analysis of air quality–related impacts in SMAQMD's jurisdiction follow guidance and mitigation strategies in SMAQMD's *Guide to Air Quality Assessment in Sacramento County* (California Environmental Quality Act [CEQA] Guide) (SMAQMD 2020a).

#### 3.3.1 Regulatory Setting

The Permit Area is located in the Sacramento Valley Air Basin (SVAB). Air quality in the SVAB is regulated by the U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB), and SMAQMD and its neighboring air districts. Agencies work jointly, as well as individually, to improve air quality through legislation, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the air basin are discussed below.

#### **Federal**

##### ***U.S. Environmental Protection Agency***

EPA has been charged with implementing national air quality programs. EPA's air quality mandates draw primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress in 1990. EPA's air quality efforts address criteria air pollutants, ozone precursors, and hazardous air pollutants (HAP). EPA regulations concerning criteria air pollutants, ozone precursors, and HAPs are presented in greater detail below.

##### Criteria Air Pollutants

The CAA required EPA to establish national ambient air quality standards (NAAQS) for six common air pollutants found all over the U.S. referred to as criteria air pollutants. EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), respirable particulate matter with aerodynamic diameter of 10 micrometers or less (PM<sub>10</sub>) and fine particulate matter with aerodynamic diameter of 2.5 micrometers or less (PM<sub>2.5</sub>), and lead. The NAAQS are shown in Table 3.3-1. The primary standards protect public health with an adequate health margin for safety and the secondary standards protect public welfare from adverse effects, including those related to effects on soils, water, crops, vegetation, human-made materials, animals, wildlife, weather, visibility, and climate. The CAA also required each state to prepare a State Implementation Plan (SIP) for attaining

and maintaining the NAAQS. The federal Clean Air Act Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. California's SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, EPA may prepare a federal implementation plan that imposes additional control measures. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

**Table 3.3-1 Ambient Air Quality Standards**

Pollutant	Averaging Time	California <sup>a, b</sup>	National <sup>c</sup>	
			Primary <sup>b, d</sup>	Secondary <sup>b, e</sup>
Ozone	1-hour	0.09 ppm (180 µg/m <sup>3</sup> )	–	Same as primary standard
	8-hour	0.070 ppm (137 µg/m <sup>3</sup> )	0.070 ppm (137 µg/m <sup>3</sup> )	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	Same as primary standard
	8-hour	9 ppm <sup>f</sup> (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	
Nitrogen dioxide (NO <sub>2</sub> )	Annual arithmetic mean	0.030 ppm (57 µg/m <sup>3</sup> )	53 ppb (100 µg/m <sup>3</sup> )	Same as primary standard
	1-hour	0.18 ppm (339 µg/m <sup>3</sup> )	100 ppb (188 µg/m <sup>3</sup> )	–
Sulfur dioxide (SO <sub>2</sub> )	24-hour	0.04 ppm (105 µg/m <sup>3</sup> )	–	–
	3-hour	–	–	0.5 ppm (1300 µg/m <sup>3</sup> )
	1-hour	0.25 ppm (655 µg/m <sup>3</sup> )	75 ppb (196 µg/m <sup>3</sup> )	–
Respirable particulate matter (PM <sub>10</sub> )	Annual arithmetic mean	20 µg/m <sup>3</sup>	–	Same as primary standard
	24-hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	
Fine particulate matter (PM <sub>2.5</sub> )	Annual arithmetic mean	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>
	24-hour	–	35 µg/m <sup>3</sup>	Same as primary standard
Lead <sup>f</sup>	Calendar quarter	–	1.5 µg/m <sup>3</sup>	Same as primary standard
	30-Day average	1.5 µg/m <sup>3</sup>	–	–
	Rolling 3-Month Average	–	0.15 µg/m <sup>3</sup>	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m <sup>3</sup> )	No national standards	
Sulfates	24-hour	25 µg/m <sup>3</sup>		
Vinyl chloride <sup>f</sup>	24-hour	0.01 ppm (26 µg/m <sup>3</sup> )		

Pollutant	Averaging Time	California <sup>a, b</sup>	National <sup>c</sup>	
			Primary <sup>b, d</sup>	Secondary <sup>b, e</sup>
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		

Source: CARB 2016.

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million.

<sup>a</sup> California standards for ozone, CO, SO<sub>2</sub> (1- and 24-hour), NO<sub>2</sub>, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

<sup>b</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

<sup>c</sup> National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM10 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150  $\mu\text{g}/\text{m}^3$  is equal to or less than one. The PM2.5 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the U.S. Environmental Protection Agency for further clarification and current federal policies.

<sup>d</sup> National primary standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

<sup>e</sup> National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

<sup>f</sup> The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

### Toxic Air Contaminants/Hazardous Air Pollutants

Toxic air contaminants (TACs), or in federal parlance, HAPs, are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage; or short-term acute effects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3.3-1). Cancer risk from TACs is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure.

EPA and, in California, CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum achievable control technology or best available control technology for air toxics to limit emissions.

## **State**

### ***California Air Resources Board***

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish California ambient air quality standards (CAAQS) (Table 3.3-1).

#### Criteria Air Pollutants

CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to attain and maintain the CAAQS by the earliest date practical. The CCAA specifies that local air districts should focus attention on reducing the emissions from transportation and area-wide emission sources. The CCAA also provides air districts with the authority to regulate indirect emission sources.

#### Toxic Air Contaminants

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (Hot Spots Act) (AB 2588, Chapter 1252, Statutes of 1987). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified 21 TACs and adopted EPA's list of HAPs as TACs. Particulate matter exhaust from diesel engines (diesel PM) is one of the TACs identified by CARB.

After a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TACs. If a safe threshold exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If no safe threshold exists, the measure must incorporate best available control technology for toxics to minimize emissions.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if

emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

CARB has adopted diesel exhaust control measures and more stringent emissions standards for various transportation-related mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., backhoes, tractors). Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced substantially over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. CARB's Risk Reduction Plan outlines a strategy to reduce diesel PM concentrations through regulatory standards (CARB 2000). Adopted regulations are also expected to continue to reduce formaldehyde emissions emitted by cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

## **Regional and Local**

Local air districts are the primary agencies responsible for planning to meet NAAQS and CAAQS in their respective jurisdictions. SMAQMD, Yolo-Solano Air Quality Management District (YSAQMD), Placer County Air Pollution Control District (PCAPCD), and San Joaquin Valley Air Pollution Control District (SJVAPCD) manage air quality in their jurisdictions in similar ways. Because most of the Permit Area is located in SMAQMD's jurisdiction, and the Direct Action would also occur therein, this regulatory setting presents more detail about the types of regulations and policies established by SMAQMD.

### Air Quality Planning

SMAQMD, YSAQMD, PCAPCD, and EDCAQMD work together to maintain the region's portion of the SIP for ozone. In 2017, the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (SMAQMD 2017a) was released. The updated Plan demonstrates how the Sacramento Federal Nonattainment Area will meet CCAA reasonable further progress requirements and demonstrate attainment of the 2008 ozone NAAQS. SMAQMD also prepared the *Federal Ozone Nonattainment Area Redesignation Substitution Request for the 1979 1-Hour Ozone Standard* (SMAQMD 2017b).

On May 10, 2017, EPA found that the area attained the 2006 24-hour PM<sub>2.5</sub> NAAQS by the attainment date of December 31, 2015 (82 *Federal Register* 21711). This finding was based on complete, quality-assured and certified PM<sub>2.5</sub> monitoring data for 2013–2015. The PM<sub>2.5</sub> Maintenance Plan and Redesignation Request will be updated and submitted in the future based on the clean data finding made by the EPA. The particulate matter planning region includes all of Sacramento County, the eastern portion of Yolo County, the western portion of Placer Counties, and the northeast portion of Solano County. In October 2010, SMAQMD also adopted the PM<sub>10</sub> *Implementation/Maintenance Plan and Redesignation Request* (SMAQMD 2010) for Sacramento County.

Other air quality plans prepared by the air quality management districts include SJVAPCD's 2016 Plan for the 2008 8-Hour Ozone Standard and 2016 Moderate Area Plan for the 2012 PM<sub>2.5</sub> Standard.

### Rules and Regulations

Specific SMAQMD rules applicable to Covered Activities may include but are not limited to the following.

- **Rule 201:** General Permit Requirements. Any project that includes the use of equipment capable of releasing emissions to the atmosphere may be required to obtain permit(s) from SMAQMD before equipment operation. The applicant, developer, or operator of a project that includes an emergency generator, boiler, or heater should contact SMAQMD early to determine whether a permit is required, and to begin the permit application process. Portable construction equipment (e.g., generators, compressors, pile drivers, lighting equipment) with an internal combustion engine greater than 50 horsepower must have a SMAQMD permit or ARB portable equipment registration.
- **Rule 402:** Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause or have natural tendency to cause injury or damage to business or property.
- **Rule 403:** Fugitive Dust. The developer or contractor is required to control dust emissions from earthmoving activities or any other construction activity to prevent airborne dust from leaving the project area.
- **Rule 442:** Architectural Coatings. The purpose of the rule is to limit the emissions of [volatile organic compounds] VOCs from the use of architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within SMAQMD's jurisdiction.

Similar rules established by YSAQMD include YSAQMD Rules 2.3, 2.5, 2.11, 2.14, 2.16, 2.28, 2.37, 2.38, 3.1, 3.4, and 3.8. Similar rules established by PCAPCD include PCAPCD Rules 205, 218, 228, and 501.

### Toxic Air Contaminants

At the local level, air districts may adopt and enforce CARB control measures. Under SMAQMD Rule 201 ("General Permit Requirements"), Rule 202 ("New Source Review"), and Rule 207 ("Federal Operating Permit"), all sources that possess the potential to emit TACs are required to obtain permits from SMAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including New Source Review standards and air toxics control measures. SMAQMD limits

emissions and public exposure to TACs through a number of programs. SMAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. Sensitive receptors are people, or facilities that generally house people (e.g., schools, hospitals, residences), that may experience adverse effects from unhealthful concentrations of air pollutants. Neighboring air districts have similar permitting requirements for new stationary sources of TACs.

### Odors

Although offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and SMAQMD. SMAQMD's Rule 402 (Nuisance) regulates odorous emissions, as do similar rules of neighboring air districts.

### 3.3.2 *Environmental Setting*

The Permit Area is located in the SVAB. The SVAB includes all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba Counties; the western portion of Placer County; and the northern portion of Solano County.

The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

### **Climate, Meteorology, and Topography**

The SVAB is a relatively flat area bordered by the north Coast Ranges to the west and the northern Sierra Nevada to the east. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento River–San Joaquin River Delta (Delta) from the San Francisco Bay area.

The Mediterranean climate type of the SVAB is characterized by hot, dry summers and cool, rainy winters. During the summer, daily temperatures range from 50 degrees Fahrenheit (°F) to more than 100°F. The inland location and surrounding mountains shelter the area from much of the ocean breezes that keep the coastal regions moderate in temperature. Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest, during the winter months. More than half the total annual precipitation falls during the winter rainy season (November through February); the average winter temperature is a moderate 49°F. Also, characteristic of SVAB winters are periods of dense and persistent low-level fog, which are most prevalent between storms. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry land flows from the north.

The mountains surrounding the SVAB create a barrier to airflow, which leads to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. The highest frequency of poor air movement occurs in the fall and winter when high-pressure cells are present over the SVAB. The lack of surface wind during these periods, combined with the reduced vertical flow caused by a decline in surface heating, reduces the influx of air and leads to the concentration of air pollutants under stable meteorological conditions. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or with temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

Elevated levels of ozone typically occur May through October in the SVAB. This period is characterized by poor air movement in the mornings with the arrival of the Delta sea breeze from the southwest in the afternoons. In addition, longer daylight hours provide ample sunlight to fuel photochemical reactions between reactive organic gases (ROG) and oxides of nitrogen (NO<sub>x</sub>), which form ozone. Typically, the Delta breeze transports air pollutants northward out of the SVAB; however, a phenomenon known as the Schultz Eddy prevents this from occurring during approximately half of the time from July to September. The Schultz Eddy phenomenon causes the wind to shift southward and blow air pollutants back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the area and contributes to the area violating the ambient air quality standards.

The local meteorology of the Permit Area is represented by measurements recorded at the Western Regional Climate Center (WRCC) Sacramento 5 ESE station. The normal annual precipitation is approximately 18 inches. January temperatures range from a normal minimum of 40°F to a normal maximum of 53.5°F. July temperatures range from a normal minimum of 59.2°F to a normal maximum of 92°F (WRCC 2016). The predominant wind direction is from the south (WRCC 2017).

### ***Criteria Air Pollutants***

Concentrations of emissions of criteria air pollutants indicate the quality of the ambient air. Brief descriptions of key criteria air pollutants in the SVAB and their health effects are provided below. Criteria air pollutants include ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. However, ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> are the criteria air pollutants of primary concern in this analysis due to their nonattainment status with respect to the applicable NAAQS and/or CAAQS.

### ***Ground-Level Ozone***

Ozone is a photochemical oxidant (i.e., a substance whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of ROG and NO<sub>x</sub> in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels.

NO<sub>x</sub> are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels.

Acute health effects of ozone exposure include increased respiratory and pulmonary resistance, cough, pain, shortness of breath, and lung inflammation. Long-term health effects include chronic bronchitis and chronic obstructive pulmonary disease (EPA 2017a).

Emissions of the ozone precursors ROG and NO<sub>x</sub> have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. Between 2000 and 2015, the annual average daily emissions of ROG and NO<sub>x</sub> decreased by 56 percent and continues to decrease. However, the ozone problem in the Sacramento metropolitan area still ranks among the most severe in the nation (Sullivan 2018).

### ***Nitrogen Dioxide***

NO<sub>2</sub> is a brownish, highly reactive gas that is most present in urban environments. The major human-made sources of NO<sub>2</sub> are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit, primarily, nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO<sub>2</sub>. The combined emissions of NO and NO<sub>2</sub> are referred to as NO<sub>x</sub> and are reported as equivalent NO<sub>2</sub>. Because NO<sub>2</sub> is formed and depleted by reactions associated with photochemical smog (ozone), the NO<sub>2</sub> concentration in a particular geographical area may not be representative of the local sources of NO<sub>x</sub> emissions (EPA 2016, 2017b).

Acute health effects of exposure to NO<sub>x</sub> includes coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis, or pulmonary edema, breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, and death. Chronic health effects include chronic bronchitis and decreased lung function (EPA 2016).

### ***Particulate Matter***

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM<sub>10</sub>. PM<sub>10</sub> consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (CARB 2013:1-20). Fine particulate matter (PM<sub>2.5</sub>) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM<sub>10</sub> emissions in the SVAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Emissions of PM<sub>2.5</sub> in the SVAB are dominated by the same sources as emissions of PM<sub>10</sub> (CARB 2013:4-27).

A number of adverse health impacts have been associated with exposure to both PM<sub>2.5</sub> and PM<sub>10</sub> (CARB 2017). Short-term exposures to PM<sub>10</sub> have been associated primarily

with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits. For PM<sub>2.5</sub>, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, PM<sub>2.5</sub> is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide. Long-term (months to years) exposure to PM<sub>2.5</sub> has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children.

### ***Attainment Area Designations***

Table 3.3-2 summarizes existing ambient air quality conditions for four counties in which portions of the Plan Area are located by showing the attainment status with respect to the NAAQS and CAAQS.

**Table 3.3-2 Nonattainment Designations in Sacramento, Yolo, Placer, and San Joaquin Counties**

<b>County</b>	<b>NAAQS</b>	<b>CAAQS</b>
Sacramento	<ul style="list-style-type: none"> <li>• 8-hour ozone (2008, 2015 standards)</li> <li>• PM<sub>2.5</sub> (2006 standard)</li> </ul>	<ul style="list-style-type: none"> <li>• Ozone, PM<sub>10</sub></li> </ul>
Yolo	<ul style="list-style-type: none"> <li>• 8-hour ozone (2008, 2015 standards), PM<sub>2.5</sub> (2006 standard)</li> </ul>	<ul style="list-style-type: none"> <li>• Ozone (transitional), PM<sub>10</sub></li> </ul>
Placer	<ul style="list-style-type: none"> <li>• 8-hour ozone (2008 standard), PM<sub>2.5</sub> (2006 standard)</li> </ul>	<ul style="list-style-type: none"> <li>• Ozone, PM<sub>10</sub></li> </ul>
San Joaquin	<ul style="list-style-type: none"> <li>• 8-hour ozone (2008, 2015 standards), PM<sub>2.5</sub> (1997, 2006, 2012 standards)</li> </ul>	<ul style="list-style-type: none"> <li>• Ozone, PM<sub>2.5</sub>, PM<sub>10</sub></li> </ul>

Sources: EPA 2020; CARB 2019.

### **Toxic Air Contaminants**

Concentrations of TACs are also used to indicate the quality of ambient air. TACs are usually present in trace quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

According to the most recent version of the *California Almanac of Emissions and Air Quality* (CARB 2013), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM. Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB

has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM10 database, ambient PM10 monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest level of risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. Sources of these TACs vary considerably and include consumer products, gasoline dispensing stations, auto repair and auto body coating shops, dry cleaning establishments, chrome plating and anodizing shops, welding operations, and other stationary sources.

Diesel PM poses the greatest health risk among these 10 TACs (Office of Environmental Health Hazard Assessment [OEHHA] 2015:6-8). The predominant sources of diesel PM in the Plan Area are truck travel on freeways (U.S. Highway 50, Interstate 5, Interstate 80), rail yards, heavy-duty construction equipment, and any land use with a lot of truck activity (e.g., distribution yards).

### **Odors**

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, headache).

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals are able to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. Major sources of odor can include landfills, waste transfer stations, wastewater treatment plants, and certain industrial processes.

### **Sensitive Land Uses**

Sensitive land uses are generally considered to include those uses where exposure to pollutants could result in health-related risks to individuals. Residential dwellings and places where people recreate or congregate for extended periods of time such as schools, daycares, and hospitals are of primary concern because of the potential for increased and prolonged exposure of individuals to pollutants. Thus, sensitive receptors are located throughout the Permit Area. Within the Sacramento Municipal Utility District (SMUD) Nature Preserve Mitigation Bank (SMUD Bank), there are no sensitive receptors. The closest location where receptors may be located is the Rancho Seco Recreational Park, which borders the SMUD Bank.

### 3.3.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

The evaluation of potential impacts of proposed HCP implementation on air quality was based on a review of the activities as described in Chapter 2, *Project Description*, and an assumption that each of the activities would comply with applicable federal, state, and local statutes and regulations. The significance of criteria air pollutant and precursor emissions is evaluated using the thresholds below. Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

As explained in Chapter 2, the proposed Project considered in this EIR consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

The evaluation of air quality impacts follows SMAQMD's CEQA Guide (SMAQMD 2020a), which provides methods to analyze air quality impacts. The CEQA Guide provides different methods for construction and operation of a project. Implementation of an HCP does not fit well into either traditional category of air quality impact analysis methodology.

For construction emissions, the CEQA Guide states the following.

- The generation of construction-related emissions is temporary in nature.

- Common construction activities include site preparation, earthmoving, paving of roadway surfaces, erection of buildings and structures, and application of architectural coatings. Earthmoving activities may consist of grading, trenching, soil compaction, and cut and fill operations. Site preparation includes activities such as general land clearing and grubbing. Some projects may also entail the demolition of buildings prior to site preparation.

For operation emissions, the CEQA Guide states the following.

- Operational emissions typically represent the majority of a project's air quality impacts.
- After a project is built, operational emissions are anticipated to occur continuously throughout the project's lifetime.
- Land use development projects typically include operational criteria air pollutant and precursor emissions sources such as motor vehicle trips generated by the land use, fuel combustion from landscape maintenance equipment, and operation of stationary equipment such as boilers and backup generators with diesel engines.

Implementation of the proposed HCP shares similarities with both categories as described in the CEQA Guide; therefore, it must be determined whether implementation of the proposed HCP would be most similar to construction or operation as described in the CEQA Guide. First, the physical effects of Covered Activities are expected to continue consistent with the projections of the county general plans without implementation of the proposed HCP, as would subsequent mitigation in the case of the take of an endangered or covered species under the federal Endangered Species Act and California Endangered Species Act. Therefore, the focus of the air quality analysis is on activities that would change from this baseline. The only Direct Action that would be a change from baseline would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Access to the SMUD Bank for this activity would be similar to vehicle trips generated by a new land use. The Direct Action is not particularly analogous to construction activities, as it would not involve demolition, large-scale grading and earthmoving, or even general land clearing and grubbing. As a result, the CEQA Guide's methodology for operational criteria air pollutant and precursor emissions is applied.

SMAQMD has also issued *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District, Sacramento, California* (SMAQMD 2020b), which contains guidance on how to address the California Supreme Court decision in *Sierra Club v. County of Fresno*, 6 Cal.5th 502 (2018)—a court decision often referred to as the Friant Ranch decision. In that decision, the California Supreme Court held that an EIR should “relate the expected adverse air quality impacts to likely health consequences or explain in meaningful detail why it is not feasible at the time of drafting to provide such an analysis.” SMAQMD's guidance recommends using the Minor Project Health Effects Tool to estimate the level of health effects for an emissions source that results in emissions at or below criteria air pollutant and precursor thresholds of significance. The sole input for

the Minor Project Health Effects Tool is the project's geographical location, and the output of the Minor Project Health Effects Tool is based on that location and modeled emissions at 82 pounds per day of NO<sub>x</sub>, ROG, or PM, which are the highest thresholds of significance for each of these pollutants in the SMAQMD and neighboring air districts. Therefore, the Minor Project Health Effects Tool is used for projects with emissions at or below air district thresholds of significance. To "relate the expected adverse air quality impacts to likely health consequences or explain in meaningful detail why it is not feasible at the time of drafting to provide such an analysis," a coordinate associated with the SMUD Bank was examined using SMAQMD's Minor Project Health Effects Tool.

### **Thresholds of Significance**

The significance determinations in this air quality impact analysis are based on Appendix G of the State CEQA Guidelines and recommendations of SMAQMD. Implementation of the proposed HCP would result in a potentially significant impact on air quality if it would result in any of the following.

- A net increase in long-term operational emissions of criteria air pollutants and precursors in Sacramento County that exceed SMAQMD's recommended thresholds of 65 pounds per day (lb/day) for ROG or NO<sub>x</sub> or 0 lb/day of PM<sub>10</sub> and PM<sub>2.5</sub>. If all feasible best management practices, as defined by SMAQMD, are applied for controlling operational emissions, the applicable thresholds are 80 lb/day and 14.6 tons/year for PM<sub>10</sub> and 82 lb/day and the applicable thresholds for PM<sub>2.5</sub> are 82 lb/day and 15 ton/year.

If the proposed Project emissions exceed the SMAQMD-recommended mass emission thresholds for operational emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>, then the proposed Project is also considered to conflict with or obstruct implementation of the SMAQMD's air quality planning efforts (SMAQMD 2020a).

Implementation of the proposed HCP would also result in an impact on air quality if it would result in any of the following.

- An incremental increase in cancer risk greater than 10 in one million at any offsite receptor or ground-level concentrations of Project-generated TACs that would result in a Hazard Index greater than 1 at any offsite receptor
- Other emissions (such as those leading to odors) adversely affecting a substantial number of people.

## Impact Analysis

### ***Impact 3.3-1: Exceed significance thresholds recommended by the applicable air quality management district or conflict with or impede implementation of the applicable air quality management district's air quality planning efforts***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Use of vehicles for activities at the SMUD Bank associated with this Direct Action would generate emissions of criteria air pollutants and ozone precursors. Project-generated emissions would not exceed the Operational Screening Levels in SMAQMD's CEQA Guide. Additionally, examination of the proposed Project using SMAQMD's Minor Project Health Effects Tool indicates that the proposed Project would not result in sizeable health effects and may result in no health effects. As a result, this impact would be **less than significant**.

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Generally, Covered Activities could result in intermittent, short-term criteria air pollutants and precursor emissions that occur over the life of the proposed HCP. Some Covered Activities, such as those requiring minor construction, would result in short-term but greater levels of emissions of criteria air pollutants during construction activities.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would result in short-term, limited emissions of criteria air pollutants resulting from use of pickup trucks and utility vehicles to access the site. Vehicle travel would be limited, intermittent, and short term. This Direct Action would involve the use of nonmotorized hand tools such as shovels. These activities would take place in areas subject to SMAQMD jurisdiction.

SMAQMD provides a table of Operational Screening Levels in its CEQA Guide. The screening levels were developed using the California Emissions Estimator Model (CalEEMod), Version 2106.3.2, using appropriate parameters and defaults for projects in the SMAQMD. If a project is smaller than a project in the table in terms of the size of development, then the project's emissions would be less than the respective thresholds of significance for each pollutant. All CalEEMod land uses modeled for screening levels are development related; that is, they involve construction of buildings such as a hospital, strip mall, junior college, or apartment building. For example, operation of a regional shopping center of 153,000 square feet or smaller would generate levels of ROG and NO<sub>x</sub> that would not exceed the applicable mass emission thresholds recommended by SMAQMD, and a regional shopping center of 360,000 square feet or smaller would generate levels of particulate matter that would not exceed the applicable mass emission thresholds recommended by SMAQMD (SMAQMD 2020a). Implementation of the Direct Action would generate substantially less criteria air pollutant and precursor emissions

than any of the land uses in the SMAQMD Operational Screening Levels table because the proposed HCP would result in levels of activity substantially less than those typically associated with the uses in the Operational Screening Levels. The Direct Action would generate limited, intermittent, and short-term trips that do not reach the intensity of a regional shopping center. Therefore, emissions of criteria air pollutants and precursors resulting from implementation of the proposed HCP would not exceed SMAQMD thresholds of significance or conflict with the SMAQMD's air quality planning efforts.

The Minor Project Health Effects Tool was used to evaluate potential health effects of mass emissions associated with implementation of the proposed HCP; the outputs reflect the potential increase in premature deaths over the background health incidence rate of each health endpoint in the region.

However, the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sacramento Air District, Sacramento, California* (SMAQMD 2020b) notes that, by default, the model generates conservatively high health effects. As explained in the guidance, the outputs are based on simulation of a full year of exposure at the maximum daily average of increases in air pollutant concentrations. As described above, emissions associated with implementation of the proposed HCP would, by contrast, be limited, intermittent, and short term. In the Minor Projects Health Effects Tool, emissions are assumed to be at 82 pounds per day of NO<sub>x</sub>, ROG, or PM. As described above, the Project emissions would, in actuality, be substantially less than SMAQMD's recommended mass thresholds for criteria air pollutants. Therefore, the model output of additional mortality (i.e., additional mortality of 1.1 persons due to ozone and PM<sub>2.5</sub> exposure) unequivocally overstates the potential cardiovascular and respiratory health impacts of the proposed Project, and it is possible there would be no cardiovascular and respiratory health impacts (i.e., zero cases of additional mortality) attributable to mass emissions of the proposed Project (SMQMD 2020b:A-15). The SMAQMD guidance also notes that the model output includes only health effects with sufficient research to provide quantification. Other health effects are linked to emissions of PM<sub>2.5</sub> and ozone that are not quantified in the Minor Projects Health Effects Tool (SMAQMD 2020b). Other health effects of criteria air pollutants and ozone are discussed in Section 3.3.2, *Environmental Setting*. The linkage between mass emissions and other health effects are not quantifiable, and the proposed Project would not result in sizeable quantifiable health effects if it resulted in health effects at all. Therefore, it is presumed that these other health effects would also not be sizeable or would be zero. There also may be no health effects due to the conservative nature of the modeling. Therefore, impacts would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

Operation and maintenance (O&M) Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. O&M activities could result in short-term, periodic criteria air pollutant and precursor emissions that occur over the operational life of new facilities.

Emissions would occur from use of motorized equipment associated with activities such as minor ground disturbance as well as from vehicles used to access facility sites. Emission-generating O&M activities (e.g., those conducted for new substations (E16), realigned gas pipelines (G10), new telecommunications towers (T2), repair of gas pipelines (G5), repair and replacement of transformers (E9b), and wood poles treatment (E6)), would be far below the level of intensity in terms of equipment use and vehicle use than the land uses for which SMAQMD and other air districts have developed Operational Screening Levels. Therefore, although there would be emissions from O&M activities, these activities would likely result in emission levels less than Operational Screening Levels identified by the applicable air quality management district (AQMD). Emissions associated with the installation of new facilities are addressed under New Construction, below.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. Construction of new facilities may also require trenching and boring along existing or realigned gas pipelines or subtransmission and distribution line easements and creating temporary access roads. Construction of these facilities would involve heavy equipment use and vehicle use and could potentially involve extensive grading. These activities would result in emissions of criteria air pollutants and precursors. Depending on the size of the new facility and the intensity of construction activities, new construction could generate emissions of criteria air pollutants and precursors that exceed AQMD-recommended mass emission thresholds for construction. For example, pole installation for a new distribution line (E13) would involve relatively limited equipment use compared to trenching for an underground subtransmission line (E14), with the latter having a greater potential to generate emissions that exceed AQMD mass emission thresholds. Emissions of ozone precursors, ROG and NO<sub>x</sub>, are associated primarily with construction equipment and on-road mobile exhaust. Fugitive dust emissions of PM<sub>10</sub> and PM<sub>2.5</sub> are associated primarily with site preparation and trenching, and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, and vehicle miles traveled on and off the site. For a project involving replacement of 2 miles of underground subtransmission line, SMUD determined that unmitigated daily emissions of PM<sub>10</sub> (9 lbs/day) and PM<sub>2.5</sub> (6 lbs/day) would exceed SMAQMD thresholds.

Measures similar to those listed below could reduce emissions of criteria air pollutants and precursors if an exceedance of AQMD-recommended mass emission thresholds for construction is identified.

- Use of diesel-powered off-road equipment that meets EPA's Tier 4 emission standards as defined in 40 Code of Federal Regulations (CFR) Part 1039 and comply with the exhaust emission test procedures and provisions of 40 CFR Parts 1065 and 1068.

- Use of renewable diesel fuel in diesel-powered construction equipment.
- Use of electric- and gasoline-powered equipment in place of diesel-powered equipment.
- Equip off-road equipment, diesel trucks, and generators with best available control technology for emission reductions of NO<sub>x</sub> and PM.

Implementation of HCP general AMMs could reduce fugitive dust emissions.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Park vehicles and equipment on pavement, existing roads, or previously disturbed areas to the maximum extent feasible)
- G-AMM4 (Limit off-road speed limit to 15 miles per hour to minimize animal strikes)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- GGS-AMM3 (Minimize vegetation clearing within giant garter snake modeled habitat)

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Emissions would be generated by the use of motorized equipment from activities such as grubbing as well as from vehicles used to access sites where vegetation management is needed, all of which would be lower in intensity in terms of equipment use and vehicle use than the land uses in the SMAQMD Operational Screening Levels. Therefore, although there would be emissions from vegetation management activities, these activities would likely result in emissions that do not exceed SMAQMD Operational Screening Levels.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions would include minor O&M of the Cosumnes Power Plant (CPP) water pipeline (M2). These activities would include installation of cathodic protection test stations (M2a), installation of a new pipeline valve (M2b), and replacement of pipeline segments (M2c). Installation of these elements would involve construction activity levels similar to those described for New Construction, above, in that there would be vehicle use for crews and

equipment as well as for underground pipeline replacement activities. Additionally, installation of the new valve (M2b) would require grading for a temporary access road. These activities would result in criteria air pollutant and precursor emissions. Equipment installation on its own is typically not of an intensity to exceed SMAQMD significance thresholds. The cathodic protection stations (M2a) would mostly be installed in existing vaults, although some would require excavation to the pipeline. Trenching and grading for pipeline replacement (M2c) and road installation (M2b) would also be required and may result in exceedance of SMAQMD significance thresholds, depending on the intensity of construction and whether these activities overlap. Implementation of HCP general AMMs as well as the measures similar to those identified for new construction could reduce potential adverse effects related to emissions of criteria air pollutants and precursors that exceed SMAQMD-recommended mass emission thresholds and fugitive dust emissions.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any criteria air pollutant and precursor emissions resulting from this activity would not exceed SMAQMD Operational Screening Levels. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Minor construction activities and miscellaneous Covered Activities could result in temporary and short-term emissions of criteria pollutants, while O&M and vegetation management activities would result in periodic emissions over the long term. Measures similar to those identified above, as refined as part of project-specific CEQA review, could reduce impacts by reducing emissions of criteria air pollutants and precursors. For these reasons it is unlikely that adverse air quality impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures to reduce emissions would be required if a potentially significant air quality impact were identified.

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***Impact 3.3-2: Expose sensitive receptors to substantial pollutant concentrations***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Use of vehicles for activities at the SMUD Bank associated with this Direct Action would result in emissions of pollutants. These emissions would be transient and periodic and generally located away from developed land uses and sensitive receptors. As a result, this impact would be **less than significant**.

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Generally, Covered Activities could result in localized concentrations of diesel PM and fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust. Occurrences of these emissions would be intermittent and short term across various discrete locations in the Permit Area over the operational life of the proposed HCP. Some Covered Activities, such as those requiring minor construction, would result in short-term but larger emissions of diesel PM and fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust due to the use of heavy off-road equipment and/or earth movement and ground disturbance activities.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would result in short-term, minor emissions of pollutants resulting from use of vehicles for activities. Diesel-fueled engines, if they are used, would emit diesel PM. Particulate exhaust emissions from diesel PM are considered a TAC. Vehicle use would be limited, intermittent, and short term. There are no sensitive receptors in the SMUD Bank. The closest location where receptors may be located is the Rancho Seco Recreational Park, which borders the SMUD Bank. The most heavily used area of the park is across the lake, about 0.4 mile south. Some Orcutt grass enhancement could occur near these receptors. The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would require a SMUD vehicle for a crew to travel to the bank but would not involve extensive use of diesel-powered equipment. Vehicle trips would be intermittent and transient, such that emissions would not occur in any one location for an extended period. Emissions would also be limited because of the low number of vehicles needed for these activities.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. According to guidance from the California OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk*

*Assessments* (2015 Guidance), a 30-year exposure duration is used for estimating cancer risk at residential land uses (OEHHA 2015).

Project-related sources of diesel PM would include vehicles and, as discussed above, emissions would be less than SMAQMD's mass emission thresholds for PM<sub>10</sub> and PM<sub>2.5</sub>. Given the highly dispersive properties of diesel PM (Zhu et al. 2002), and the intermittent duration of activities in the SMUD Bank, it is not anticipated that the Project-related emissions of diesel PM, or other TACs, would result in an incremental increase in cancer risk at the nearest receptors that exceed SMAQMD's threshold of 10 in one million or a Hazard Index greater than 1 at any sensitive receptor. Impacts would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. O&M activities could result in short-term, periodic criteria air pollutant and precursor emissions that occur over the operational life of new facilities. Emissions would occur from use of motorized equipment from activities such as minor ground disturbance as well as from vehicles used to access facility sites. One source of diesel PM from the proposed Project would be from vehicles and, as discussed above, emissions would be less than SMAQMD's mass emission thresholds. These emissions would be intermittent in nature so that they would not result in elevated concentrations of diesel PM at any location for an extended period. Minor ground disturbance would generate fugitive dust. Such ground disturbance would be temporary and intermittent, limited to when minor excavation, grubbing, or other similar activities would be needed for maintenance. As described above, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. Given the highly dispersive nature of exhaust and fugitive dust emissions and the limited emissions during O&M it is unlikely that sensitive receptors would be exposed to substantial pollutant concentrations. The installation of new facilities is addressed under New Construction, below.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. Construction of new facilities may also require trenching and boring along existing or realigned gas pipelines or subtransmission and distribution line easements and creating temporary access roads. Construction of these facilities would involve heavy equipment use and vehicle use and could potentially involve extensive grading. These activities would result in emissions of diesel PM and fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust. Depending on the location of the new facility and the intensity and duration of construction activities, construction activities may occur near sensitive receptors for a

period of months or years. For example, the construction of new transmission substations can take multiple years, while installation of a new telecommunications tower may conservatively take months. Although diesel PM emissions would occur during vehicle and equipment use throughout the duration of the new construction activity, it is reasonably anticipated that with dust control measures and site compaction fugitive dust emissions would reduce over the duration of the activity. As described above, however, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time, with a 30-year exposure duration used for estimating cancer risk at residential land uses. No activities would result in continuous emissions for 30 years at any one location. And, given the highly dispersive nature of exhaust and fugitive dust emissions and the limited emissions during O&M it is unlikely that any discrete sensitive receptor would be exposed to substantial pollutant concentrations or levels of health risk.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Diesel PM emissions would occur from use of motorized equipment from activities such as moving as well as from vehicles used to access sites where vegetation management is needed. As discussed above, emissions would be less than SMAQMD significance thresholds and would be intermittent in nature so that they would not be a substantial source of diesel PM. The risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time, as previously described. Given the highly dispersive nature of exhaust emissions and the limited emissions during vegetation management, it is unlikely that sensitive receptors would be exposed to substantial pollutant concentrations or levels of health risk.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). This activity would include installation of cathodic protection test stations (M2a), installation of a new pipeline valve (M2b), and replacement of pipeline segments (M2c). Installation of these elements would involve construction similar to that described for New Construction, above, in that there would be vehicle use for crews and equipment as well as for underground pipeline replacement activities (G5b). Additionally, installation of the new valve (M2b) would require grading for a temporary access road. These activities would result in diesel PM and fugitive PM10 and PM2.5 dust emissions. The CPP and water pipeline are in a predominantly agricultural area of Sacramento County with low population density, with isolated residents scattered in the area. Because the pipeline and roadway are linear, emissions of diesel PM and fugitive PM10 and PM2.5 dust would be limited at any one location, although overall these activities may require months for completion. As described above, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a

longer period of time, with a 30-year exposure duration used for estimating cancer risk at residential land uses. No activities would result in continuous emissions for 30 years at any one location. And, given the highly dispersive nature of exhaust and fugitive dust emissions and the limited emissions it is unlikely that sensitive receptors would be exposed to substantial pollutant concentrations or health risk.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions; of these, only Orcutt grass enhancement and introduction at the SMUD Bank could result in physical environmental effects. Any diesel PM and fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust emissions resulting from activities associated with this Direct Action would be insufficient to result in health impacts due to their intermittent nature and distance from sensitive receptors. Therefore, this impact would be **less than significant**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Minor construction activities and miscellaneous Covered Activities could result in temporary and short-term emissions of diesel PM and fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust, while O&M and vegetation management activities would result in periodic emissions over the long term. However, these emissions would not occur in any one location near sensitive receptors for a long enough period to result in an incremental increase in cancer risk that exceeds SMAQMD's threshold of 10 in one million or a Hazard Index greater than 1 at any sensitive receptor. For these reasons it is unlikely that adverse air quality impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures to reduce potential exposure of sensitive receptors would be required if a potentially significant air quality impact were identified.

### ***Impact 3.3-3: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in intermittent, short-term emissions of diesel exhaust during implementation,

which can be considered an offensive odor by some people. However, there are few nearby receptors, and receptors would be exposed to odor for a short period of time given the temporary use of the Rancho Seco Recreational Park and the temporary nature of odor-generating activities. As a result, this impact would be **less than significant**.

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Generally, Covered Activities could result in intermittent, short-term emissions of diesel exhaust over the life of the proposed HCP, which can be considered to have an offensive odor by some people. These temporary sources of diesel exhaust would be dispersed throughout the Plan Area.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would result in short-term, minor emissions of diesel exhaust resulting from use of some equipment and vehicles for activities such as planting and long-term monitoring. There are limited sensitive receptors that could be exposed to such odors, as the closest receptors are at a parking lot on the north side of the Rancho Seco Recreational Park, about 500 feet from the planting area. The more heavily used area of the park is across the lake, about 0.4 mile south. These receptors would only be close to this Direct Action, which require minimal motorized travel, and for a short period of time during their use of the park. Odors would be similar to existing uses at the Rancho Seco Recreation Park requiring vehicle travel. These activities also would not add any new long-term sources of odors. As a result, the impact would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. O&M activities could result in short-term, periodic emissions of diesel exhaust that occur occasionally over the operational life of new facilities. Emissions would occur from use of motorized equipment from activities such as minor ground disturbance as well as from vehicles used to access facility sites. Any odors would be short term and transient and would unlikely affect a substantial number of receptors.

#### New Construction

Construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. Construction of new facilities may also require trenching and boring along existing or realigned gas pipelines or subtransmission and distribution line

easements and creating temporary access roads. Construction of these facilities would involve heavy equipment use and vehicle use and could potentially involve extensive grading. Depending on the location of the new facility and the intensity and duration of construction activities, construction activities may occur near sensitive receptors for a period of months or years. For example, projects such as new transmission substations can last more than one year, while installation of a new telecommunications tower may conservatively take months. Emissions of odorous diesel exhaust, however, would be localized and confined to the immediate area around any project site. New utility projects requiring take coverage tend to be sited out of populated areas and are less likely to be located near many receptors. As a result, it is unlikely that diesel exhaust odors would affect a substantial number of receptors.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Emissions of diesel exhaust would occur from use of motorized equipment from activities such as moving as well as from vehicles used to access sites where vegetation management is needed. Diesel exhaust odors, however, would be localized and confined to the immediate area around the project site. Utility infrastructure in areas that need of vegetation management is also less likely to be located near many receptors. As a result, it is unlikely that diesel exhaust odors would affect a substantial number of receptors.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). These activities would require the use of equipment that could emit odorous diesel exhaust. These activities would occur in a predominantly agricultural area of Sacramento County with low population density, with isolated residents scattered in the area. Because the pipeline and roadway are linear, emissions of diesel exhaust would be limited in any one location. As a result, it is unlikely that diesel exhaust odors would affect a substantial number of receptors.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions; of these, only Orcutt grass enhancement and introduction at the SMUD Bank could result in physical environmental effects. Any emissions of diesel exhaust generated during Direct Actions at the SMUD Bank would be insufficient to result in exposure of a substantial number of receptors to objectionable odors. Therefore, this impact would be **less than significant**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Minor construction activities and miscellaneous Covered Activities could result in temporary and short-term diesel exhaust emissions, while O&M and vegetation management activities would result in periodic emissions at varying locations over the long term. These emissions would not occur in any one location near sensitive receptors for long enough to result in exposure of a substantial number of receptors to objectionable odors. For these reasons it is unlikely that adverse air quality impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures to reduce emissions would be required if a potentially significant air quality impact was identified.

### 3.4 Biological Resources

This section analyzes the proposed Project's anticipated effects on biological resources. This section focuses on the potential for SMUD's Conservation Strategy (Direct Actions) and Covered Activities (Indirect Actions) as a result of the requested issuance of the take authorizations and implementation of the HCP to affect special-status species, including but not limited to the Covered Species - California tiger salamander, giant garter snake, slender Orcutt grass, Sacramento Orcutt grass, valley elderberry longhorn beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

Issues identified in response to the Notice of Preparation (NOP) were considered in preparing this analysis. The NOP comments pertaining to biological resources include a comment letter from the Delta Stewardship Council discussing the applicability of the Delta Plan to the proposed HCP and requesting that in the event that mitigation for invasive nonnative species is warranted, mitigation and minimization measures should be consistent with Delta Plan Mitigation Measure 4-1. No mitigation measures are proposed in this section.

Key sources of information used in the preparation of this section include the following.

- The proposed Sacramento Municipal Utility District (SMUD) *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).
- SMUD Nature Preserve Mitigation Bank (SMUD Bank) Final Initial Study and Mitigated Negative Declaration (IS/MND) SCH #2008022151 (SMUD 2010).
- NOP and Scoping Comments (Appendix A).
- The California Natural Diversity Database (CNDDDB) (California Department of Fish and Wildlife [CDFW] 2020a).
- California Native Plant Society's (CNPS) online Inventory of Rare and Endangered Plants of California (CNPS 2020).
- National Marine Fisheries Service (NMFS) California species list tool (NMFS 2018).
- Information for Planning and Consultation. List of threatened and endangered species that may occur in the proposed Project, and/or may be affected by the proposed Project (U.S. Fish and Wildlife Service [USFWS] 2020).
- Google Earth aerial and ground-level photography (Google Earth 2020).

### 3.4.1 Regulatory Setting

#### Federal

##### ***Endangered Species Act***

The federal Endangered Species Act (ESA) of 1973 and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems on which they depend. The two agencies that oversee ESA are USFWS, with jurisdiction over plants, wildlife, and resident fish, and NMFS, with jurisdiction over anadromous fish and marine fish and mammals.

##### Section 7

Section 7 of ESA mandates that all federal agencies consult with USFWS and NMFS if they determine that a proposed action may affect a listed species or its habitat. The purpose of consultation with USFWS and NMFS is to ensure that the federal agencies' actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species.

Section 7(a)(2) requires all federal agencies, in consultation with USFWS and NMFS, to ensure that any action "authorized, funded, or carried out" by any such agency "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification" of critical habitat. Because issuance of a Section 10 permit involves a federal authorization, it is subject to this provision. In this case, because it is issuing the authorization, USFWS or NMFS will conduct an internal consultation. Although the provisions of Section 7 and Section 10 are similar, Section 7 and its regulations require an analysis of the proposed HCP's direct and indirect effects, a jeopardy analysis for federally listed plants, and effects on critical habitat. The results of this internal consultation will be documented in a biological opinion, which will be produced at the end of the process.

##### Section 9

Section 9 of ESA describes activities that are prohibited. The ESA specifically prohibits the take of any fish or wildlife species listed as endangered. *Take* is defined as the action of or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, capture, or collect a species, or attempt to engage in any such conduct. Section 9 prohibitions also apply to threatened species unless a special rule has been defined with regard to take at the time of listing. The term *harm* is further defined as:

... an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering (50 Code of Federal Regulations [CFR] 17.3).

The term *harass* is further defined as:

...an intentional or negligent 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 which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).

Under Section 9 of ESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the unlawful removal and reduction to possession, or malicious damage or destruction of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed or under petition for listing receive no protection under Section 9.

### Section 10

Section 10(a)(1)(B) of ESA involves the issuance of an ITP for any nonfederal action that is reasonably certain to take an endangered or threatened species. The ESA requires that applications for ITPs are accompanied by an HCP. The HCP describes how the take will be offset to the maximum extent practicable by providing for the conservation of the affected species through specific mitigation measures.

For the proposed Project, USFWS will consider issuance of an ESA Section 10(a)(1)(B) ITP for the species under its jurisdiction that are covered under the proposed HCP (a total of seven plant and animal species). ESA Section 10(a)(2)(B) requires that specific issuance criteria be met before USFWS may issue ITPs. The determination as to whether the criteria have been met will be described in USFWS's decision package: a biological opinion pursuant to Section 7 of ESA; a Findings and Recommendations for the issuance of a Section 10(a)(1)(B) permit; and a National Environmental Policy Act (NEPA) decision document. These decision documents are produced at the end of the environmental review process and will contain the rationale behind USFWS's decision to either approve or deny a Section 10(a)(1)(B) permit application. USFWS may decide to issue the ITP, which will contain standard terms and conditions and may also contain additional terms and conditions as deemed appropriate by USFWS.

### Critical Habitat

Critical habitat refers to areas designated by USFWS or NMFS for the conservation of species listed as threatened or endangered under ESA. When a species is proposed for listing under ESA, USFWS or NMFS considers whether there are certain areas essential to the conservation of the species.

Critical habitat is defined in Section 3 of ESA as follows.

1. The specific areas within the geographical area occupied by a species at the time it is listed in accordance with ESA, on which are found those physical or biological features that:
  - a. are essential to the conservation of the species, and

- b. may require special management considerations or protection; and
2. Specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Any federal action (permit, license, or funding) in critical habitat requires that federal agency to consult with USFWS and/or NMFS where the action has potential to adversely modify the habitat for the species.

### ***Clean Water Act***

The federal Clean Water Act (CWA) regulates discharges of pollutants to waters of the United States and serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

The CWA empowers the U.S. Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. *Point-source pollution* is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. *Nonpoint-source pollution* originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

### **Permits for Fill Placement in Waters and Wetlands (Section 404)**

Under CWA Section 404, the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill materials into waters of the United States. Waters of the United States subject to jurisdiction under CWA Section 404 are defined in USACE 1986 regulations at 33 CFR 328.3 and in EPA regulations at 40 CFR 230.3, unless otherwise modified.

Unless an activity is exempt under Section 404(f) of the CWA, applicants must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity.

Department of the Army permits issued by USACE are issued under various forms of authorization. These include individual permits that are issued following a review of individual applications and general permits that authorize a category or categories of activities in specific geographical regions or nationwide (33 CFR 320.1(c)). General permits are Department of the Army authorizations issued on a nationwide or regional basis for a category or categories of activities when:

- (1) those activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts; or

- (2) the general permit would result in avoiding unnecessary duplication of the regulatory control exercised by another Federal, state, or local agency provided it has been determined that the environmental consequences of the action are individually and cumulatively minimal (33 CFR 323.2(h)).

General permits issued by USACE include Regional and Programmatic General Permits issued by a division or district engineer after compliance with the procedures of 33 CFR 325, and Nationwide Permits, issued by regulation (33 CFR 330) for certain specified activities nationwide. If certain conditions are met, the specified activities can take place without the need for an individual or regional permit (33 CFR 325.5(c)(2)).

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general permit until the requirements of NEPA, ESA, and the National Historic Preservation Act (see Section 3.5, *Cultural Resources*) have been met. In addition, USACE cannot issue or verify any permit that may result in a discharge of a pollutant into waters of the United States until a water quality certification has been issued pursuant to CWA Section 401.

#### Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate, or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

The water quality certification program engaged through the Central Valley Regional Water Quality Control Board (RWQCB) regulates removal or placement (dredge and fill) of materials in wetlands and waterways for projects that involve fill of wetlands for development, bridge piers, docks, etc. The program protects all waters, but has special responsibility for wetlands, riparian areas, and headwaters because they are not systematically protected by other programs. The program implements the state and federal wetlands no net loss policies, which seek to avoid, reduce, and mitigate impacts.

Most projects are regulated by the RWQCBs; however, the State Water Resources Control Board (SWRCB) regulates multi-region projects and supports and coordinates the program statewide.

#### ***Migratory Bird Treaty Act***

The Migratory Bird Treaty Act (MBTA) (16 U.S. Code [USC] 703–712) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the former Soviet Union and authorizes the U.S. Secretary of the Interior to protect and

regulate the taking of migratory birds. It protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR Part 21; 50 CFR Part 10). Most actions that result in *take*—defined as hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof—are prohibited under the MBTA. Examples of permitted actions that do not violate the MBTA are the possession of a hunting license to pursue specific gamebirds, legitimate research activities, display in zoological gardens, bird-banding, and other similar activities. USFWS is responsible for overseeing compliance with the MBTA.

### ***Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds***

Executive Order (EO) 13186 (signed January 10, 2001) directs each federal agency taking actions that would have or would likely have a negative impact on migratory bird populations to work with USFWS to develop a memorandum of understanding to promote the conservation of migratory bird populations. Protocols developed under the memorandum of understanding must include the following agency responsibilities.

- Avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions.
- Restore and enhance habitat of migratory birds, as practicable.
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist federal agencies in their efforts to comply with the MBTA; it does not constitute any legal authorization to take migratory birds.

### ***Bald and Golden Eagle Protection Act***

The federal Bald and Golden Eagle Protection Act (16 USC 668 et seq.) makes it unlawful to import, export, take, sell, purchase, or barter any bald eagle or golden eagle, or their parts, products, nests, or eggs. *Take* includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing. For purposes of these guidelines, *disturb* means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle’s return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

Exceptions may be granted by USFWS for scientific or exhibition use, or for traditional and cultural use by Native Americans. However, no permits may be issued for import, export, or commercial activities involving eagles.

### ***Executive Order 13112: Prevention and Control of Invasive Species***

EO 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The EO established the National Invasive Species Council, which is composed of federal agencies and departments, and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The council's invasive species management plan recommends objectives and measures to implement the EO and to prevent the introduction and spread of invasive species (National Invasive Species Council 2008). The EO requires consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

## **State**

### ***California Environmental Quality Act***

The California Environmental Quality Act (CEQA) is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. A project normally is considered to cause a significant environmental impact on biological resources if it would substantially affect a rare or endangered species or the habitat of that species; substantially interfere with the movement of resident or migratory fish or wildlife; or substantially diminish habitat for fish, wildlife, or plants. The State CEQA Guidelines define rare, threatened, and endangered species as those listed under the ESA and the California Endangered Species Act (CESA) and any other species that meets the criteria of the resource agencies or local agencies (e.g., species of special concern as designated by CDFW). The State CEQA Guidelines state that the lead agency preparing an environmental impact report (EIR) must consult with and receive written findings from CDFW concerning project impacts on species listed as endangered or threatened.

CEQA checklist IV (b) calls for the consideration of riparian habitats and sensitive natural communities (SNC). Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These communities may or may not necessarily contain special-status species. SNCs are usually identified in local or regional plans, policies, or regulations, or by CDFW (i.e., the CNDDDB and VegCAMP programs) or the USFWS. Impacts on SNCs and habitats must be considered and evaluated under CEQA (California Code of Regulations Title 14, Div. 6, Chap. 3, Appendix G). High-quality occurrences of natural communities with heritage state ranks of S3 or lower are considered by CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents (e.g., general plans) often identify these resources as well. Avoidance, minimization, or mitigation measures should be

implemented if project-affected stands of rare vegetation types or natural communities are considered high-quality occurrences of the given community.

### ***California Endangered Species Act***

CESA (California Fish and Game Code [CFGF] 2050 et seq.) establishes in law the state's policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects that jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. Additionally, CESA prohibits take of listed species without appropriate authorization. Take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt pursue, catch, capture or kill" (CFGF Section 86). For projects that would result in take of a species on both the federal and state lists, compliance with ESA satisfies CESA if CDFW determines that the federal ITP pursuant to Section 7 or 10 is consistent with CESA under CFGF Section 2080.1. For projects that would result in take of a species that is only state listed, to avoid misdemeanor liability for take, the project proponent must obtain authorization from CDFW. Mechanisms for such authorization include an MOU under Section 2081(a) or an ITP under Section 2081(b).

### ***California Native Plant Protection Act***

The California Native Plant Protection Act (CNPPA) of 1977 (CFGF 1900–1913) prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. During the CEQA process, the lead agency must address the plant species listed under CESA and CNPPA as well as plant species that meet the definition of rare or endangered provided in CEQA Guidelines Section 15380.

### ***Fully Protected Species under the California Fish and Game Code***

CFGF Sections 3511, 3513, 4700, and 5050 pertain to fully protected wildlife species (birds in Sections 3511 and 3513, mammals in Section 4700, and reptiles and amphibians in Section 5050) and strictly prohibit take of these species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research, restoration, or the protection of livestock, or if they are covered species in an adopted natural community conservation plan (NCCP).

### ***Porter-Cologne Water Quality Control Act***

The California Water Code addresses the full range of water issues in the state and includes Division 7, known as the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (California Water Code 13000–16104). Section 13260 requires "any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the State to file a report of discharge (an application for waste discharge requirements)" with the appropriate RWQCB. Under this act, each of the nine RWQCBs must prepare and periodically update Water Quality Control Basin Plans (Basin Plans).

Each Basin Plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution. Projects that affect waters of the State must meet the waste discharge requirements of the RWQCB. Pursuant to CWA Section 401, an applicant for a Section 404 permit to conduct any activity that may result in discharge into navigable waters must provide a certification from the RWQCB that such discharge will comply with state water quality standards.

Section 13050 of the Porter-Cologne Act authorizes the SWRCB and the relevant RWQCB to regulate biological pollutants. The California Water Code generally regulates more substances contained in discharges and defines discharges to receiving waters more broadly than does the CWA.

### ***California Fish and Game Code Section 1602***

Any person, state, local governmental agency, or public utility shall not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, without providing written notification to CDFW of the activity, and if necessary obtaining CDFW authorization in the form of a Lake and Streambed Alteration Agreement. Activities requiring notification may include those that affect surface/subsurface flow that supports or has supported riparian vegetation and Lake and Streambed Alteration Agreement conditions may require measures to protect fish and wildlife resources within habitat types associated with the river, stream, or lake, including woody or non-woody riparian habitat in some cases.

### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like SMUD is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500–17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

The EIR recognizes that plans, policies, and regulations reflect the local community's policy decisions regarding appropriate uses of land in the area. Relevant general plan goals and policies which relate to biological resources within the Permit Area for the counties listed below are provided in Appendix C.

- Sacramento County General Plan (Sacramento County 2011)
- Yolo County General Plan (Yolo County 2009)

- Placer County General Plan (Placer County 2013)
- Amador County General Plan (Amador County 2016)
- San Joaquin County General Plan (San Joaquin County 2016)

### ***City General Plans***

In addition to county general plans, the cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, Folsom, and Roseville all have general plan policies related to biological resources. Similar to the county general plans, these policies are related to the preservation and management of the city's biological resources. These policies are applicable to residential, commercial, and industrial development.

#### ***3.4.2 Environmental Setting***

The environmental setting for biological resources describes the existing natural communities and other land cover types, wildlife habitat, special-status species, and designated critical habitat in the Permit Area. The proposed HCP was the primary source of the biological resource information in this section. All information derived from the proposed HCP, including land cover types, soils, hydrology, and special-status species have been independently reviewed and confirmed, where feasible, for the purposes of the EIR analysis.

### **Affected Environment**

#### ***Regional Setting***

This section describes the regional setting of the Permit Area, and includes general discussions of climate, topography, soils, and hydrology.

#### Climate

The climate in the Permit Area consists of hot, dry summers and cool, wet winters. Based on climate data provided by the Western Regional Climate Center for the Sacramento 5 ESE Station (047633), daily summer temperature maximums average 90.6–91.7 degrees Fahrenheit and daily winter minimums average 39.6–39.9 degrees Fahrenheit with an average of 18.15 inches of rainfall each year (Western Regional Climate Center 2020).

#### Topography

The Permit Area for the proposed HCP is in the lower Sacramento Valley of California in the Great Valley Geomorphic Province and totals approximately 578,000 acres (Figure 1-1). Elevation ranges from just below sea level to over 800 feet above sea level. There are two physiographic regions in the Permit Area, the Sierra Nevada foothills and the lower Sacramento Valley. The Sierra Nevada foothills are undulating to hilly, from 140 to 830 feet in elevation. This region is located along the northeast edge of the Permit Area. The

remainder consists of the lower Sacramento Valley and is nearly level to gently rolling, with some areas in the eastern part rolling to hilly.

### Geology

The Permit Area is primarily found in the northern portion of the Great Valley geomorphic province. The Great Valley Geomorphic Province is a long linear feature which stretches the Central Valley region of California. To a lesser extent, the eastern side of the Permit Area lies within the Sierra Nevada Geomorphic Province where the western slope recedes under the sediments of the Great Valley.

### Soils

Soils in the Permit Area vary from very deep, nearly level alluvial soils, to undulating shallow soils over hardpans, to shallow hilly soils overlying bedrock. These soils also vary from well drained to poorly drained mineral soils and, to a lesser extent, organic soils. Below is a list of generalized soil categories within the Permit Area. Detailed descriptions of each soil map unit present within the Permit Area, as defined by the U.S. Geological Survey (1993), is contained in in Section 3.2.3 of the proposed HCP.

- Very deep, nearly level to steep soils in areas of dredge tailings
- Very deep, nearly level soils in freshwater marshes and backswamps on natural levees, and on low and high floodplains
- Urban land and very deep, nearly level soils on high flood plains, low stream terraces, and low terraces
- Nearly level soils in basins and on basin rims
- Nearly level to gently rolling soils on low terraces
- Urban land and nearly level to steep soils on hills and in filled areas
- Nearly level to hilly soils on high terraces and hills
- Undulating to hilly soils on foothills

### Hydrology

The major rivers in the Permit Area include the Sacramento, American, Mokelumne, and Cosumnes Rivers, which are generally perennial. The Sacramento Valley in the northern part is drained by the Sacramento River, while the southern part, the San Joaquin Valley, is drained by the San Joaquin River. There are approximately 1,150 miles of intermittent streams and approximately 122.4 miles of perennial streams in the Permit Area. There are 20 watersheds found within or intersecting the Permit Area and eight Hydrological Unit Code-8 watersheds. Sloughs and channels in the Sacramento River–San Joaquin River Delta (Delta) region and at the mouth of the Cosumnes River and the Sacramento

River are subject to tidal influence. Within the Permit Area, flood protection consists of dams upstream of the Sacramento and American Rivers and numerous human-made levees.

### ***Permit Area Setting***

This section provides an overview of the physical setting within the Permit Area that is comprised of various land cover types, including vegetation communities and aquatic resources.

Details of the methods used for mapping land cover within the Permit Area, which includes natural communities and other land cover types, are described in Section 3.4.1 of the proposed HCP. The following proposed HCP data sources were used to identify land cover types, including aquatic resources, in the Permit Area.

- Six County Aquatic Resources Inventory (SCARI) Land Cover (2012)
- SCARI Aquatic Resource Class (2012)
- South Sacramento HCP Land Cover (2018)
- Natomas Basin HCP Land Cover (City of Sacramento et al. 2012)
- Western Placer County HCP/NCCP Land Cover (2008/2009, and 2013)
- Yolo County SMUD Aquatic Data (2013)
- Yolo HCP/NCCP Land Cover Dataset (Yolo County Habitat/Natural Community Conservation Plan Joint Powers Agency 2013)
- SMUD Bank Data (SMUD 2013)
- National Hydrography Dataset (2015)

The proposed HCP identifies 12 natural land cover types and 5 developed land cover types in the Permit Area. Detailed descriptions of each land cover type are provided in Section 3.4.2 of the proposed HCP. Table 3.4-1, adapted from HCP Table 3-2, lists the land cover types and approximate acreages in the Permit Area. The naming convention for land cover types primarily follows the California Wildlife Habitat Relations system (Mayer and Laudenslayer 1988). However, based on discussions with the wildlife agencies and Steering Committee members, some SMUD HCP land cover names have been modified to meet the specific needs of the proposed HCP. Of the 12 natural land cover types present with the Permit Area, only mature riparian forest types dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) or valley oak (*Quercus lobata*), and stands of upland valley oak woodland would be recognized as an SNC on CDFW's California Natural Community List with state rarity rankings of S3 (CDFW 2020b). CDFW considers natural communities with ranks of S1–S3 as SNCs to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2020b).

**Table 3.4-1 Communities and Land Cover Types**

Community Name	Total Acreage in Permit Area	Percentage of Permit Area
<b>Woodland Dominated</b>		
Valley Foothill Riparian*	10,357	1.8
Blue Oak Foothill Pine	104	0.1
Blue Oak Woodland	17,715	3.1
Valley Oak Woodland*	1,089	0.2
Mine Tailing Riparian Woodland	3,186	0.6
Eucalyptus Woodland	54	0.1
<b>Herbaceous</b>		
Pasture	21,240	3.7
Grasses and Forbs*	168,230	29.1
<b>Aquatic</b>		
Riverine	10,793	1.9
Open Water/Fringe	6,502	1.1
Vernal Pool, Seasonal Wetland, and Swale*	7,784	1.4
Other Depressional Wetlands*	9,437	1.6
<b>Agricultural</b>		
Orchard/Vineyard	31,418	5.4
Cropland	69,173	12.0
Rice	5,313	0.6
<b>Developed</b>		
Urban	197,265	34.2
Barren/Disturbed	17,893	3.1
Total	577,553	100

\* Indicates a land cover type that could contain one or more sensitive natural community (S1–S3)

Descriptions of each of the 17 proposed HCP land cover types are provided below. Acres are rounded to the nearest whole acre, and percentages are rounded to the nearest 1/10 percent.

### Eucalyptus Woodland

Eucalyptus Woodland land cover is characterized as woodland dominated by an overstory of nonnative eucalyptus trees (*Eucalyptus* spp.). It generally forms dense, relatively small monotypic stands, usually of blue gum (*E. globulus*). In these conditions, the shrub layer is generally absent and the herb layer is sparse due to the dense leaf litter and germination-inhibitive chemicals produced in the leaves of mature eucalyptus trees, which are toxic to many plants (Mayer and Laudenslayer 1988; Smith 1976).

Within the Permit Area, there are 54 acres (less than 0.1 percent of the Permit Area) of SMUD HCP Eucalyptus Woodland land cover. The most significant stands of Eucalyptus Woodland in the Permit Area occur north of Twin Cities Road (State Route [SR] 104) and

east of Clay Station Road, and south of Twin Cities Road along the east and west side of Clay Station Road (HCP Figure 3-5). Individual trees and small stands of eucalyptus can be found sporadically throughout the Permit Area as well.

When present, the herbaceous layer in Eucalyptus Woodland consists mostly of nonnative grasses such as bromes (*Bromus* spp.) and Bermuda grass (*Cynodon dactylon*), and weedy forbs including mustards (*Brassica* spp.), bull thistle (*Cirsium vulgare*), winter vetch (*Vicia villosa*), rose clover (*Trifolium hirtum*), little hop clover (*Trifolium dubium*), English plantain (*Plantago lanceolata*), cheeseweed (*Malva parviflora*), common groundsel (*Senecio vulgaris*), red sand-spurrey (*Spergularia rubra*), lesser hawkbit (*Leontodon saxatilis*), prickly sow thistle (*Sonchus asper* ssp. *asper*), yard knotweed (*Polygonum aviculare*), and prickly lettuce (*Lactuca serriola*).

### Valley Foothill Riparian

Riparian land cover occurs in transition zones between aquatic and upland vegetation and, in an undisturbed condition, is characterized by dominant vegetation types that are tolerant of, and adapted to, relatively high soil moisture content. The Valley Foothill Riparian land cover in the Permit Area is characterized by a dominance of woody, arborescent vegetation growing within or adjacent to ponds, streams, and creeks with low-velocity flows generally in floodplains and areas of low topography.

Within the Permit Area, there are 10,357 acres (1.8 percent of the Permit Area) of SMUD HCP Valley Foothill Riparian land cover. Within the Sacramento County portion of the Permit Area, Valley Foothill Riparian occurs along Riverine (including the Sacramento, American, and Cosumnes Rivers and their tributaries), Open Water/Fringe, and less extensively along Other Depressional Wetland land covers. Within the Yolo County portion of the Permit Area, Valley Foothill Riparian occurs along Riverine (including Tule Canal, Toe Drain Canal, and Willow Slough) and Open Water/Fringe (HCP Figure 3-5).

Some Valley Foothill Riparian land cover within the Permit Area is adjacent to urban creeks (often occurring as greenbelts) and is generally disturbed by human activities, including transportation and recreational uses. The creeks are often straightened and channeled, and the riparian land cover is generally traversed by footpaths and bicycle paths. In areas disturbed by frequent flooding, fire, or human activity, riparian often consists of smaller trees, more shrubs, and more invasive nonnative species.

In a mature riparian forest, canopy heights reach approximately 100 feet, and canopy cover ranges from 20 to 80 percent. Most trees are winter deciduous. Generally, within SMUD's Permit Area, no single species dominates the canopy over large areas, and composition varies with elevation, aspect, hydrology, and channel type. Common species in the overstory canopy layer are Fremont cottonwood and valley oak. Other species that commonly occur in the midstory include California black walnut (*Juglans hindsii*), interior live oak (*Quercus wislizeni*), box elder (*Acer negundo*), Oregon ash (*Fraxinus latifolia*), Goodding's black willow (*Salix gooddingii*), and big-leaf maple (*Acer macrophyllum*), depending on specific site characteristics (elevation, soils, and hydrologic regime).

Some stands of mature riparian forest could be recognized as an SNC by CDFW's California Natural Community List (CDFW 2020b), depending on species composition. For instance, riparian stands dominated by Fremont cottonwood or valley oak would be considered an SNC with state rarity rankings of S3 (CDFW 2020b).

Some Valley Foothill Riparian land cover in the Permit Area has a limited herbaceous understory, but supports a dense, impenetrable woody understory of California wild grape (*Vitis californica*), California rose (*Rosa californica*), California blackberry (*Rubus ursinus*), Himalayan blackberry (*Rubus armeniacus*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), western poison oak (*Toxicodendron diversilobum*), common buttonbush (*Cephalanthus occidentalis*), toyon (*Heteromeles arbutifolia*), California coffee berry (*Frangula californica*), mule's-fat (*Baccharis salicifolia* ssp. *salicifolia*), coyote brush (*B. pilularis*), and various shrubby willows (e.g., arroyo willow [*Salix lasiolepis*], narrow-leaf willow [*S. exigua*], tail-leaf willow [*S. lasiandra* var. *caudata*], Goodding's black willow, and red willow [*S. laevigata*]). Invasive plants that have colonized Valley Foothill Riparian land cover in the Permit Area to varying degrees include tree-of-heaven (*Ailanthus altissima*), fruit trees (*Prunus* spp.), white mulberry (*Morus alba*), and perennial pepperweed (*Lepidium latifolium*).

#### Blue Oak Foothill Pine

Blue Oak Foothill Pine land cover within the Permit Area is characterized as woodland having a sparse tree overstory of foothill pine (*Pinus sabiniana*) above a lower canopy of blue oaks (*Quercus douglasii*). Canopy cover ranges from 10 to 59 percent. The shrub component is typically composed of several species that tend to be clumped, with interspersed patches of annual grassland. Woodlands of this type generally have small accumulations of dead and downed woody material and relatively few snags, compared with other tree land covers in the Permit Area. Blue Oak Foothill Pine is not a recognized SNC by CDFW's California Natural Community List (CDFW 2020b).

Within the Permit Area, there are 104 acres (less than 0.1 percent of the Permit Area) of SMUD HCP Blue Oak Foothill Pine land cover. Blue Oak Foothill Pine is uncommon in the Permit Area, occurring near the northeast (near Folsom Lake and along northern Lake Natoma) and mid-east (Rancho Murieta) Permit Area boundaries, and along the Cosumnes River and Lake Calero (HCP Figure 3-5).

Although blue oaks dominate, other tree species associated with this land cover include interior live oak, California buckeye (*Aesculus californica*), and valley oak (Mayer and Laudenslayer 1988). Pure stands of blue oak tend to lack a shrub layer. However, when interior live oak and foothill pine are dominant in the overstory, shrub species are present, including coyote brush, buck brush (*Ceanothus cuneatus*), manzanita (*Arctostaphylos* spp.), California coffee berry, western redbud (*Cercis occidentalis*), western poison oak, blue elderberry, and California yerba santa (*Eriodictyon californicum*). The understory tends to be primarily nonnative annual grasses (e.g., oats, brome, barley, and perennial rye grass), with a mixture of native and nonnative forbs.

### Blue Oak Woodland

Blue Oak Woodland is similar to Blue Oak Foothill Pine described above except that it lacks foothill pine. Within the Permit Area, Blue Oak Woodland is characterized by almost pure stands (generally 85 to 100 percent of the trees present) of mature blue oaks. Generally, within this land cover, the shrub layer is absent or sparse, and the herbaceous layer consists of nonnative grasses with a sparse mixture of native and nonnative forbs. When shrubs are present, they are rarely extensive, often occur on rock outcrops, and can include western poison oak, toyon, California coffee berry, and buck brush. The shrub layer is best developed along natural drainages, becoming insignificant in the uplands with more open stands of oaks (*Quercus* spp.). Blue Oak Woodland is not a recognized SNC by CDFW's California Natural Community List (CDFW 2020b).

Within the Permit Area, there are 17,715 acres (3.1 percent of the Permit Area) of SMUD HCP Blue Oak Woodland land cover. Blue Oak Woodland occurs extensively along the eastern border of the Permit Area. Large stands of Blue Oak Woodland occur from the southeastern border of the Permit Area, through Rancho Murieta, and up to the Folsom Lake area. There are also a few small patches of Blue Oak Woodland scattered in the middle of the Permit Area (HCP Figure 3-5).

In general, Blue Oak Woodland typically occupies low foothills with well-drained sites on gentle to moderate slopes. At lower elevations, Blue Oak Woodland intergrades with Grasses and Forbs. Arid, rocky sites with shallow soils generally have sparse tree cover, while moist, protected sites (e.g., north slopes) and sites with deep, productive soils (e.g., along creeks) can have dense canopy closures (Mayer and Laudenslayer 1988).

The herbaceous layer consists mostly of nonnative grasses such as soft chess (*Bromus hordeaceus*), oats, brome, medusa-head grass (*Elymus caput-medusae*), and annual fescues (*Festuca* spp.). Forbs such as clovers (*Trifolium* spp.), hedge parsley (*Torilis arvensis*), filaree (*Erodium* spp.), fiddleneck (*Amsinckia* spp.), and winter vetch are common. Noxious weeds include yellow star-thistle (*Centaurea solstitialis*) and Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*). Occasionally native grasses and forbs such as purple needle grass (*Stipa pulchra*), California poppy (*Eschscholzia californica*), brodiaeas (*Brodiaea* spp.), and soap plants (*Chlorogalum* spp.) occur.

### Valley Oak Woodland

Valley Oak Woodland land cover is characterized by almost pure stands of mature valley oaks. Similar to Blue Oak Woodland, stands of Valley Oak Woodland vary from savanna-like to forest-like and occur on a wide range of physiographic settings, but are best developed on deep, well-drained alluvial soils, usually in valley bottoms (Mayer and Laudenslayer 1988). Denser stands typically grow in valley soils along natural drainages. Tree density decreases with the transition from lowlands to the less fertile soils of drier uplands. Valley Oak Woodland would be considered an SNC with a state rarity ranking of S3 (CDFW 2020b).

Within the Permit Area, there are 1,089 acres (0.2 percent of the Permit Area) of SMUD HCP Valley Oak Woodland land cover. Valley Oak Woodland occurs along the Sacramento River, American River, Beach Lake (near U.S. Highway [US] 50 and Laguna West), and in several other small scattered patches in the Permit Area (HCP Figure 3-5).

Valley oak stands with little or no grazing tend to develop a partial shrub layer of bird-dispersed species, such as western poison oak, toyon, and California coffee berry (Mayer and Laudenslayer 1988). Similar to Blue Oak Woodland land cover, the shrub layer in Valley Oak Woodland is best developed along natural drainages, becoming insignificant in the uplands with more open stands of oaks. Here, the shrub understory consists of western poison oak, blue elderberry, California wild grape, toyon, California coffee berry, and California blackberry. Ground cover consists of a well-developed carpet of annual grasses and forbs, dominated by wild oats, bromes, barleys, and ryegrasses (*Lolium* spp.).

#### Mine Tailing Riparian Woodland

Mine Tailing Riparian Woodland is characterized by piles of gravel and rock mine tailings with a dominance of early-succession woody riparian tree species. The tailings primarily occur in two locations of the Permit Area and are a result of mineral dredging that occurred in the early 1900s through approximately 1960.

Within the Permit Area, there are 3,186 acres (0.6 percent of the Permit Area) of SMUD HCP Mine Tailing Riparian Woodland land cover. Mine Tailing Riparian Woodland primarily occurs in two areas, near Gold River and Rancho Cordova (White Rock Road and Sunrise Boulevard) and south of Rancho Murieta (between Mesa Road and Clay Station Road) (HCP Figure 3-5).

Similar to the Valley Foothill Riparian, this land cover generally supports an overstory of tall winter deciduous trees, a midstory of smaller statured trees, and an understory of shrubs, vines, and herbs. Canopy cover is usually 20 to 80 percent. Lianas, usually wild grape (*Vitis* spp.), frequently provide 30 to 50 percent of the ground cover. Herbaceous vegetation typically constitutes about 1 percent of the cover except in openings where tall forbs and shade-tolerant grasses occur (Conard et al. 1980). Generally, the understory is impenetrable and includes fallen limbs and other debris.

Dominant species in the overstory canopy include cottonwood (*Populus* spp.), valley oak, and Goodding's black willow. On rare occasions, California sycamore (*Platanus racemosa*) is present. Midstory trees include willows (*Salix* spp.), white alder (*Alnus rhombifolia*), box elder, and Oregon ash. Typical understory shrubs and vines include wild grape, California rose, California blackberry, Himalayan blackberry, blue elderberry, western poison oak, buttonbush (*Cephalanthus* spp.), and willows. The herbaceous layer consists of various sedges (*Carex* spp.), rushes, grasses, and forbs (e.g., miner's-lettuce [*Claytonia* spp.], mugwort [*Artemisia* spp.], poison-hemlock [*Conium maculatum*], and stinging nettle [*Urtica* spp.]).

### Orchard/Vineyard

Orchard/Vineyard within the Permit Area is characterized by cultivated trees and vines that produce commercial fruit or nut crops. These woody plants are generally planted in rows for ease of maintenance and crop harvesting. Both orchards and vineyards are described separately below.

Within the Permit Area, there are 31,418 acres (5.4 percent of the Permit Area) of SMUD HCP Orchard/Vineyard land cover. Orchard/Vineyard land cover is located on parcels scattered throughout the Permit Area; however, there are larger and more extensive groupings of Orchard/Vineyard land cover in the southern portion of the Permit Area. For example, Orchard/Vineyard is present along the southwestern border of the Permit Area from Walnut Grove up to Clarksburg (HCP Figure 3-6).

Orchards are typically open, single-species, tree-dominated land covers. Depending on the tree type and pruning methods, trees are usually low and bushy with an open understory to facilitate harvest. Orchards in the Permit Area include trees such as almonds (*Prunus dulcis*), apples (*Malus pumila*), apricots (*Prunus armeniaca*), cherries (*Prunus avium*), peaches and nectarines (*Prunus persica*), pears (*Pyrus communis*), plums/prunes (*Prunus domestica*), walnuts (*Juglans regia*), and oranges (*Citrus sinensis*) (Mayer and Laudenslayer 1988). Below the fruit trees, the understory is either bare soil or a periodically mowed herbaceous layer of nonnative species, usually composed of low-growing grasses, legumes, and other herbaceous plants.

Vineyards are composed of single vine species planted in rows, usually supported on wood and wire trellises. The understory in vineyards is usually absent (controlled by tillage and/or herbicides) but, when present, consists of herbs. This herbaceous layer consists of a planted cover crop (to control erosion), agricultural weeds, or a combination (Mayer and Laudenslayer 1988).

### Cropland

Cropland is defined for the proposed HCP as agriculture lands, including livestock feedlots and poultry farms that are not orchards or vineyards, pasture lands, or rice (*Oryza* spp.) fields.

Within the Permit Area, there are 69,173 acres (12.0 percent of the Permit Area) of SMUD HCP Cropland land cover. Cropland is located on parcels scattered throughout the Permit Area but is concentrated in Yolo County and the northwestern portion of the Permit Area (in Natomas, near Interstate 5 and the Sacramento International Airport). Cropland also occurs in the southern portion of the Permit Area along Interstate 5 near Point Pleasant and Thornton and along SR 99 near Galt (HCP Figure 3-6).

The amount of disturbance associated with each crop depends on location, crop type, and farming practice. Cultivated cropland comprises land in row crops or close-grown crops that can be planted in rotations. Most annually cultivated cover types exhibit significant changes in accessibility due to their planting, growth, and harvest regimes.

However, some annually cultivated types remain moderately accessible most of the growing season and provide high foraging value during harvest as vegetation is removed when rodent prey populations are greatest (Estep Environmental Consulting 2009). A mosaic of perennial and annually cultivated cover types creates an agricultural landscape of consistently high value due to the season-long availability of some perennial cover types and the seasonal pulse of high value foraging opportunities provided by some seasonally cultivated cover types.

Agricultural crops within the Permit Area include corn, safflower (*Carthamus tinctorius*), common wheat (*Triticum aestivum*), oats, sorghum, barley, beans (*Phaseolus* spp.), Sudangrass, sugar beets (*Beta vulgaris*), cowpeas (*Vigna* spp.), garlic (*Allium sativum*), mustard greens (*Brassica juncea*), spinach (*Spinacia oleracea*), and sunflowers (*Helianthus* spp.).

### Rice

Rice within the Permit Area is characterized by seasonally flood-irrigated agricultural lands that support hydrophytic annual grasses, which produce commercial cereal grains (e.g., cultivated rice [*Oryza sativa*] or wild rice [*Zizania* spp.]).

Within the Permit Area, there are 5,313 acres (1.0 percent of the Permit Area) of SMUD HCP Rice land cover. In the Permit Area, Rice is located east of the Sacramento International Airport, along SR 70, and in Yolo County near the Willow Slough Bypass, and near the intersection of County Road 29 and County Road 92E (HCP Figure 3-6).

### Pasture

Pasture within the Permit Area is characterized by irrigated lands that produce year-round onsite forage for livestock. The vegetation in Pasture is usually a mixture of perennial grasses and legumes that can reach 100 percent ground cover. Height of vegetation varies from a few inches to 2 feet or higher, depending on site-specific conditions (e.g., season, irrigation, plant species composition, and grazing regime). Pastures that have been irrigated for decades sometimes resemble meadows or seasonal wetlands as wetland plant species that thrive in perennial saturated soil conditions become established.

Within the Permit Area, there are 21,240 acres (3.7 percent of the Permit Area) of SMUD HCP Pasture land cover. Pasture is distributed throughout the Permit Area (HCP Figure 3-7).

The mix of grasses and legumes varies within a pasture according to site conditions (geographic area, soil type, slopes, surrounding land uses), and management practices such as seed mixture, fertilization, irrigation, weed control, and grazing regime (e.g., type of livestock, stocking rates and seasons). Plant species seeded in pastures also vary; perennial rye grass (*Festuca perennis*), tall fescue (*F. arundinaceae*), dallisgrass (*Paspalum dilatatum*), white clover (*Trifolium repens*), strawberry clover (*T. fragiferum*),

and garden bird's-foot-trefoil (*Lotus corniculatus*) are common plant species seeded in pastures.

### Grasses and Forbs

The SMUD HCP Grasses and Forbs land cover type is characterized by herbaceous plant cover and predominantly nonnative annual grasses and forbs, with less than 10 percent cover of woody vegetation (trees and shrubs). This land cover type generally occurs in the well-drained upland areas where the topography consists of flat plains or gently rolling foothills. This land cover is transitional to other SMUD HCP land cover types, including Vernal Pool, Seasonal Wetland, and Swale; riparian; and oak woodlands. Several of these land cover types could contain SNCs with a state rarity ranking of S1–S3 even where native cover is low (CDFW 2020b).

Within the Permit Area, there are 168,230 acres (29.1 percent of the Permit Area) of SMUD HCP Grasses and Forbs land cover. Although the Grasses and Forbs land cover type is common throughout the Permit Area, it is most abundant in the eastern portion (HCP Figure 3-7).

Plant species composition is generally dependent on site conditions (e.g., soil type, slopes), weather patterns, and past and present disturbance regimes (historic uses such as winter wheat production, leveling, plowing, and livestock grazing). Nonetheless, this land cover is usually dominated by introduced nonnative annual grasses such as wild oats, soft chess, brome, barley, medusa-head grass, and annual fescues. Forbs are rarely dominant to annual grasses and consist of yellowflower tarweed (*Holocarpha virgata*), Fitch's false tarplant (*Centromadia fitchii*), prickly lettuce, dove weed (*Croton setigerus*), yellow star-thistle, filaree, broad leaf filaree (*Erodium botrys*), dovefoot geranium (*Geranium molle*), clovers, and bur clover (*Medicago polymorpha*).

### Urban

Urban land cover within the Permit Area is characterized by anthropogenic features such as urban centers, industrial areas, airports, wastewater treatment plants, residences, and other developed areas that consist of human-made structures and surfaces (e.g., buildings, parking lots, roads, bridges, driveways) and associated landscaping (e.g., trees, shrubs, and lawns).

Within the Permit Area, there are 197,265 acres (34.2 percent of the Permit Area) of SMUD HCP Urban land cover. The Urban land cover is very dense within the middle northern section of the Permit Area, including the cities of Sacramento, Elk Grove, and Rancho Cordova. Additional areas of Urban land cover, including rural residential areas, the city of Galt, and other communities are scattered throughout the Permit Area (HCP Figure 3-8).

Most landscaped recreation areas are planted with nonnative grasses, shrubs, and trees. Large residential lots have most of the native vegetation removed and replaced with mowed annual grassland, lawns, and widely scattered nonnative and some native tree

species; such management techniques are often intended to reduce the risk of fire. Undeveloped lots often become infested with weedy, nonnative species, especially yellow star-thistle.

### Barren/Disturbed

Barren/Disturbed land cover in the Permit Area is characterized by areas that are generally void of vegetation or disturbed regularly such that vegetative growth is sparse. For the purpose of this EIR, barren is defined as any area with less than 2 percent total cover by herbaceous plants and less than 10 percent total cover by trees or shrubs. Urban settings covered in pavement and buildings may be classified as barren as long as vegetation does not reach the percent plant cover thresholds.

Within the Permit Area, there are 17,893 acres (3.1 percent of the Permit Area) of SMUD HCP Barren/Disturbed land cover. Although Barren/Disturbed land cover occurs throughout the Permit Area, it is most common just south of US 50 and the city of Fair Oaks (HCP Figure 3-8).

Disturbed areas have been subject to previous or ongoing disturbances. Scraped or graded land, gravel mining, and waste disposal, roadsides, trails, and parking lots are included in this land cover type. Disturbed land cover is vegetated with diverse weedy plants and typically includes Johnsongrass (*Sorghum halepense*), Canadian horseweed (*Erigeron canadensis*), milk thistle (*Silybum marianum*), yellow star-thistle, and field bindweed (*Convolvulus arvensis*).

### Riverine

The Riverine land cover type in the Permit Area is characterized by perennial, intermittent, and ephemeral waterways (HCP Figure 3-9).

Within the Permit Area, there are 10,793 acres (1.87 percent of the Permit Area) of SMUD HCP Riverine land cover. The Riverine land cover type occurs throughout the Permit Area. The Permit Area is within the Sacramento River watershed, which covers approximately 27,000 square miles, with 400 miles of river from Lake Shasta to the convergence of the Delta.

Perennial rivers within the Permit Area include the Sacramento, American, Mokelumne and Cosumnes Rivers (HCP Figure 3-5). Perennial creeks and streams support flowing water year-round in normal rainfall years. Sacramento County is located near the base of the Sierra with a rolling terrain that contains several watersheds. Near the confluence of the American and Sacramento Rivers, the topography becomes flat and is characterized by meandering sloughs, wetlands, and shallow lakes. There are more than 40 named creeks, streams, and sloughs in Sacramento County. Some of the larger perennial creeks, streams, and sloughs within the Permit Area include Arcade Creek, Buffalo Creek, Deer Creek, Dry Creek, Morrison Creek, Steelhead Creek, South Fork Putah Creek, and Willow Creek (HCP Figure 3-9).

Human-made canals and ditches transport water for agricultural irrigation and urban and suburban uses. Agricultural ditches often play a key role in providing hydrologic connectivity especially in urban areas such as Sacramento County. Agriculture also often is associated with streams, canals, and ditches used for irrigation.

Emergent vegetation may grow along river banks, including duckweed (*Lemna* spp.) and mosquito fern (*Azolla* spp.), which may float on the surface. Abundant decaying matter on the river bottom promotes the growth of plankton populations that are largely absent in fast water. This land cover does not include riparian vegetation, which is included in the Valley Foothill Riparian land cover.

### Open Water/Fringe

The Open Water/Fringe land cover type within the Permit Area is characterized by perennially ponded bodies of water that are generally absent of vegetation. These waterbodies vary in size and depth and include lakes, reservoirs, ponds, and stockponds. Open water features in the Permit Area may range from less than an acre to hundreds of acres. Depths range from a few inches to hundreds of feet. Open water land cover generally has a depth greater than 3.5 feet. Perennial waterbodies typically support fish.

Within the Permit Area, there are 6,502 acres (1.1 percent of the Permit Area) of SMUD HCP Open Water/Fringe land cover. Open Water/Fringe occurs throughout the Permit Area (HCP Figure 3-9); the largest reservoir within the Permit Area is Folsom Lake, in the northeast corner of the Permit Area.

Although generally unvegetated, emergent plants (broad-leaf cattail [*Typha latifolia*]), submergent plants (pondweeds [*Potamogeton* spp.]), and floating plants (e.g., lesser duckweed [*Lemna aequinoctialis*], large mosquito fern [*Azolla filiculoides*], hairy pepperwort [*Marsilea vestita* ssp. *vestita*], water lilies [*Nymphaea* spp.], and western water-milfoil [*Myriophyllum hippuroides*]) are often present in the more shallow “fringe.”

### Other Depressional Wetland

Other Depressional Wetland land cover is a comprehensive category for all wetland types that do not meet the classifications for the Riverine; Open Water/Fringe; or Vernal Pool, Seasonal Wetland, and Swale land cover types.

Within the Permit Area, there are 9,437 acres (1.6 percent of the Permit Area) of SMUD HCP Other Depressional Wetland land cover. Other Depressional Wetland land cover is scattered throughout the Permit Area (HCP Figure 3-9).

Although usually dominated by hydrophytic (water-loving) plants such as grasses, reeds, rushes, and sedges (Mayer and Laudenslayer 1988), the vegetation within Other Depressional Wetlands land cover varies with the differing hydrologic regimes (seasonal, intermittent, and perennial inundation or saturation). Other Depressional Wetlands that are inundated perennially or nearly so to a depth of less than 3 feet are usually dominated by emergent monocots such as cattails (*Typha* spp.), common tules (*Schoenoplectus*

*acutus* var. *occidentalis*), and arrowhead (*Sagittaria* spp.). If the wetland has ponding durations that are quarterly (3 months) to semi-permanent (6 months), then species such as American water-plantain (*Alisma triviale*) and swamp smartweed (*Persicaria hydropiperoides*) may occur. If the wetland is only inundated seasonally (less than 3–4 months), then plants such as common spikerush (*Eleocharis palustris*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), toad rush (*Juncus bufonius*), willowherb (*Epilobium cleistogamum*, *E. campestre*), annual rabbit's-foot grass (*Polypogon monspeliensis*), garden bird's-foot-trefoil, curly dock (*Rumex crispus*), fiddle dock (*Rumex pulcher*), waxy manna grass (*Glyceria declinata*), needle spikerush (*Eleocharis acicularis*), perennial rye grass, spiny-fruit buttercup (*Ranunculus muricatus*), dallisgrass, and tall flat sedge are present. Depressional wetlands could contain one or more unmapped SNCs with a state rarity ranking of S1–S3 (CDFW 2020b).

Other Depressional Wetland land cover varies in size from a little less than 100 square feet to over 100 acres. Although occurring on many exposures and slopes, these wetlands are most common on level to gently rolling topography. These wetlands occur naturally along waterbodies (i.e., rivers, streams, lakes, and ponds), and as artificial impoundments behind dams, road grades, or low berms.

#### Vernal Pool, Seasonal Wetland, and Swale

The Vernal Pool, Seasonal Wetland, and Swale land cover type in the Permit Area is characterized as seasonally flooded depressions and seasonal wetlands that support a native endemic flora under a combination of specific climatic, soil, hydrologic, and topographic conditions. These conditions include a Mediterranean climate, soil types that include a restrictive subsurface layer impermeable to water infiltration on which a shallow water table is perched during the wet season, and a micro-topographic pattern of shallow depressions and swales in a level landscape.

Within the Permit Area, there are 7,784 acres (1.4 percent of the Permit Area) of SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover. The Vernal Pool, Seasonal Wetland, and Swale land cover type is located in patches throughout the Permit Area (HCP Figure 3-9). Vernal Pools, Seasonal Wetlands, and Swale land cover types could contain one or more unmapped SNCs with a state rarity ranking of S1–S3 (CDFW 2020b).

Vernal pools and seasonal wetlands occur in undulating topography and may be isolated from one another, but, more often, they are interconnected by vernal swales or ephemeral drainages in complexes that may extend for hundreds of acres. Swales are poorly defined herbaceous-vegetated drainage ways (no distinct bed and bank) occurring on less than 5 percent slopes that convey water, often between vernal pools and seasonal wetlands, for short periods during and after major rainfall events. Vernal pools are ecologically integrated with the surrounding uplands; typically the Grasses and Forbs land cover dominates the watersheds of a vernal pool or vernal pool complex.

Vernal Pool, Seasonal Wetland, and Swales are typically dominated by short-lived annual native plants that can complete their lifecycles during the inundation and drying phases that characterize the land cover. Native endemic plants typical of vernal pools include

several species of downingia (*Downingia* spp.), goldfields (*Lasthenia* spp.), popcornflower (*Plagiobothrys* spp.), clovers, bractless hedge-hyssop (*Gratiola ebracteata*), coyote thistle (*Eryngium* spp.), spikerush (*Eleocharis* spp.), rush, buttercup (*Ranunculus* spp.), woolly marbles (*Psilocarphus* spp.), willowherb, quillwort (*Isoetes* spp.), and navarretia (*Navarretia* spp.).

Nonnative species found in vernal pools include perennial rye grass, lesser quaking grass (*Briza minor*), soft chess, lesser hawkbit, hyssop loosestrife (*Lythrum hyssopifolia*), and cut-leaved geranium. Other species present within vernal pools include vernal pool Indian paintbrush (*Castilleja campestris*), yellowflower tarweed, brome fescue (*Festuca bromoides*), tricolor monkeyflower (*Mimulus tricolor*), and annual hair grass (*Deschampsia danthonioides*).

### **Special-Status Species**

Special-status species are defined as plants and animals that are legally protected under the ESA, CESA, or other regulations, and species that are considered sufficiently rare by the scientific community to qualify for such listing. Special-status species are characterized by the following categories.

- Species that are listed or proposed for listing as threatened or endangered under ESA.
- Species that are proposed or candidates for listing under ESA.
- Species listed as threatened or endangered under CESA.
- Species that are candidates for listing under CESA.
- Animals listed as California species of special concern on CDFW's Special Animals List (CDFW 2020a).
- Animals that are fully protected in California under the CFGC (Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Plants listed as rare under the CNPPA
- Plants ranked as "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1B and 2) (Calflora 2020).
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines 15380).

### **Special-Status Plants**

A total of 51 special-status plant species were identified as occurring or having potential to occur in the Permit Area. Table 3.4-2 (provided at the end of this resource section) lists the scientific name, status, geographic distribution, habitat requirements, and blooming

period for these species. The special-status plants addressed in this section include two species covered under the proposed HCP and 36 species which were not covered by the proposed HCP that have moderate or high potential to occur in the inventory area. Detailed species accounts for the two Covered Species (slender Orcutt grass and Sacramento Orcutt grass) are provided in Appendix C of the proposed HCP. Analysis of all potential plant species that were evaluated for HCP coverage is provided in Appendix B of the proposed HCP. For purposes of defining a special-status plant, species were included in Table 3.4-2 if they were listed by CNPS as CRPR List 1 and 2, which are identified as plants that are considered rare, threatened, or endangered in California, thereby meeting the definition of rare or endangered under State CEQA Guidelines Section 15380. Thirteen of the CRPR List 1 species in Table 3.4-2 are federally or state listed as rare, threatened, or endangered but are not covered by the proposed HCP. Those listed species include: Stebbins' morning-glory, fleshy owl's clover, Pine Hill ceanothus, palmate-bracted bird's-beak, lone buckwheat, Irish Hill buckwheat, El Dorado bedstraw, Boggs Lake hedge-hyssop, Mason's lilaopsis, Colusa grass, Layne's ragwort, Keck's checkermallow, and Solano grass (Table 3.4-2).

### ***Special-Status Wildlife***

A total of 51 special-status wildlife species were identified as occurring or having potential to occur in the Permit Area. Table 3.4-3 (provided at the end of this resource section) lists the scientific name, status, geographic distribution, and habitat requirements for these species, as well as the associated land cover types within the Permit Area. Table 3.4-3 also includes known occurrence data for all special-status wildlife species previously documented within the Permit Area. The special-status wildlife species addressed in this chapter include five species covered under the proposed HCP and 33 species which were not covered by the proposed HCP that have moderate or high potential to occur in the Permit Area. Detailed species accounts for the five proposed Covered Species (vernal pool fairy shrimp, vernal pool tadpole shrimp, valley elderberry longhorn beetle, California tiger salamander [CTS], and giant garter snake [GGS]) are provided in Appendix C of the proposed HCP. Analysis of all potential wildlife species that were evaluated for HCP coverage is provided in Appendix B of the proposed HCP.

Nineteen of the species in Table 3.4-3 are federally or state listed or candidates for federal or state listing as threatened or endangered but are not covered by the proposed HCP. Those listed species not included in the proposed HCP that are not expected or with low potential to occur in the Permit Area and unlikely to be affected by implementation of the proposed HCP are Conservancy fairy shrimp, California red-legged frog, bank swallow, least Bell's vireo, western snowy plover, western yellow-billed cuckoo, riparian brush rabbit, delta smelt, and longfin smelt. Those listed species or candidate species not included in the proposed HCP that have moderate to high potential to occur in the Permit Area include Crotch bumble bee (candidate), western bumble bee (candidate), monarch butterfly (candidate), bald eagle, black rail, tricolored blackbird, Central Valley spring-run and Sacramento River winter-run Chinook salmon, Central Valley steelhead, and green sturgeon.

## Critical Habitat

Under the ESA, to the extent prudent and determinable, USFWS is required to designate critical habitat for endangered and threatened species (16 USC 1533(a)(3)). Critical habitat is defined as specific geographic areas that contain the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated critical habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types.

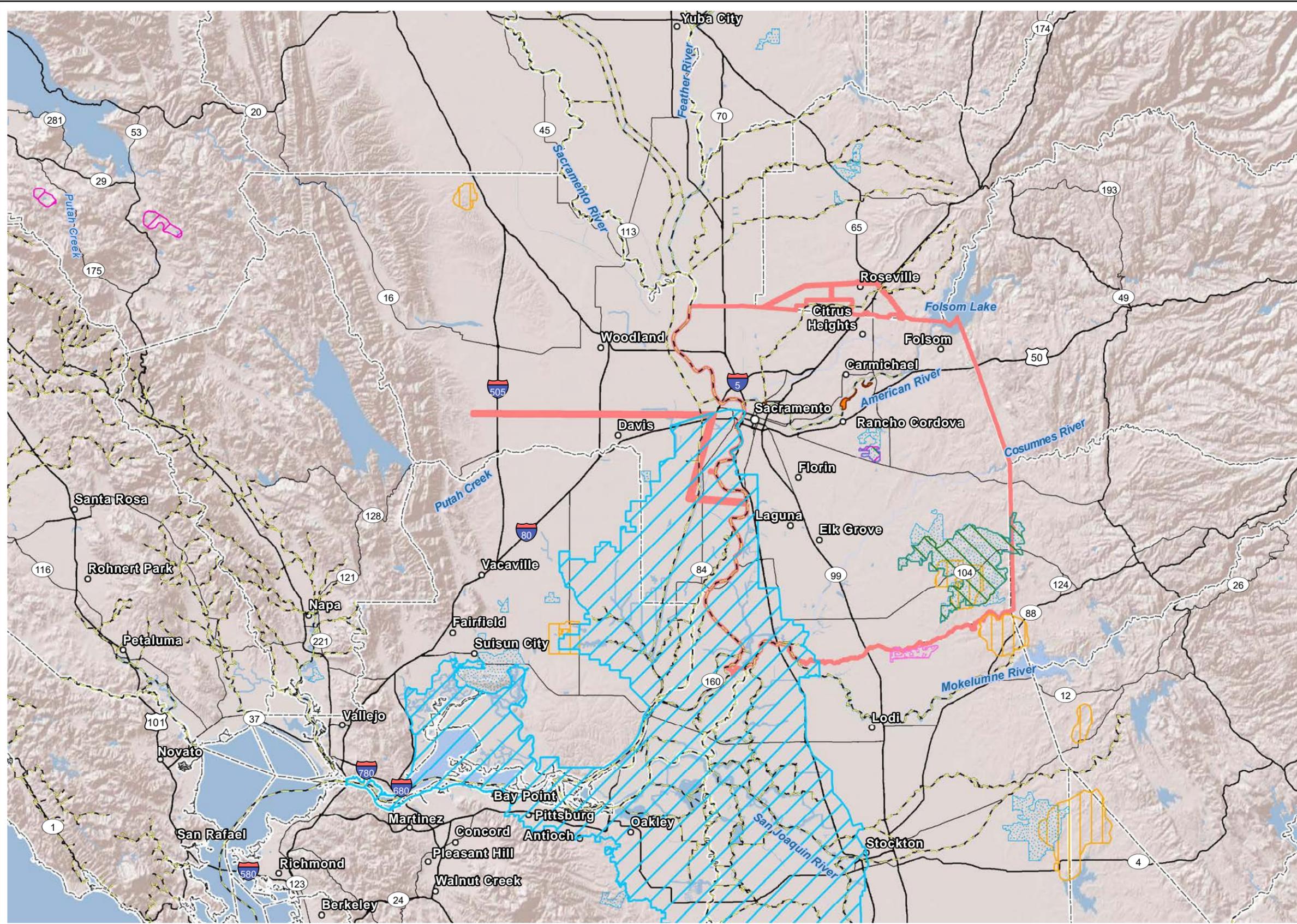
The effects on critical habitat are addressed in this section. The following federally listed species have designated critical habitat within the Permit Area (Figure 3.4-1).

- Vernal pool fairy shrimp (*Branchinecta lynchi*) (federally threatened).
- Vernal pool tadpole shrimp (*Lepidurus packardii*) (federally endangered).
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (federally threatened).
- California tiger salamander, Central California Distinct Population Segment (DPS) (hereafter referred to as CTS) (*Ambystoma californiense*) (federally and state threatened).
- Delta smelt (*Hypomesus transpacificus*) (federally threatened, state endangered)
- Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) (federally and state threatened)
- Sacramento winter-run Chinook salmon (*Oncorhynchus tshawytscha*) (federally and state endangered)
- Green sturgeon (Southern DPS) (*Acipenser medirostris*) (federally threatened)
- Slender Orcutt grass (*Orcuttia tenuis*) (federally threatened, state endangered, CRPR 1B.1).
- Sacramento Orcutt grass (*Orcuttia viscida*) (federally and state endangered, CRPR 1B.1).

## Wildlife Corridors

Wildlife corridors are defined as areas that connect suitable habitat for species movement or dispersal between multiple habitats in a region otherwise fragmented by developed or rugged terrain, changes in vegetation, or human disturbance. These corridors provide (but are not required to contain) sufficient habitat for all life history requirements of a species, especially habitat for reproduction (Rosenberg et al. 1995, 1997). Wildlife

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**Legend**

- County Boundary
- Major Roads
- Railroads
- Major Water Features
- Populated Areas

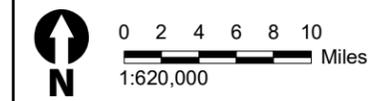
**Permit Area**

- SMUD Permit Area

**Critical Habitat**

- California tiger salamander
- Delta smelt
- Fleishy owl's-clover
- Sacramento Orcutt grass
- Slender Orcutt grass
- Valley elderberry longhorn beetle
- Vernal pool fairy and tadpole shrimp
- Salmonids

Notes: The portion of the Permit Area in Yolo County represents SMUD's natural gas pipeline buffered by 1,000 feet, but does not show the actual pipeline alignment. The actual location of the gas pipeline could not be depicted for security reasons.



Source: SMUD (2017)



**Figure 3.4-1**  
**Critical Habitat Designated within the Permit Area**



corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from areas with high population density; and facilitate the gene flow between populations. Wildlife corridors are considered sensitive areas by resource and conservation agencies. Terrestrial wildlife species tend to travel along natural water features or stretches of land that simultaneously provide a foraging source and protective cover from predators.

Open areas of natural lands, riparian, and stream corridors throughout the Permit Area provide habitat connectivity and are likely important for wildlife movement. Due to the overall extent of gas and electric facilities in the Permit Area, a variety of natural terrestrial habitats and water features, such as stream channels and rivers, are crossed by both overhead facilities (e.g., electric transmission or distribution lines) and/or underground facilities (e.g., gas pipelines, power lines). These facilities do not create an impassable barrier to terrestrial or aquatic species migration and are generally concentrated in urban/developed portions of the Permit Area.

- Riparian corridors throughout the Permit Area represent potential travel corridors for valley elderberry longhorn beetle where populations exist in close proximity to these habitats. SMUD facilities are present in and between these areas.
- The Permit Area is also located within the Pacific Flyway, which is one of the six major north-to-south migration routes for waterfowl in the United States, Mexico, and Canada. The Pacific Flyway links breeding grounds in the north to more southerly wintering areas and is therefore utilized by bird species during migration. The multiple waterbodies within the area provide rest and forage areas for many birds during their migratory seasons.
- The Permit Area is known to support migrating and breeding monarch butterflies (*Danaus plexippus*). Historical records suggest that fall-migrating western monarch butterflies often follow riparian and stream corridors, presumably because these areas provide a reliable water and food source, supporting nectar-producing flowers (Western Association of Fish and Wildlife Agencies 2019). After overwintering along the California coast, adult monarch butterflies begin their spring migration east and northward through the Permit Area, where some will breed, depositing eggs on available milkweed plants (larval host plant). Milkweed is the only plant monarch caterpillars can eat to grow and develop into adults. In 2017, the Xerces Society initiated a web-based public reporting system to track monarch butterfly observations, breeding, and presence of milkweed (Western Monarch Milkweed Mapper 2020). Numerous observations of egg, pupa, larval, and adult monarch butterflies, as well as areas containing milkweed plants, have been documented by the web mapper throughout the Permit Area since 2017.

### **Wetlands and Jurisdictional Waters**

As described in Section 3.10, *Hydrology and Water Quality*, the Permit Area is located predominantly within the Sacramento River Basin, which drains to the eastern slopes of the Coast Range, Mount Shasta, the western slopes of the southernmost region of the

Cascades, and to the northern portion of the Sierra Nevada. Wetlands and non-wetland waters of the United States and State within the Permit Area include rivers, creeks, agricultural canals, vernal pools, seasonal wetlands, swales, and other depressional wetlands which may be in proximity to existing and proposed facilities or be intersected (i.e., crossed, either overhead or underground) by such facilities at one or more locations. Most of these waterbodies are presumed to be under state and/or federal jurisdiction and would be subject to regulation by the USACE, NMFS, RWQCB, and/or CDFW.

Based on SMUD's geographic information system (GIS) data, there are approximately 1,150 miles of intermittent streams and approximately 122.4 miles of perennial streams in the Permit Area. The major rivers in the Permit Area include the Sacramento, American, Mokelumne, and Cosumnes Rivers, which are generally perennial (small portions of the Cosumnes River may be dry in low rainfall years). Most creeks (tributaries to the aforementioned rivers) in the Permit Area are intermittent. However, Dry Creek in the northern part of Sacramento County, Arcade Creek, Willow Creek, Morrison Creek, Buffalo Creek, and portions of Deer Creek flow throughout the year (U.S. Department of Agriculture Soil Conservation Service 1993). Other creeks may contain water for the majority of the year but are supplemented by urban runoff and agricultural and residential irrigation.

### 3.4.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

This section describes the methods for analyzing the impacts of implementing the proposed Project.

For preparation of this section, the information used to conduct the environmental consequences analysis came primarily from information available in the proposed HCP and associated GIS data but also included information obtained from available databases (e.g., the CNDDDB), other mapping sources, and available reports and literature.

Methods used to evaluate permanent and temporary direct effects and indirect effects on biological resources in this section are largely similar to those used in the proposed HCP effects analysis (HCP Chapter 4). The proposed HCP identifies impacts on Covered Species based on stressors or habitat disturbances that fall into four categories: direct injury or mortality, permanent habitat loss, temporary habitat disturbance, and disturbance of habitat in the vicinity of Covered Activities (defined in HCP Section 4.2.1.2).

Impacts on proposed Covered Species were estimated and quantified based on the projected disturbance or loss of habitat modeled for each proposed Covered Species in the Permit Area. Effects on sensitive biological resources not covered in the proposed HCP were similarly evaluated, relying on the same land cover mapping.

In addition to the seven proposed Covered Species (i.e., valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, CTS, GGS, Sacramento Orcutt grass, and slender Orcutt grass), this EIR evaluates noncovered special-status

species with moderate or high potential to occur in the Permit Area. These include 37 of 51 special-status plants listed in Table 3.4-2 and 37 special-status wildlife species listed in Table 3.4-3, as well as migratory birds and raptors. The evaluation of impacts on noncovered species relied on a combination of the available natural community and land cover mapping as presented in HCP Chapter 3, as well as species occurrence information.

As part of implementation of the Conservation Strategy, SMUD would continue to conduct the environmental review, planning, and screening process to identify areas that have potential to support sensitive biological resources. Using a spatial mapping resource called the Green Zone (defined in HCP Section 5.1.1 and depicted on HCP Figure 5-1) integrated with Covered Species modeling data, SMUD would identify and review a project or activity that has the potential to affect sensitive biological resources. Activities within the Green Zone would be subject to implementation of general and species-specific avoidance and minimization measures (AMM) listed in Table 2-11 in Chapter 2, *Project Description*, to avoid and minimize effects on sensitive biological resources, including Covered Species and non-covered species.

As explained in Chapter 2, the proposed Project considered in this EIR consists of:

- Issuance of take authorizations by CDFW and USFWS; and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with ESA, and CDFW's issuance of the state take authorizations would comply with CESA. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Impacts associated with SMUD Bank Oak Tree Planting (C1) and SMUD Bank Management (C2) were analyzed in the 2010 IS/MND document for the Bank (SMUD 2010; SCH #2008022151), and will not be discussed in this document.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-9 for details. However, since the approval of take permits addresses the effects on biological resources of both new and baseline activities, impacts from activities that are a part of baseline conditions are described in this section but represent environmental baseline conditions that would not change following approval

of the proposed Project. In the impact analysis, these activities are identified as *Covered Activities—Indirect Actions that are part of Baseline Conditions*.

Additional mitigation measures may also be identified as a part of project-level CEQA review or as conditions of the proposed Project permit (e.g., a Section 404 permit or a Streambed Alteration Agreement).

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, the proposed Project would result in a potentially significant impact related to biological resources if it would do the following.

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, USFWS, or NMFS.
- Have a substantial adverse effect on any riparian habitat or other SNC identified in local or regional plans, policies, or regulations, or by the CDFW, USFWS, or NMFS.
- Have a substantial adverse effect on state or federally protected wetlands and waters (including, but not limited to, marsh, vernal pool, etc.) through direct removal, filling, hydrological interruption, or other means.
- 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.
- 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 HCP, NCCP, or other approved local, regional, or state HCP.

### **Impact Analysis**

This section describes impacts on biological resources associated with Direct and Indirect Actions that could directly or indirectly result in habitat modification or loss of individuals. For purposes of this analysis, direct impacts are defined as the direct or immediate impact of an action on a species or habitat. Indirect impacts are caused by or result from the action, are later in time, and are reasonably certain to occur. Indirect impacts may occur outside the area directly affected by the action.

This section is organized using the following structure to describe impacts on biological resources:

- Description of Impacts from Covered Activities and the Conservation Strategy

- Direct Impacts
- Indirect Impacts
- Critical Habitat Impacts
- Impacts from Direct Actions
  - Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank
- Impacts from Covered Activities that are Part of Baseline Conditions
  - Operation and Maintenance
  - Vegetation Management
- Impacts from Covered Activities that are Not Part of Baseline Conditions
  - Operation and Maintenance for New Facilities
  - New Construction
  - Vegetation Management for New Facilities
  - Miscellaneous Covered Activities
- Conclusion
  - Direct Actions
    - Mitigation Measures
  - Indirect Actions

In this section, significance conclusions are identified for the impacts of Direct Actions because the proposed Project analyzed in this EIR includes approval of implementation of those actions. In addition, significance conclusions are identified for the impacts of Indirect Actions to all Covered Species. The EIR was able to determine significance conclusions for Covered Species because of the reliance on the estimated and quantified effects of the Indirect Actions on the Covered Species included in the proposed HCP. Significance conclusions are not identified for the impacts of Indirect Actions to non-covered species. Table 3.4-4 summarizes disturbances of each land cover type on an annual basis and over the 30-year Permit Term. An estimated total of 7,286.1 acres of land cover will be temporarily disturbed by Covered Activities over the Permit Term, most of which (90 percent) will consist of the SMUD HCP Urban land cover type. An estimated 114.4 acres of land cover will be permanently removed by Covered Activities over the

Permit Term, most of which will consist of the SMUD HCP Grasses and Forbs (53 percent) and Urban (32 percent) land cover types.

**Table 3.4-4 Summary of Estimated Land Cover Loss or Disturbance**

SMUD HCP Land Cover Types	Annual Loss or Disturbance		Total Loss or Disturbance over 30-Year Permit Term	
	Temporary (acres)	Permanent (acres)	Temporary (acres)	Permanent (acres)
<b>Woodland Dominated</b>				
Valley Foothill Riparian*	1.76	0.003	52.77	0.09
Blue Oak Foothill Pine	0.11	0.001	3.41	0.02
Blue Oak Woodland	1.56	0.01	46.78	0.23
Valley Oak Woodland*	0.21	0.001	6.24	0.03
Mine Tailing Riparian Woodland	0.05	0.0001	1.38	0.004
Eucalyptus Woodland	0.02	0.0001	0.65	0.003
<b>Herbaceous</b>				
Pasture	1.98	0.01	59.51	0.17
Grasses and Forbs*	12.05	2.00	361.37	60.04
<b>Aquatic</b>				
Riverine	0.15	0.002	4.62	0.05
Open Water/Fringe	0.06	0.0003	1.83	0.01
Vernal Pools, Seasonal Wetlands, and Swale*	0.06	0.47	1.82	14.05
Other Depressional Wetland*	0.20	0.001	6.09	0.02
<b>Agricultural</b>				
Orchard/Vineyard	1.52	0.03	45.57	0.83
Cropland	3.77	0.10	113.13	3.09
Rice	0.30	0.001	8.85	0.02
<b>Developed</b>				
Urban	218.00	1.19	6,540.11	35.65
Barren/Disturbed	1.06	0.003	31.94	0.10
<b>Total</b>	<b>242.86</b>	<b>3.82</b>	<b>7,286.07</b>	<b>114.41</b>

\* Indicates a land cover type that could contain one or more sensitive natural community (S1–S3)

***Impact 3.4-1: Temporary and permanent impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat (Covered Species)***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in permanent and temporary impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat and designated critical habitat. Modification of modeled habitat would be considered an adverse impact on slender Orcutt grass and Sacramento Orcutt grass. Implementation of the Conservation Strategy would ensure that this impact is **less than significant**.

The Permit Area supports a total of 3,273 acres of slender Orcutt grass and Sacramento Orcutt grass modeled habitat (HCP Table 4-8) consisting of Vernal Pool, Seasonal Wetland, and Swale land cover types within designated USFWS Vernal Pool Core Recovery Areas, including Phoenix Field and Park, Mather, and Cosumnes/Rancho Seco (HCP Section 3.6.1). Because the estimation of modeled habitat includes all vernal pools, seasonal wetlands, and wetland swales with the Recovery Areas, it is likely an overestimate of suitable habitat because not all of these aquatic features would support suitable habitat conditions.

### ***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions could result in direct impacts associated with temporary disturbance or permanent loss of slender Orcutt grass and Sacramento Orcutt grass modeled habitat. Covered Activities may also result in indirect impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat in the vicinity of Covered Activity work areas that results in habitat alteration or degradation later in time. Additionally, Covered Activities and Conservation Strategy actions would affect designated critical habitat for the species. Each of these impacts is described below.

#### **Direct Impacts**

Covered Activities that result in temporary and permanent vegetation removal or ground disturbance, vehicle and equipment movement, hazardous materials exposure, and placement or stockpiling of staging materials in or near slender Orcutt grass and Sacramento Orcutt grass modeled habitat could directly affect slender Orcutt grass and Sacramento Orcutt grass through temporary disturbance or permanent loss of modeled habitat.

Implementation of the Conservation Strategy that involves introduction of slender Orcutt grass and Sacramento Orcutt grass seeds into vernal pools on the SMUD Bank would require seed collection from a potential onsite and offsite location, which could result in the mortality of individual seeds (embryos) and would be considered take under the ESA and CESA. Collection (capture) and storage of slender Orcutt grass seeds has the potential to affect the viability of the seeds and reduce germination success.

Permanent ground disturbance and long-term disturbances that result in habitat modification within modeled habitat could result in permanent loss of potential habitat for slender Orcutt grass and Sacramento Orcutt grass. Covered Activities could result in permanent habitat loss or disturbance of an average of less than 0.1 acre of modeled habitat for these species in the Permit Area annually and no more than 4.3 acres over 30 years (HCP Table 4-8). Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis.

Temporary habitat disturbance is attributed to Covered Activities within slender Orcutt grass and Sacramento Orcutt grass modeled habitat that involve excavation, grading, stockpiling of soil, or staging of equipment that alters existing vegetation, soils, topography, and hydrology for a period no longer than 12 months. Covered Activities

could temporarily disturb an average of less than 0.1 acre of modeled habitat for these species annually and no more than 0.1 acre over 30 years (HCP Table 4-8). The temporary loss of small amounts of slender Orcutt grass and Sacramento Orcutt grass modeled habitat across a large area is not expected to fragment habitat or inhibit seed dispersal and would not be considered an adverse impact on modeled habitat. Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with the Conservation Strategy, including the AMMs summarized below and presented in Table 2-11 to avoid and minimize direct permanent and temporary impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM6 (Implement standard erosion and sediment control best management practices [BMPs] to prevent construction site runoff)
- G-AMM7 (Avoid refueling or equipment maintenance activities within 250 feet of vernal pools, seasonal wetlands, and swales)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)
- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)
- G-AMM16 (Avoid placing chipped plant material in vernal pools, seasonal wetlands, or swales)
- G-AMM18 (Stop work and contact SMUD if an HCP-covered or ESA- and CESA-listed species encountered within 100 feet of work)
- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)
- VP-AMM1 (Avoid driving through vernal pools, seasonal wetlands and swales)
- VP-AMM2 (Minimize vehicle impacts on vernal pools, seasonal wetlands, and swales by evaluating moisture content)
- VP-AMM3 (Avoid trenching in vernal pools, seasonal wetlands, and swales)
- VP-AMM4 (Avoid occupied Orcutt grass habitat)

- VP-AMM5 (Stockpile upper 4 inches of soil when temporary fill is required within in vernal pools, seasonal wetlands, or swales and replace when restored)
- VP-AMM6 (Restrict covered activities within 250 feet of vernal pools, seasonal wetlands, and swales to the dry season)
- VP-AMM7 (Retain a biologist to monitor construction within vernal pools, seasonal wetlands, and swales)

These measures restrict the types of activities that are conducted within and near modeled habitat to prevent inadvertent impacts on slender Orcutt grass and Sacramento Orcutt grass. Specifically, to prevent the loss of individual plants, VP-AMM4 will ensure that any known populations of slender Orcutt grass or Sacramento Orcutt grass are avoided for applicable Covered Activities. Based on expert knowledge of the existing populations and knowledge of the limited modeled habitat within the Permit Area and specific habitat requirements, it is presumed that locations of known populations represent the extent of current populations and that direct impacts on these populations will be avoided. If a new population is discovered during HCP implementation, then VP-AMM4 will be implemented at that location to ensure avoidance of the population.

#### Indirect Impacts

Covered Activities could result in indirect impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat in areas near Covered Activity work areas. These activities could result in habitat disturbance or degradation that occurs later in time but is reasonably certain to occur. Indirect impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat could include: increased temporary runoff that leads to increased sedimentation; permanent changes in hydrology or stormwater runoff that alters the hydroperiod; spread of invasive or nonnative plants that replace native species and alters the physical or chemical characteristic of aquatic habitat; increased human activities that result in long-term disturbances, hazardous materials exposure, and placement of materials (e.g., debris, sand) that could be carried into nearby habitats.

Water quality within modeled habitat could be altered by sediment transport into these habitats during ground-disturbing activities such that plants die or have reduced survivorship or reproductive output. Also, chemicals inadvertently released (e.g., fuel, lubricants, degreasers) during construction and subsequently deposited in modeled habitat near or adjacent to work areas could also affect water quality and result in mortality or reduced reproductive success. Covered Activities could also indirectly affect slender Orcutt grass and Sacramento Orcutt grass by altering the hydrology that supports vernal pool, wetland, and swale habitat (e.g., altering surface runoff patterns, breaking through hardpan or claypan restrictive layers), increasing human intrusion, introducing invasive species, and causing pollution. Sidecast soil from excavation, spilled materials, and other substances (e.g., oil leaked from a transformer) could be carried by ditches or swales to nearby sensitive areas, causing physical or physiological damage to the plants there. Discharge of water from hydrostatic testing could also flow into modeled habitat and alter its hydrology, cause erosion or sedimentation, or introduce contaminants. Hydrology

could also be altered or habitat contaminated with bentonite or polymer material as a result of horizontal directional drilling (HDD) if drilling fluids are unintentionally returned to the surface, and these fluids enter the modeled habitat.

Covered Activities are anticipated to indirectly disturb an average of 0.1 acre of slender Orcutt grass and Sacramento Orcutt grass modeled habitat within the Permit Area annually and no more than 2.7 acres over 30 years (HCP Table 4-8).

Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with the AMMs summarized below in parentheses and contained in Table 2-11, to avoid and minimize indirect impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat that could result from hydrologic alteration, erosion, sedimentation, and contamination.

- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM7 (Avoid refueling or equipment maintenance activities within 250 feet of vernal pools, seasonal wetlands, and swales)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM9 (Prevent adverse effects from HDD by implementing a frac-out contingency plan and properly containing all drilling fluids)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)
- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)
- G-AMM16 (Avoid placing chipped plant material in vernal pools, seasonal wetlands, or swales)
- G-AMM18 (Stop work and contact SMUD if an HCP-covered or ESA- and CESA-listed species encountered within 100 feet of work)
- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)
- VP-AMM1 (Avoid driving through vernal pools, seasonal wetlands and swales)
- VP-AMM2 (Minimize vehicle impacts on vernal pools, seasonal wetlands, and swales by evaluating moisture content)
- VP-AMM3 (Avoid trenching in vernal pools, seasonal wetlands, and swales)

- VP-AMM4 (Avoid occupied Orcutt grass habitat)
- VP-AMM5 (Stockpile upper 4 inches of soil when temporary fill is required within in vernal pools, seasonal wetlands, or swales and replace when restored)
- VP-AMM6 (Restrict covered activities within 250 feet of vernal pools, seasonal wetlands, and swales to the dry season)
- VP-AMM7 (Retain a biologist to monitor construction within vernal pools, seasonal wetlands, and swales)

### Critical Habitat Impacts

Critical habitat was designated for slender Orcutt grass and Sacramento Orcutt grass in 2003 and revised in 2006 (USFWS 2006). There are 1,161 acres of slender Orcutt grass critical habitat (49 acres of which is modeled habitat) and 33,273 acres (1,475 acres of which is modeled habitat) of Sacramento Orcutt grass critical habitat in the Permit Area (Figure 3.4-1).

Covered Activities would permanently affect an estimated 0.360 acre and temporarily affect an estimated 0.004 acre of modeled habitat within slender Orcutt grass critical habitat Unit 6 over the Permit Term. This represents less than 0.1 percent of Vernal Pool, Seasonal Wetland, and Swale land cover type in designated critical habitat units in the Permit Area.

Covered Activities could permanently affect an estimated 2.88 acres and temporarily affect an estimated 0.011 acre of modeled habitat within Sacramento Orcutt grass critical habitat Units 2 and 3 over the Permit Term. This represents less than 0.1 percent of Vernal Pool, Seasonal Wetland, and Swale land cover type in designated critical habitat units in the Permit Area.

### ***Impacts from Direct Actions***

Issuance of take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action could affect slender Orcutt grass and Sacramento Orcutt grass modeled habitat and could result in the potential mortality of individual slender Orcutt grass or Sacramento Orcutt grass seeds during collection (capture) for purposes of inoculating unoccupied habitats at the SMUD bank. A quantitative analysis of impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat associated with all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with this Direct Action is provided below.

Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank

As part of the Conservation Strategy, SMUD would offset effects on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introducing slender Orcutt grass on the SMUD Bank. SMUD would develop a Sacramento Orcutt grass population enhancement and slender Orcutt grass introduction plan for CDFW, USFWS, and SMUD Bank Interagency Review Team (IRT) approval by Year Five of the implementation of the proposed HCP. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring, after which surveys would be conducted every 5 years to monitor the long-term progression and would be conducted concurrently with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management that could result in temporary disturbance of vernal pools that are occupied by Sacramento Orcutt grass.

Introduction of slender Orcutt grass and Sacramento Orcutt grass seed on the SMUD Bank would require the collection of seeds from a potential onsite and offsite locations. This activity would result in a small reduction of the seed bank at the collection site; however, the impact would be negligible because seed collection would be limited to one season at any one aquatic feature and is not expected to affect the local population of slender Orcutt grass and Sacramento Orcutt grass at the collection site. Collection and storage of Orcutt grass seeds prior to inoculation on the SMUD Bank could reduce the viability of the seeds collected and potential loss of germination success.

Although enhancement and introduction activities could alter slender Orcutt grass and Sacramento Orcutt grass modeled habitat on the SMUD Bank and result in the potential loss of viable slender Orcutt grass seeds, these activities would result in a net benefit to the species by expanding the regional population and furthering the conservation of the species; therefore, would not result in adverse impacts. Monitoring at SMUD Bank as part of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass in order to determine the success of enhancement and introduction activities. These monitoring activities would consist of passive surveys and would not result in physical disturbance of slender Orcutt grass and Sacramento Orcutt grass modeled habitat on the SMUD Bank. Therefore, monitoring activities at the SMUD Bank associated with the Direct Actions would not have adverse impacts on existing populations of Sacramento Orcutt grass or future populations of slender Orcutt grass on the SMUD Bank. Monitoring activities would have a beneficial impact on both Sacramento Orcutt grass and slender Orcutt grass by tracking population status and identifying the need for adaptive management strategies to benefit the species.

***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with operation and maintenance (O&M) for existing facilities and vegetation management within existing rights-of-way, conservation and enhancement activities, and miscellaneous Covered Activities. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. They are specifically identified on Table 2-9 and in Sections 2.3.3 and 2.3.4. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on slender Orcutt grass and Sacramento Orcutt grass associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat associated with all Covered Activities is described above in this impact discussion, under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

**Operation and Maintenance**

O&M activities for existing facilities would result in various levels of ground disturbance. O&M activities requiring ground disturbance that may directly or indirectly affect slender Orcutt grass and Sacramento Orcutt grass modeled habitat include wood pole treatment, repair, and replacement (E6a, E6c, E8), direct-buried cable repair and replacement (E9c, E9e), steel lattice tower repair or replacement (E10b, E10c, E10d), telecommunication towers and overhead fiber-optic cable replacement (T3), and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct and indirect impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat, including permanent and temporary disturbance of suitable habitat. Known populations of slender Orcutt grass and Sacramento Orcutt grass would be avoided. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts.

**Vegetation Management**

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include the removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility and pipeline easements, which minimizes habitat impacts. Most of these activities do not involve ground disturbance and are not within slender Orcutt grass and Sacramento Orcutt grass modeled habitat. Therefore, vegetation management activities are not expected to

temporarily disturb or permanently remove slender Orcutt grass and Sacramento Orcutt grass modeled habitat.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. They are specifically identified on Table 2-9 and in Sections 2.3.3 and 2.3.4. The Indirect Actions that have a potential to affect slender Orcutt grass and Sacramento Orcutt grass modeled habitat include O&M of new facilities, vegetation management for new facilities, new construction, and miscellaneous activities. A quantitative analysis of impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat, including Indirect Actions, is estimated and described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below.

The discussion below discloses the types of impacts that may occur and the types of measures that may reduce potentially significant effects of these Indirect Actions, which would be refined and further explained as part of future CEQA review.

#### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance. O&M activities for new facilities requiring ground disturbance that may directly affect slender Orcutt grass and Sacramento Orcutt grass modeled habitat include wood pole treatment, repair, and replacement (E6a, E6c, E8), and telecommunication towers and overhead fiber-optic cable replacement (T3). Future O&M activities in the Permit Area have a low potential to result in direct and indirect impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat, including temporary disturbance and permanent loss of habitat because new facilities would be sited to avoid modeled habitat and known populations of Orcutt grasses. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that could result in ground disturbance within slender Orcutt grass and Sacramento Orcutt grass modeled habitat. Activities such as construction of new and relocated overhead utility lines (E13), trenching and directional drilling to install new underground utility lines (E14a, E14b), construction of new substations (E15), construction of new valve stations and a pressure-limiting station (G9), construction of new telecommunications towers (T2), and installation of new fiber-optic cable (T3) have the potential to result in the temporary disturbance and permanent loss of modeled habitat. These activities would likely involve ground disturbance outside of

existing easements and existing facility footprints and would have the potential to directly or indirectly modify slender Orcutt grass and Sacramento Orcutt grass modeled habitat. Where possible, new facilities will be sited and methods employed to avoid slender Orcutt grass and Sacramento Orcutt grass modeled habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### Vegetation Management for New Facilities

Vegetation management activities for new facilities would include future tree and vegetation removal, trimming, and pruning around newly constructed facilities (V2, V4, V6, V7). In addition, proposed HCP implementation would include trimming, transplanting, and removal of elderberry shrubs (V5a, V5b, V5c). Most new facilities will be sited to avoid slender Orcutt grass and Sacramento Orcutt grass modeled habitat. The only vegetation management activities that involve ground disturbance are elderberry shrub removal and transplant, which are not expected to occur within slender Orcutt grass and Sacramento Orcutt grass modeled habitat. Therefore, vegetation management activities for new facilities are not expected to temporarily disturb or permanently remove slender Orcutt grass and Sacramento Orcutt grass modeled habitat.

#### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the Cosumnes Power Plant (CPP) water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, construction of a new pipeline valve, and construction of a temporary access road from Clay East Road to the work area. Excavation and grading associated with the replacement of portions of the existing CPP underground water pipeline that occur in or near slender Orcutt grass and Sacramento Orcutt grass modeled habitat will be conducted in a manner to avoid direct impacts, including temporary disturbance and permanent habitat loss. Ground disturbance in the vicinity of slender Orcutt grass and Sacramento Orcutt grass modeled habitat could result in indirect impacts on suitable habitat downslope from the activity. A more detailed description of the types of indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy* for Sacramento Orcutt grass and slender Orcutt grass.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Action involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction, including monitoring at the SMUD Bank, have the potential to result in direct

impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat and viable Orcutt grass seeds associated with implementing the enhancement and introduction plan. Temporary disturbance of modeled habitat may occur during invasive plant removal and introduction of Sacramento Orcutt grass and slender Orcutt grass seed. The mortality of individual Slender Orcutt grass and Sacramento Orcutt grass seeds (embryo) may occur during collection and storage of seeds proposed for introduction into suitable modeled habitat on the SMUD Bank. The loss of viable grass seeds during collection and storage may result in the reduction of germination success at the inoculation site. The collection (capture) and potential mortality of individual slender Orcutt grass and Sacramento Orcutt grass seeds would be considered a take under the ESA and CESA.

While impacts to modeled habitat and individuals may occur during enhancement and introduction activities, these Direct Actions are intended to improve habitat conditions and encourage growth of slender and Sacramento Orcutt grasses. As a result, Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at the SMUD Bank would further the conservation of the species by increasing the population of Sacramento Orcutt grass and introducing a new population of slender Orcutt grass on the SMUD Bank and provide a net benefit to the species.

Monitoring activities associated with implementing the enhancement and introduction plan would include passive surveys and are not expected to affect slender Orcutt grass or Sacramento Orcutt grass. Implementation of the Conservation Strategy (consistent with applicable mitigation measures contained in the SMUD Bank IS/MND) would avoid impacts on known and future populations of slender Orcutt grass and Sacramento Orcutt grass at the SMUD Bank and continue to manage the SMUD Bank to support suitable habitat for slender Orcutt grass and develop and implement an enhancement and introduction plan with the SMUD Bank IRT, CDFW, and USFWS approval to improve conditions for Sacramento Orcutt grass at the SMUD Bank. Impacts from Direct Actions would be **less than significant**.

### Mitigation Measures

Impacts associated with the potential take of Slender Orcutt grass and Sacramento Orcutt grass seeds would be mitigated through implementation of the Direct Actions because habitat enhancement and seed introduction activities are expected to expand the population of Sacramento Orcutt grass and introduce a new population of slender Orcutt grass on the SMUD Bank, which would contribute to the conservation of the species. No additional mitigation is required.

### Indirect Actions

Implementation of Indirect Actions could also result in direct or indirect adverse impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat and designated critical habitat. Implementation of the AMMs summarized above in *Description of Impacts from Covered Activities and the Conservation Strategy* and contained in Table 2-11 would avoid and minimize impacts from Indirect Actions on slender Orcutt grass and Sacramento Orcutt grass. Implementation of the Conservation Strategy for permanent,

temporary, and indirect impacts as described below would offset adverse impacts from Indirect Actions on slender Orcutt grass and Sacramento Orcutt grass modeled habitat and designated critical habitat.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 and VP-AMM1 through VP-AMM7 (described in Table 2-11) would be implemented during ground disturbing Covered Activities to avoid and minimize impacts on slender Orcutt grass and Sacramento Orcutt grass and their modeled habitat. Specifically, VP-AMM4 will ensure that any known populations of slender Orcutt grass or Sacramento Orcutt grass are avoided for certain Covered Activities. It is presumed that locations of known populations represent the extent of current populations and that direct impacts on these populations will be avoided.

The Conservation Strategy would offset permanent, temporary, and indirect impacts on slender Orcutt grass and Sacramento Orcutt grass modeled habitat throughout the Permit Area through enhancement of the Sacramento Orcutt grass population and introducing slender Orcutt grass at the SMUD Bank. The Sacramento Orcutt grass enhancement and slender Orcutt grass introduction activities would mitigate for the permanent loss of 4.3 acres, temporary disturbance of 0.1 acre, and indirect impacts on 2.7 acres of modeled habitat throughout the Permit Area and over the 30-year Permit Term.

SMUD would develop a Sacramento Orcutt grass population enhancement and slender Orcutt grass introduction plan for CDFW, USFWS, and SMUD Bank IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring, after which surveys would be conducted every 5 years to monitor the long-term progression and would be conducted concurrently with the SMUD Bank Long Term Monitoring Plan. Implementation of the AMMs would be effective in reducing impacts from Indirect Actions to a **less-than-significant** level because they restrict the type, extent, and timing of ground-disturbing activities in or near modeled habitat for slender Orcutt grass and Sacramento Orcutt grass to minimize direct and indirect impacts; require the presence a biological monitor to be present when working in modeled habitat to ensure that these measures are properly implemented during construction; and would offset permanent, temporary, and indirect impacts on modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender and Sacramento Orcutt grasses at the SMUD Bank.

#### Mitigation Measures

No mitigation is required.

***Impact 3.4-2: Temporary and permanent impacts on noncovered special-status plants***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could permanently or temporarily disturb noncovered special-status plants and their habitat. Implementation of the Conservation Strategy would ensure that this impact is **less than significant**.

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The Permit Area supports an untold amount of potential habitat for noncovered special-status plants. Given the geographic extent of the Permit Area, focused special-status plant surveys were not performed at locations where impacts on special-status plants could result from Covered Activities. Instead, available CNDDDB and CNPS *Inventory of Rare and Endangered Plants* (CDFW 2020a; CNPS 2020) data were utilized in conjunction with GIS and aerial photography to develop a list of special-status plants that may be present in the Permit Area.

The assembled list of 51 special-status plants includes those plants known or assumed to be present in the Permit Area (Table 3.4-2). Of these species, 43 are CRPR List 1 species and 8 are CRPR List 2 species. Fifteen of the CRPR List 1 species are also federally or state listed as rare, threatened, or endangered, two of which are Covered Species and the remainder are not covered by the proposed HCP. Using desktop analysis, 27 noncovered special-status plant species were determined to have a *High* likelihood of occurrence in the Permit Area and 10 species were determined to have a *Moderate* likelihood of occurrence in the Permit Area. The remaining 12 noncovered special-status plant species were determined to have a *Low* likelihood of occurrence in the Permit Area due to range restrictions or lack of suitable habitat in the Permit Area.

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions could result in direct mortality of noncovered special-status plants and permanent or temporary disturbance of suitable habitat. Covered Activities may also result in indirect impacts on noncovered special-status plants in the vicinity of Covered Activity work areas that results in habitat alteration or degradation later in time. Each of these impacts is described below.

**Direct Impacts**

Covered Activities that result in temporary and permanent vegetation removal or ground disturbance, vehicle and equipment movement, hazardous materials exposure, and placement or stockpiling of staging materials in or near occupied habitat could directly affect noncovered special-status plants. The movement or parking of vehicles and/or the placement of equipment and staging materials may damage or crush mature plants or seedlings. Ground disturbance such as blading and excavation can destroy or damage mature individual plants and destroy or bury seeds to the extent where they cannot germinate successfully.

Permanent ground disturbance and long-term disturbances (i.e., disturbance lasting more than 12 months) that result in habitat modification within suitable habitat could result in permanent habitat loss for noncovered special-status plants. Covered Activities could result in permanent loss of an unknown number of individual noncovered special-status plants over 30 years. Within the Permit Area, up to 2.5 acres of potential habitat for noncovered special-status plants could be lost annually and no more than 74.71 acres over 30 years, after removing developed and agricultural cover types from cumulative totals (Table 3.4-4). Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis.

Temporary habitat disturbance is attributed to Covered Activities within suitable habitat for noncovered special-status plants that involve excavation, grading, stockpiling of soil, or staging of equipment that alters existing vegetation, soils, topography, and hydrology for a period no longer than 12 months. Covered Activities could temporarily disturb an average of 18.22 acres of potential habitat for noncovered special-status plants annually and no more than 546.47 acres over 30 years, after removing developed and agricultural cover types from cumulative totals (Table 3.4-4).

Temporary habitat disturbance attributed to Covered Activities within the vicinity of potential habitat include dust generated from vehicle access, dust generated from construction, increased temporary runoff, hazardous materials exposure, and placement of materials.

Under the provisions of CFGC Section 1913(b), the incidental removal of plant species listed as endangered or rare under the NPPA is not prohibited within a right-of-way to allow a public utility to fulfill its obligation to provide service to the public; however, SMUD will notify CDFW and provide the opportunity to salvage rare plants in advance of Covered Activities. In addition, it is assumed that over decades of performance of these activities, plant populations are generally not in conflict with typical O&M activities or otherwise tolerate regular, periodic impacts of such activities; for example, once facilities and access routes have been installed and utilized, ongoing O&M does not continue to alter habitat.

Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with AMMs (summarized below in parentheses and presented in Table 2-11) designed to avoid and minimize direct permanent and temporary impacts on Covered Species, which would also reduce potential impacts on noncovered special-status plants as described above. Implementation of the Conservation Strategy also includes pre-project planning to review and screen proposed work areas and identify if a project or activity has the potential to affect sensitive biological resources summarized below. Thus, minimal impacts related to noncovered special-status plants are anticipated.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas)
- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)

- G-AMM7 (Avoid refueling or equipment maintenance activities within 250 feet of vernal pools, seasonal wetlands, and swales)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)
- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)
- G-AMM16 (Avoid placing chipped plant material in vernal pools, seasonal wetlands, or swales)
- G-AMM18 (Stop work and contact SMUD if an HCP-covered or ESA- and CESA-listed species encountered within 100 feet of work)
- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)
- VP-AMM1 (Avoid driving through vernal pools, seasonal wetlands and swales)
- VP-AMM2 (Minimize vehicle impacts on vernal pools, seasonal wetlands, and swales by evaluating moisture content)
- VP-AMM3 (Avoid trenching in vernal pools, seasonal wetlands, and swales)
- VP-AMM5 (Stockpile upper 4 inches of soil when temporary fill is required within in vernal pools, seasonal wetlands, or swales and replace when restored)
- VP-AMM6 (Restrict covered activities within 250 feet of vernal pools, seasonal wetlands, and swales to the dry season)
- VP-AMM7 (Retain a biologist to monitor construction within vernal pools, seasonal wetlands, and swales)

### Indirect Impacts

Covered Activities could result in indirect impacts on noncovered special-status plants in areas near Covered Activity work areas. These activities could result in habitat disturbance or degradation that occurs later in time but is reasonably certain to occur. Indirect impacts on noncovered special-status plants could include: increased temporary runoff that leads to increased sedimentation; permanent changes in hydrology or stormwater runoff that alters the hydroperiod; spread of invasive or nonnative plants that replace native species and alters the physical or chemical characteristic of a habitat; increased human activities that result in long-term disturbances, hazardous materials

exposure, and placement of materials (e.g., debris, sand) that could be carried into nearby habitats.

Water quality within special-status plant habitat could be altered by sediment transport into these habitats during ground-disturbing activities such that plants die or have reduced survivorship or reproductive output. Also, chemicals inadvertently released (e.g., fuel, lubricants, degreasers) during construction and subsequently deposited in special-status plant habitat near or adjacent to work areas could also affect water quality and result in mortality or reduced reproductive success. Covered Activities could also indirectly affect noncovered special-status plants by altering the hydrology that supports vernal pool, wetland, and swale habitat (e.g., altering surface runoff patterns, breaking through hardpan or claypan restrictive layers), increasing human intrusion, introducing invasive species, and causing pollution. Sidecast soil from excavation, spilled materials, and other substances (e.g., oil leaked from a transformer) could be carried by ditches or swales to nearby sensitive areas, causing physical or physiological damage to the noncovered special-status plants there. Discharge of water from hydrostatic testing could also flow into special-status plant habitat and alter its hydrology, cause erosion or sedimentation, or introduce contaminants. Hydrology could also be altered or habitat contaminated with bentonite or polymer material as a result of HDD if drilling fluids are unintentionally returned to the surface, and these fluids enter the special-status plant habitat.

Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with the AMMs summarized below in parentheses and contained in Table 2-11.

- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM7 (Avoid refueling or equipment maintenance activities within 250 feet of vernal pools, seasonal wetlands, and swales)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM9 (Prevent adverse effects from HDD by implementing a frac-out contingency plan and properly containing all drilling fluids)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)
- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)
- G-AMM16 (Avoid placing chipped plant material in vernal pools, seasonal wetlands, or swales)

- G-AMM18 (Stop work and contact SMUD if an HCP-covered or ESA- and CESA-listed species encountered within 100 feet of work)
- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)
- VP-AMM1 (Avoid driving through vernal pools, seasonal wetlands and swales)
- VP-AMM2 (Minimize vehicle impacts on vernal pools, seasonal wetlands, and swales by evaluating moisture content)
- VP-AMM3 (Avoid trenching in vernal pools, seasonal wetlands, and swales)
- VP-AMM5 (Stockpile upper 4 inches of soil when temporary fill is required within in vernal pools, seasonal wetlands, or swales and replace when restored)
- VP-AMM6 (Restrict covered activities within 250 feet of vernal pools, seasonal wetlands, and swales to the dry season)
- VP-AMM7 (Retain a biologist to monitor construction within vernal pools, seasonal wetlands, and swales)

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action could affect noncovered special-status plants. A quantitative analysis of impacts on potential habitat for noncovered special-status plants is discussed above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Direct Actions is provided below.

#### Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank

As part of the Conservation Strategy, SMUD will offset effects on slender Orcutt grass and Sacramento Orcutt grass through enhancement of the Sacramento Orcutt grass population and introducing slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement and slender Orcutt grass introduction plan for CDFW, USFWS, and SMUD Bank IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management that could result in temporary disturbance of vernal pools that are occupied noncovered special-status plants.

Monitoring at the SMUD Bank as part of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass in order to determine the success of enhancement and inoculation activities. These monitoring activities would consist of passive surveys and would not result in substantial physical disturbance of noncovered special-status plants on the SMUD Bank. If noncovered special-status plants are present in and around areas where monitoring activities occur, plants could be trampled by foot traffic during walking surveys. These impacts would be temporary and negligible and are not expected to result in mortality of individual plants.

Overall, enhancement activities are not expected to result in the permanent loss of noncovered special-status plant habitat because enhancement of vernal pool habitat conditions could be colonized by the noncovered special-status species using these habitats. In addition, monitoring activities that are a part of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity will not have adverse impacts on existing populations of noncovered special-status plants on the SMUD Bank.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and are covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on noncovered special-status plants associated with implementation of Covered Activities (Indirect Actions).

A qualitative analysis of impacts on noncovered special-status plants is described above under *Description of Impacts from Covered Activities and the Conservation Strategy* and a qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

### **Operation and Maintenance**

O&M activities for existing facilities would result in various levels of ground disturbance. O&M activities requiring ground disturbance that may directly or indirectly affect potential habitat for noncovered special-status plants include wood pole treatment, repair, and replacement (E6a, E6c, E8), direct-buried cable repair and replacement (E9b, E9c, E9e), steel lattice tower repair or replacement (E10b, E10c, E10d), underground and aboveground pipelines and components repair (G5a, G5b, G6, G7, G8), telecommunication towers and overhead fiber-optic cable replacement (T3), and reconstruction and reconductoring of overhead utility lines (E11, E13). These O&M activities have the potential to result in direct and indirect impacts on noncovered special-status plants, including permanent and temporary disturbance of potential habitat and disturbance or removal of seed banks and mature plants. Other O&M activities that do

not involve ground disturbance, such as routine inspections, may require overland vehicle access, staging, or laydown of materials within potential habitat for noncovered special-status plants, which could crush seedlings and mature plants. This impact would be considered temporary and is not expected to result in permanent loss of noncovered special-status plant populations or habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include the removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility and pipeline easements, which minimizes habitat impacts. Most of these activities do not involve ground disturbance. Vegetation management activities may require overland vehicle access, staging, or laydown of materials within potential habitat for noncovered special-status plants, which could crush seedlings and mature plants. This impact would be considered temporary and is not expected to result in permanent loss of noncovered special-status plant populations.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. The Indirect Actions that have a potential to affect noncovered special-status plant habitat include O&M of new facilities, vegetation management for new facilities, new construction, and miscellaneous activities. A quantitative analysis of impacts on potential habitat for noncovered special-status plants, including Indirect Actions, is estimated and described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below.

The discussion below discloses the types of impacts that may occur and the types of measures that may reduce potentially significant effects of these Indirect Actions, which would be refined and further explained as part of future CEQA review if required.

### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance. O&M activities for new facilities requiring ground disturbance that may directly affect noncovered special-status plant habitat include wood pole treatment, repair, and replacement (E6a, E6c, E8), underground and aboveground pipelines and components repair (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable replacement (T3). Additional O&M activities for new facilities

that do not require ground disturbance may involve overland vehicle access, staging, or laydown of materials within potential habitat for noncovered special-status plants, which could crush seedlings and mature plants. Future O&M activities in the Permit Area have the potential to result in direct and indirect impacts on noncovered special-status plants, including permanent and temporary disturbance of habitat and destruction of seedlings and mature plants. A more detailed description of the types of direct and indirect impacts that are commonly associated with O&M activities is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would result in various levels of ground disturbance. Activities such as construction of new and relocated overhead utility lines (E13), trenching and directional drilling to install new underground utility lines (E14a, E14b), construction of new substations (E15), construction of new valve stations and a pressure-limiting station (G9), construction of new telecommunications towers (T2), and installation of new fiber-optic cable (T3) have the potential to result in the temporary disturbance and permanent loss of potential habitat for noncovered special-status plants and destruction of seedlings and mature plants. These activities would likely involve ground disturbance outside of existing easements and existing facility footprints and would have the potential to directly or indirectly modify noncovered special-status plant habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities would include future tree and vegetation removal, trimming, and pruning around newly constructed facilities (V2, V4, V6, V7). In addition, proposed HCP implementation would include trimming, transplanting, and removal of elderberry shrubs (V5a, V5b, V5c). The only vegetation management activities that involve ground disturbance are elderberry shrub removal and transplantation, which could occur in areas that support noncovered special-status plants. Vegetation management activities that require vehicles and equipment to access through noncovered special-status plant habitat for new facilities, or for the removal of elderberry shrubs, have the potential to directly or indirectly affect noncovered special-status plants, including temporary disturbance of habitat, sedimentation runoff into nearby aquatic habitats, and injury or mortality of seeds and mature plants. A more detailed description of the types of direct and indirect impacts is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and

maintains that will require installation of new components, including installation of cathodic protection test stations, construction of a new pipeline valve, and construction of a temporary access road from Clay East Road to the work area. Excavation and grading associated with replacement of portions of the existing CPP underground water pipeline that occur in or near noncovered special-status plant habitat will be conducted in a manner to avoid direct impacts, including temporary disturbance and permanent habitat loss. Ground disturbance in the vicinity of noncovered special-status plant habitat could result in indirect impacts on suitable habitat downslope from the activity. A more detailed description of the types of indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction, including monitoring, have the potential to result in direct impacts on noncovered special-status plants associated with implementing the enhancement and introduction plan. Temporary disturbance to potential or occupied habitat for noncovered special-status plants may occur during invasive plant removal and introduction of Sacramento Orcutt grass and slender Orcutt grass seed. These actions are intended to alter habitat conditions to encourage growth of slender Orcutt grass and Sacramento Orcutt grass and would be considered beneficial because they would also enhance habitat for noncovered special-status plants. Monitoring activities associated with implementing the restoration and introduction plan would include passive surveys and while noncovered special-status plants could be trampled during foot surveys, this impact would be temporary and would not permanently remove individual plants. Implementation of the Conservation Strategy (consistent with applicable mitigation measures contained in the SMUD Bank IS/MND) would avoid and minimize impacts on noncovered special-status plants at the SMUD Bank. Impacts from Direct Actions would **less than significant**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could also result in direct or indirect adverse impacts on noncovered special-status plants if the activities associated with Indirect Actions occur within potential habitat for noncovered special-status plants. Implementation of the AMMs summarized above in *Description of Impacts from Covered Activities and Conservation Strategy* and

contained in Table 2-11 were designed to avoid and minimize impacts on Covered Species but would also benefit noncovered special-status plants because they occur in similar habitats, particularly vernal pools.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 and VP-AMM1 through VP-AMM7 (described in Table 2-11) would be implemented for applicable Covered Activities. These measures would avoid and minimize direct and indirect impacts on habitats for Covered Species that may also contain noncovered special-status plants, particular those plants that occur in vernal pools by reducing the disturbance footprint (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), and minimizing vegetation clearing and grading for access (G-AMM15) in modeled habitat for Covered Species.

In addition to implementation of Conservation Strategy AMMs, SMUD would continue to perform environmental review and screening as part of their Work Flow Integration process for Covered Activities. This process aids SMUD in identifying if a Covered Activity has the potential to affect sensitive biological resources (including special-status plants) by using a spatial mapping resource called the Green Zone. The Green Zone map depicts locations of biological resource occurrences based on available data such as CNDDDB. The Green Zone map is used to identify where Covered Activities could affect sensitive biological resources. Based on this review, an environmental specialist will consider the Covered Activity effects and disturbance, time of year and results of the desktop review to identify appropriate measures to avoid or minimize potential impacts and prescribe them to the SMUD field crews. Measures could include preconstruction surveys, establishing buffers, exclusion fencing, and seasonal work windows. Overall, impacts from Covered Activities on special-status plants are expected to be minor. Measures similar or equally effective to those listed below would be implemented to avoid or reduce impacts on special-status plants if an adverse effect is identified through the Work Flow Integration process.

- Special-Status Plant Preconstruction Surveys. A qualified biologist would conduct a preconstruction survey for special-status plants during the appropriate identification period for species that have potential to occur in work areas containing suitable habitat for special-status plants known to occur in the Project vicinity.
- Avoid Known Populations of Special-Status Plants. Occurrences of NPPA listed rare and endangered plant species would be avoided to the extent practicable and would include performance of the Covered Activities in special-status plant habitat

after senescence. When NPPA listed rare and endangered plant species cannot be avoided, SMUD will follow the requirements of CFGC Sections 1913(b) and 1913(c) concerning notification to CDFW and providing an opportunity to salvage such species.

***Impact 3.4-3: Permanent and temporary impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp (Covered Species)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action and Indirect Actions could result in permanent and temporary disturbance of vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat and designated critical habitat, and potential injury or mortality of individuals as a result of ground disturbance. Loss of individuals or modification of modeled habitat and designated critical habitat would be considered an adverse impact on vernal pool fairy shrimp and vernal pool tadpole shrimp. Implementation of the Conservation Strategy would ensure this impact is **less than significant**.

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Vernal pool fairy shrimp is federally listed as threatened and vernal pool tadpole shrimp is federally listed as endangered. The Permit Area supports a total of 7,689 acres of vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat consisting of vernal pools, seasonal wetlands, and swales (Table 3.4-1 and depicted in HCP Figure 3-12 and Figure 3-13).

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions could result in direct injury or mortality of vernal pool fairy shrimp and vernal pool tadpole shrimp and permanent or temporary disturbance of modeled habitat. Covered Activities may also result in indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp in the vicinity of Covered Activity work areas that results in habitat alteration or degradation later in time. Additionally, Covered Activities and Conservation Strategy actions would affect designated critical habitat for the species. Each of these impacts is described below.

Direct Impacts

Covered Activities that result in temporary ground disturbance, permanent ground disturbance, temporary and permanent vegetation disturbance and removal, vehicle and equipment movement, hazardous materials exposure, introduction or spread of invasive or nonnative plants, and placement of soil or vegetation debris within modeled habitat could directly affect vernal pool fairy shrimp and vernal pool tadpole shrimp. Ground-disturbing activities within occupied habitat could lead to the injury or mortality of vernal pool tadpole shrimp or vernal pool fairy shrimp at any life history stage, from cyst or eggs to adults. Shrimp cysts could be buried by the inadvertent deposition of soil into or near vernal pools or swales during ground-disturbing activities, such as auguring or trenching, thus possibly preventing these cysts from hatching the following wet season(s). Adult

shrimp could also be buried. Shrimp could also be injured by vehicle and equipment movement during various construction activities within modeled habitat.

Permanent ground disturbance and long-term disturbances that result in habitat modification within modeled habitat would result in permanent habitat loss for vernal pool fairy shrimp and vernal pool tadpole shrimp. Covered Activities are anticipated to permanently remove an average of 0.5 acre of vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat in the Permit Area annually and no more than 14.1 acres over the 30-year Permit Term (HCP Table 4-9). For purposes of estimating impacts on modeled habitat, SMUD assumed that the entirety of the vernal pool, vernal swale or seasonal wetland would be permanently affected, even if Covered Activities only disturb a portion of the modeled habitat feature.

Temporary habitat disturbance is attributed to Covered Activities within vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat that involve excavation, grading, stockpiling of soil, or staging of equipment that alters existing vegetation, soils, topography, and hydrology for a period no longer than 12 months. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis. Covered Activities are anticipated to temporarily disturb an average of 0.06 acre of vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat within the Permit Area annually and no more than 1.8 acres over the 30-year Permit Term (HCP Table 4-9).

Implementation of the proposed HCP would require that applicable Covered Activities be conducted in accordance with the AMMs summarized below in parentheses and presented in Table 2-11, to avoid and minimize direct permanent and temporary impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp as described above. These measures restrict the types of activities that are conducted within and near modeled habitat to prevent inadvertent impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas)
- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM7 (Avoid refueling or equipment maintenance activities within 250 feet of vernal pools, seasonal wetlands, and swales)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)

- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)
- G-AMM16 (Avoid placing chipped plant material in vernal pools, seasonal wetlands, or swales)
- G-AMM18 (Stop work and contact SMUD if an HCP-covered or ESA- and CESA-listed species encountered within 100 feet of work)
- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)
- VP-AMM1 (Avoid driving through vernal pools, seasonal wetlands and swales)
- VP-AMM2 (Minimize vehicle impacts on vernal pools, seasonal wetlands, and swales by evaluating moisture content)
- VP-AMM3 (Avoid trenching in vernal pools, seasonal wetlands, and swales)
- VP-AMM5 (Stockpile upper 4 inches of soil when temporary fill is required within in vernal pools, seasonal wetlands, or swales and replace when restored)
- VP-AMM6 (Restrict covered activities within 250 feet of vernal pools, seasonal wetlands, and swales to the dry season)
- VP-AMM7 (Retain a biologist to monitor construction within vernal pools, seasonal wetlands, and swales)

### Indirect Impacts

Covered Activities could result in indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat in areas near Covered Activity work areas. These activities could result in habitat disturbance or degradation that occurs later in time but is reasonably certain to occur. Indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat could include: increased temporary runoff that leads to increased sedimentation; permanent changes in hydrology or stormwater runoff that alters the hydroperiod; spread of invasive or nonnative plants that replace native species and alters the physical or chemical characteristic of aquatic habitat; increased human activities that result in long-term disturbances, hazardous materials exposure, and placement of materials (e.g., debris, sand) that could be carried into nearby habitats.

Water quality within modeled habitat could be altered by sediment transport into these habitats during ground-disturbing activities such that vernal pool crustaceans die or have reduced survivorship or reproductive output. Also, chemicals inadvertently released (e.g., fuel, lubricants, degreasers) during construction and subsequently deposited in vernal pools near or adjacent to work areas could also affect water quality and result in mortality, injury, or reduced reproductive success. Covered Activities could also indirectly affect vernal pool invertebrates by altering the hydrology that supports this habitat (e.g., altering

surface runoff patterns, breaking through hardpan or claypan restrictive layers), increasing human intrusion, introducing invasive species, and causing pollution.

Covered Activities are anticipated to indirectly disturb an average of 0.1 acre of vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat within the Permit Area annually and no more than 3.9 acres over 30 years (HCP Table 4-9).

Implementation of the Conservation Strategy would require that applicable Covered Activities be conducted in accordance with the AMMs summarized below in parentheses and presented in Table 2-11, to avoid and minimize indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat that could result from hydrologic alteration, erosion, sedimentation, and contamination.

- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM7 (Avoid refueling or equipment maintenance activities within 250 feet of vernal pools, seasonal wetlands, and swales)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM9 (Prevent adverse effects from HDD by implementing a frac-out contingency plan and properly containing all drilling fluids)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)
- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)
- G-AMM16 (Avoid placing chipped plant material in vernal pools, seasonal wetlands, or swales)
- G-AMM18 (Stop work and contact SMUD if an HCP-covered or ESA- and CESA-listed species encountered within 100 feet of work)
- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)
- VP-AMM1 (Avoid driving through vernal pools, seasonal wetlands and swales)
- VP-AMM2 (Minimize vehicle impacts on vernal pools, seasonal wetlands, and swales by evaluating moisture content)
- VP-AMM3 (Avoid trenching in vernal pools, seasonal wetlands, and swales)

- VP-AMM5 (Stockpile upper 4 inches of soil when temporary fill is required within in vernal pools, seasonal wetlands, or swales and replace when restored)
- VP-AMM6 (Restrict covered activities within 250 feet of vernal pools, seasonal wetlands, and swales to the dry season)
- VP-AMM7 (Retain a biologist to monitor construction within vernal pools, seasonal wetlands, and swales)

### Critical Habitat Impacts

Critical habitat was designated for vernal pool fairy shrimp and vernal pool tadpole shrimp in 2001 and revised in 2006 (USFWS 2006). There are 39,543 acres of vernal pool fairy shrimp and vernal pool tadpole shrimp critical habitat (1,699 acres of which is modeled habitat) in the Permit Area (Figure 3.4-1).

Covered Activities would permanently affect an estimated 3.60 acres and temporarily affect an estimated 0.01 acre of modeled habitat within vernal pool fairy shrimp and vernal pool tadpole shrimp critical habitat Units 13, 14A, and 14B over the Permit Term. This represents less than 0.1 percent of Vernal Pool, Seasonal Wetland, and Swale land cover type in designated critical habitat units in the Permit Area.

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. A quantitative analysis of impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat associated with all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Direct Actions is provided below.

### Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank

As part of the Conservation Strategy, SMUD will offset effects on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement and slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management that could result in temporary disturbance of vernal pools that are occupied by vernal pool fairy shrimp and vernal pool

tadpole shrimp. Inoculation of vernal pools with Sacramento Orcutt grass and slender Orcutt grass seed would be conducted in the dry season and would be conducted in a manner to avoid impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp cysts or eggs. Invasive plant management could be conducted during the dry season or wet season. Activities that are conducted in vernal pools when water is present and vernal pool fairy shrimp or vernal pool tadpole shrimp are present could result in direct injury or mortality of individuals.

Although enhancement activities could result in modification of vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat, these activities are not expected to result in the loss of habitat because habitat conditions conducive to Sacramento Orcutt grass and slender Orcutt grass would also be suitable for vernal pool fairy shrimp and vernal pool tadpole shrimp.

Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not require disturbance of pools when they are inundated and could be occupied by vernal pool fairy shrimp and vernal pool tadpole shrimp. Surveys that require walking through pools would be conducted during the dry season and are not expected to affect vernal pool fairy shrimp and vernal pool tadpole shrimp.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and are covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat associated with all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

### **Operation and Maintenance**

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7,

G8), steel lattice tower (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct and indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat in the Permit Area, including temporary disturbance and permanent loss of habitat and injury or mortality of cysts/eggs and adults. For many of the O&M activities, permanent and temporary habitat loss will be avoided by conducting ground-disturbing activities outside of suitable aquatic habitats. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility and pipeline easements, which minimizes habitat impacts. Most of these activities do not involve ground disturbance and are not expected to result in direct or indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat. The trimming or removal of trees and shrubs within existing gas pipeline easements (V7) that overlap with vernal pool tadpole shrimp and vernal pool tadpole shrimp modeled habitat may result in temporary disturbance of modeled habitat and injury or mortality of cysts/eggs and adults. Permanent habitat loss from vegetation management activities is not anticipated.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. The Indirect Actions that have a potential to affect vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat include O&M of new facilities, vegetation management for new facilities, new construction, and miscellaneous activities. A quantitative analysis of impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat associated with all Covered Activities, including Indirect Actions, is estimated and described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below.

The discussion below discloses the types of impacts that may occur and the types of measures that may reduce potentially significant effects of these Indirect Actions, which would be refined and further explained as part of future CEQA review.

### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct and indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat, including temporary disturbance and permanent loss of habitat and injury or mortality of cysts/eggs and adults. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that could result in ground disturbance within vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); construction of new telecommunications towers (T2); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance and permanent loss of modeled habitat and injury or mortality of cysts/eggs and adults. These activities would likely involve ground disturbance, including grading and excavation, outside of existing easements and existing facility footprints and would have the potential to directly or indirectly modify vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities would result in ground disturbance from equipment access associated with vegetation management inspections (V1); future tree, shrub, and ground vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include trimming, transplanting, and removal of elderberry shrubs (V5a, V5b, V5c). Vegetation management activities that may require vehicles and equipment to access through vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat and activities that require removal of elderberry

shrubs close to vernal pools, seasonal wetlands, and swales have the potential to directly or indirectly affect vernal pool fairy shrimp and vernal pool tadpole shrimp, including temporary disturbance of habitat, sedimentation runoff into nearby aquatic habitats, and injury or mortality of cysts/eggs and adults. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Permanent habitat loss from vegetation management activities is not anticipated.

#### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, construction of a new pipeline valve, and construction of a temporary access road from Clay East Road to the work area. Excavation and grading associated with the replacement of portions of the existing CPP underground water pipeline that occur in or near vernal pool fairy shrimp or vernal pool tadpole shrimp modeled habitat have the potential to result in direct and indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp. These impacts would be considered a permanent loss of habitat and could result in injury or mortality of cysts/eggs and adults. Installation of cathodic protection and a pipeline valve would be conducted in a manner to avoid impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### **Conclusion**

##### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction, including monitoring at the SMUD Bank have the potential to result in direct or indirect adverse impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat and designated critical habitat if ground-disturbing activities occur in or near modeled habitat and designated critical habitat. Although all Orcutt grass enhancement and introduction activities and invasive plant manage would be accomplished using only hand tools. Implementation of the AMMs (consistent with applicable mitigation measures contained in the SMUD Bank IS/MND) and proposed habitat preservation/restoration would ensure that potential adverse impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp from Direct Actions are **less than significant**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions could also result in direct or indirect adverse impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat. Implementation of the AMMs summarized above in *Description of Impacts from Covered Activities and the Conservation Strategy* and contained in Table 2-11 would avoid and minimize impacts from Indirect Actions on vernal pool fairy shrimp and vernal pool tadpole shrimp. Implementation of the Conservation Strategy for permanent loss, temporary disturbance, and indirect impacts on modeled habitat and designated critical habitat, as described below would offset adverse impacts from Indirect Actions on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 and VP-AMM1 through VP-AMM7 (described in Table 2-11) would be implemented to avoid and minimize impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp and their modeled habitat for applicable Covered Activities.

The Conservation Strategy would offset permanent, temporary, and indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat and designated critical habitat throughout the Permit Area by acquiring appropriate habitat credits at the SMUD Bank. Permanent impacts would be mitigated at 3:1 (3 acres preserved and restored/created for every 1 acre permanently affected), temporary impacts at a ratio of 0.5:1 (0.5 acre preserved for every 1 acre temporarily affected), and indirect impacts at a ratio of 1:1 (1 acre preserved for every 1 acre indirectly affected). In accordance with the Conservation Strategy, SMUD will preserve 33.0 acres of habitat and will restore or create 14.1 acres of habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp to mitigate for the permanent loss of 14.1 acres, temporary disturbance of 1.8 acres, and indirect impacts on 3.9 acres of modeled habitat throughout the Permit Area and over the 30-year Permit Term.

For temporary disturbance of 0.1 acre or more within modeled habitat, temporarily disturbed areas will be restored to pre-project conditions. For the majority of Covered Activities that are implemented on a routine, daily basis and that affect less than 0.1 acre, SMUD will provide no active site restoration because these areas are expected to return to pre-disturbance conditions on their own, and it is not financially or logistically feasible to restore numerous small disturbance areas.

Implementation of the AMMs would be effective in reducing impacts from Indirect Actions to a **less-than-significant** level because they restrict the type, extent, and timing of ground-disturbing activities in or near modeled habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp to minimize direct and indirect impacts; they require the presence a biological monitor to ensure that these measures are properly implemented during construction; and they would compensate for permanent, temporary, and indirect impacts on modeled habitat.

### Mitigation Measures

No mitigation is required.

### ***Impact 3.4-4: Temporary and permanent impacts on valley elderberry longhorn beetle (Covered Species)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse impacts on valley elderberry longhorn beetle and therefore would have **no impact**.

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Valley elderberry longhorn beetle is federally listed as threatened. The Permit Area supports a total of 13,543 acres of valley elderberry longhorn beetle modeled habitat consisting of Valley Foothill Riparian and Mine Tailing Riparian Woodland land cover types (Table 3.4-1 and depicted on HCP Figure 3-14).

### ***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities could result in direct injury or mortality of valley elderberry longhorn beetles and permanent and temporary disturbance of modeled habitat. Covered Activities may also result in the indirect impacts on valley elderberry longhorn beetle in the vicinity of Covered Activity work areas that results in habitat alteration or degradation later in time. Additionally, Covered Activities and would affect designated critical habitat for the species. Each of these impacts are described below. There is no modeled habitat for the valley elderberry longhorn beetle at the SMUD Bank, therefore the Conservation Strategy actions would not impact this species.

### Direct Impacts

Vegetation management and other Covered Activities that require trimming or removal of elderberry shrubs could disturb occupied habitat, leading to the injury or death of valley elderberry longhorn beetle eggs, larvae, or adults depending on the timing and extent of the trimming. Because the larvae feed on the elderberry pith while they are developing, trimming activities could affect the health of the plant and cause the loss of stems which may kill larvae in those stems (USFWS 2017).

Covered Activities that occur within valley elderberry longhorn beetle modeled habitat (i.e., Valley Oak Riparian Woodland and Mine Tailing Riparian Woodland land cover types) could result in direct permanent impacts on valley elderberry longhorn beetle. Temporary or permanent ground disturbance that removes elderberry shrubs or causes shrub mortality as a result of trimming would be considered a direct permanent impact on valley elderberry longhorn beetle. This could happen during vegetation clearances within existing easements and on existing properties; testing, repair, and replacement of wood poles, underground cables, and steel lattice towers; and construction of new overhead and underground utility lines.

Impacts associated with all Covered Activities are anticipated to permanently remove an average of 3.3 elderberry shrubs within the Permit Area annually and no more than 100 shrubs over the 30-year Permit Term. An additional 10 shrubs would be removed and transplanted to an approved conservation area. Up to 200 shrubs would be trimmed during the Permit Term. Trimming could also lead to permanent habitat loss through removal of elderberry shrub branches, which provide foraging and breeding habitat for valley elderberry longhorn beetle. Trimming results in less habitat loss than shrub removal because most shrubs will survive trimming and will continue to grow new stems. Where trimming of elderberry shrubs is required, it is anticipated that the shrubs would be pruned down to a height of 12 feet (measured from ground height) unless site-specific safety conditions warrant pruning less than 12 feet. In those cases, SMUD would trim elderberry shrubs within its easement to a height of 6 feet.

Over the 30-year Permit Term, Covered Activities are anticipated to result in trimming of up to 200 elderberry shrubs that would be considered a permanent impact on valley elderberry longhorn beetle. Habitat loss for valley elderberry longhorn beetle over the 30-year Permit Term would include up to 300 elderberry shrubs (100 removed and 200 trimmed) for a total of 8.1 acres of impact (0.027 acre per elderberry shrub removed or trimmed). In addition, up to 10 elderberry shrubs would be transplanted.

All valley elderberry longhorn beetle habitat disturbance is considered a permanent impact, as described above. Therefore, no temporary disturbance of valley elderberry longhorn beetle habitat would occur. The first time an elderberry shrub is trimmed it will be considered a permanent impact such that subsequent trimmings are not considered an additional impact on the same shrub.

Implementation of the proposed HCP would require that applicable Covered Activities be conducted in accordance with the AMMs summarized below and presented in Table 2-11 to avoid and minimize direct permanent impacts on valley elderberry longhorn beetle as described above. These measures require surveys to be conducted and buffers to be established around elderberry shrubs and restrict mowing within the dripline of shrubs to prevent inadvertent impacts on valley elderberry longhorn beetle.

- VELB-AMM1 (Park equipment outside of elderberry shrub dripline)

- VELB-AMM2 (Avoid trimming elderberry shrubs during active period or implement additional measures such as reduced speed limits, trimming by hand, and retain an onsite biologist)
- VELB-AMM3 (Follow USFWS protocols for removing elderberry shrubs)
- VELB-AMM4 (Conduct preconstruction elderberry shrub survey for all covered activities that occur within valley elderberry longhorn beetle modeled habitat)
- VELB-AMM5 (Avoid elderberry shrubs within 20 feet of ground-disturbing activities and retain a biologist to monitor activity, as needed)
- VELB-AMM6 (Install fencing or flagging to demarcate the edge of areas to be avoided)
- VELB-AMM7 (Restrict mowing activities within drip line of elderberry shrubs to the adult inactive season and take care to avoid damage to shrubs under supervision of a biologist)
- VELB-AMM8 (Avoid use of herbicides within drip line of elderberry shrubs and avoid use of insecticides within a 30-meter buffer of shrubs)

### Indirect Impacts

Covered Activities could also result in indirect impacts on valley elderberry longhorn beetle habitat that occur later in time but are reasonably certain to occur. Dust generated from vehicle access to and from work areas or generated during construction at work areas could coat the leaves of elderberry shrubs, reducing the health and vigor of the shrub. Dust could adversely affect valley elderberry longhorn beetle by reducing transpiration in elderberry shrubs and thereby killing the shrubs or reducing their ability to support valley elderberry longhorn beetle. Ground disturbance in the immediate vicinity of elderberry shrubs could expose or damage roots and alter the water runoff patterns that could adversely affect the shrubs by reducing their ability to take up necessary nutrients and altering the suitability of the habitat around the shrubs. Over time, this reduced health could cause complete or partial shrub die-off, which could reduce the amount of suitable habitat for valley elderberry longhorn beetle and could result in mortality to individuals living in the shrub.

Implementation of the proposed HCP would require that applicable Covered Activities be conducted in accordance with AMMs summarized below and presented in Table 2-11 to avoid and minimize indirect impacts on valley elderberry longhorn beetle from construction-generated dust and alteration of modeled habitat as described above.

- G-AMM1 (Perform annual training for crews conducting Covered Activities to review all HCP AMMs and relevance)
- G-AMM2 (Minimize work area footprint)

- G-AMM3 (Park vehicles and equipment on pavement, existing roads, or previously disturbed areas to the maximum extent feasible)
- G-AMM4 (Limit off-road speed limit to 15 miles per hour [mph] to minimize dust)
- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil around elderberry shrubs)
- G-AMM13 (Cover stockpiled soil prior to precipitation events)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)
- VELB-AMM5 (Avoid elderberry shrubs within 20 feet of ground-disturbing activities and retain a biologist to monitor activity, as needed)

### Critical Habitat Impacts

Critical habitat was designated for valley elderberry longhorn beetle in 1980 (45 *Federal Register* [FR] 52803). There are 514 acres of valley elderberry longhorn beetle critical habitat (160.1 acres of which is modeled habitat) in the Permit Area (Figure 3.4-1).

Covered Activities would permanently affect an estimated 0.018 acre of modeled habitat within valley elderberry longhorn beetle critical habitat over the Permit Term. This represents less than 0.001 percent of designated critical habitat in the Permit Area.

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would not be conducted within valley elderberry longhorn beetle modeled habitat; therefore, no impacts on valley elderberry longhorn beetle would occur as a result of the Direct Actions.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on valley elderberry longhorn beetle associated with implementation of Covered Activities (Indirect Actions).

No impacts on valley elderberry longhorn beetle are anticipated from Indirect Actions associated with ongoing conservation and enhancement activities and miscellaneous Covered Activities because valley elderberry longhorn beetle modeled habitat is not present on the SMUD Bank CPP existing facility, or the Rancho Seco Property.

### Operation and Maintenance

O&M activities for existing electrical and natural gas transmission facilities would result in various levels of ground disturbance. Grading, excavation, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconducting of overhead utility lines (E11). O&M activities that occur within or near valley elderberry longhorn beetle modeled habitat (Valley Foothill Riparian and Mine Tailing Riparian Woodland land cover types) have the potential to result in direct permanent impacts on valley elderberry longhorn beetle from removal or trimming of elderberry shrubs within the work area or damage to the roots or shrubs located within areas of ground disturbance. O&M activities could also result in indirect impacts on the species if elderberry shrubs are located along access roads or in close proximity to ground-disturbing activities. Vehicles driving to and from work sites on dirt roads and ground disturbances associated with excavation or grading could cause an accumulation of dust on nearby elderberry shrubs. A more detailed description of the types of direct and indirect impacts and their effects on valley elderberry longhorn beetle commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. SMUD currently has approximately 135 elderberry shrubs growing within its easements and into existing conductors. Additionally, one shrub is growing over the gas pipeline in Yolo County. SMUD anticipates that additional shrubs will be found within SMUD's utility easements over the next 30 years, for an estimated total of 300 shrubs. SMUD has not been able to maintain adequate clearance from its overhead lines by only trimming elderberry stems less than 1 inch in diameter. Covered Activities, which are not part of baseline conditions, would include trimming elderberry stems (V5a), removal and transplantation of elderberry shrubs (V5b), and removal of elderberry shrubs by cutting (V5c) and are discussed below in *Impacts from Covered Activities – Indirect Actions that are Not Part of Baseline Conditions*.

Vegetation management activities that do not involve removal or trimming of elderberry shrubs could still result in indirect impacts on valley elderberry longhorn beetle if

elderberry shrubs are located in the vicinity of vegetation removal activities. Vehicle access and vegetation removal activities could cause an accumulation of dust on nearby elderberry shrubs. A more detailed description of the types of direct and indirect impacts and their effects on valley elderberry longhorn beetle commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, vegetation management for new facilities, new construction, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. A quantitative analysis of impacts on valley elderberry longhorn beetle associated with all Covered Activities, including Indirect Actions, is estimated and described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below.

The discussion below discloses the types of impacts that may occur and the types of measures that may reduce potentially significant effects of these Indirect Actions, which would be refined and further explained as part of future CEQA review.

#### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1 and T3). Future O&M activities that occur within or near valley elderberry longhorn beetle modeled habitat (Valley Foothill Riparian and Mine Tailing Riparian Woodland land cover types) have the potential to result in direct permanent impacts on valley elderberry longhorn beetle from removal or trimming of elderberry shrubs within the work area or damage to the roots or shrubs located within areas of ground disturbance. Future O&M activities could also result in indirect impacts on the species if elderberry shrubs are located along access roads or in close proximity to ground-disturbing activities. Vehicles driving to and from work sites on dirt roads and ground disturbances associated with excavation or grading could cause an accumulation of dust on nearby elderberry shrubs. A more detailed description of the

types of direct and indirect impacts and their effects on valley elderberry longhorn beetle commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would likely result in ground disturbance within valley elderberry longhorn beetle modeled habitat. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G10); construction of new telecommunications towers (T2); and installation of overhead and underground telecommunications fiber-optic cable (T3, T4) have the potential to result in direct permanent impacts on valley elderberry longhorn beetle from removal or trimming of elderberry shrubs within the work area or damage to the roots or shrubs located within areas of ground disturbance. These activities would likely involve ground disturbance outside of existing easements and existing facility footprints and would have the potential to directly or indirectly affect valley elderberry longhorn beetle if new construction is located within or near modeled habitat (Valley Oak Riparian and Mine Tailings Riparian Woodland land cover types). If new facilities are sited in areas supporting elderberry shrubs, construction of these facilities could require the removal or trimming of shrubs that are directly within the project footprint. Excavation and grading activities to support new construction could indirectly affect valley elderberry longhorn beetle by causing dust accumulation on nearby elderberry shrubs and degradation of habitat around the shrubs resulting from sediment and chemical runoff from the work area. A more detailed description of the types of direct and indirect impacts on valley elderberry longhorn beetles that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Vegetation Management for New Facilities Vegetation management activities for new facilities would include future tree and vegetation removal, trimming, and pruning around newly constructed facilities, within transmission easements, and around poles. These activities have the potential to directly or indirectly affect valley elderberry longhorn beetle if they result in ground disturbance within or near elderberry shrubs. In addition, vegetation management for new facilities would include trimming, transplanting, and removal of no more than 300 elderberry shrubs present within the new facility easements. Approximately 136 elderberry shrubs have been documented within existing SMUD facilities and easements; however, it is estimated that up to 300 shrubs may be documented in and around SMUD existing and new facilities over the 30-year Permit Term. As part of vegetation management activities for new facilities, SMUD would conduct elderberry trimming to comply with state and federal regulations by trimming shrubs to a height of 12 feet (measured from ground height) unless site-specific safety conditions warrant pruning less than 12 feet. Throughout the Permit Area, SMUD estimates that approximately 100 elderberry shrubs will be removed, 10 shrubs will be transplanted, and 200 shrubs with branches greater than 1 inch would be trimmed over

the 30-year Permit Term. All valley elderberry longhorn beetle habitat disturbance is considered a permanent impact. The first time an elderberry shrub is trimmed it will be considered a permanent impact and subsequent trimmings to the same shrub would not be counted as an additional impact. Excavation associated with vegetation management activities that do not involve removal or trimming of elderberry shrubs could still result in direct and indirect impacts on valley elderberry longhorn beetle if elderberry shrubs are located in the vicinity of ground disturbance. Vehicle access and excavation could cause an accumulation of dust on nearby elderberry shrubs. A more detailed description of the types of direct and indirect impacts and their effects on valley elderberry longhorn beetle commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, construction of a new pipeline valve, and construction of a temporary access road from Clay East Road to the work area. Excavation and grading associated with the replacement of portions of the existing CPP underground water pipeline that occur in valley elderberry longhorn beetle modeled habitat have the potential to result in direct and indirect impacts on valley elderberry longhorn beetle because elderberry shrubs are present in these areas. Direct and indirect impacts on valley elderberry longhorn beetle under miscellaneous Covered Activities would be similar to those described above for Indirect Actions associated with O&M and new construction.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Sacramento Orcutt grass enhancement and slender Orcutt grass introduction and monitoring will not affect elderberry shrubs that provide habitat for valley elderberry longhorn beetle. Therefore, Direct Actions will have **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Implementation of Indirect Actions including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities could result in direct or indirect impacts on valley elderberry longhorn beetle and their modeled habitat. Permanent impacts include the first trimming such that

subsequent trimmings are not considered an additional impact on the same shrub. These impacts could result in the loss (take) of valley elderberry longhorn beetle eggs, larvae, or adults. During the 30-year Permit Term, it is anticipated that Covered Activities, including Indirect Actions, will result in the removal of up to 100 elderberry shrubs and trimming of another 200 shrubs totaling 8.1 acres (estimated at 0.027 acre per elderberry shrub) of permanent habitat loss for valley elderberry longhorn beetle over the 30-year Permit Term. Additionally, 10 elderberry shrubs would be transplanted to an approved conservation area. Implementation of the AMMs summarized above in *Description of Impacts from Covered Activities and the Conservation Strategy* and contained in Table 2-11 would avoid and minimize direct and indirect impacts on valley elderberry longhorn beetle from the Indirect Actions. Implementation of the Conservation Strategy would offset adverse impacts from Indirect Actions on valley elderberry longhorn beetle and modeled habitat.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 and VELB-AMM1 through VELB-AMM8 (described in Table 2-11) would be implemented for applicable Covered Activities to avoid and minimize impacts on valley elderberry longhorn beetle modeled habitat and designated critical habitat.

The Conservation Strategy would offset impacts on valley elderberry longhorn beetle from trimming up to 200 elderberry shrubs and removing 100 shrubs over the 30-year Permit Term by acquiring appropriate habitat credits at an approved conservation/mitigation bank. SMUD assumes the average canopy area of elderberry shrubs to be 0.027 acre; therefore, SMUD will mitigate 0.081 acre for every shrub removed or trimmed (3 elderberry shrubs planted for every 1 shrub removed or trimmed) for a total of 24.3 acres of mitigation.

In accordance with the Conservation Strategy, SMUD will also transplant up to 10 additional elderberry shrubs that are within proposed work areas that require removal. These shrubs would be transplanted in accordance with the transplanting procedure in the USFWS Guidelines as described in HCP Chapter 4. The shrubs would be moved to a conservation/mitigation bank (upon approval by the conservation/mitigation bank's IRT and USFWS) or other location as approved by USFWS.

Implementation of the AMMs would be effective in reducing impacts to a **less-than-significant** level because they restrict the type and extent of ground-disturbing activities within modeled habitat; require elderberry shrub surveys to be conducted within modeled habitat for applicable Covered Activities; require exclusion areas to be established around

avoided elderberry shrubs; restrict use of herbicides, pesticides, and mowing within the vicinity of elderberry shrubs; and compensate for removal of elderberry shrubs.

### Mitigation Measures

No mitigation is required.

### ***Impact 3.4-5: Temporary and permanent impacts on California tiger salamander (Covered Species)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action and Indirect Actions could result in permanent and temporary disturbance of CTS modeled habitat and designated critical habitat, and potential injury or mortality of individuals. Loss of individuals or disturbance of modeled habitat and designated critical habitat would be considered an adverse impact on CTS. Implementation of the Conservation Strategy would reduce this impact to **less than significant**.

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CTS is state- and federally listed as threatened. The Permit Area supports 7,404 acres of aquatic modeled habitat for CTS consisting of Open Water/Fringe, Other Depressional Wetland, Vernal Pool, Seasonal Wetland, and Swale land cover types. Aquatic modeled habitat is limited to areas south of the Cosumnes River in Sacramento County and areas west of the Yolo Bypass in Yolo County (HCP Figure 3-15). The Permit Area also supports 95,327 acres of upland modeled habitat for CTS that consists of Blue Oak Woodland, Valley Oak Woodland, Pasture, and Grasses and Forbs land cover types within 1.2 miles of the aquatic modeled habitat (HCP Figure 3-15).

### ***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions could result in direct injury or mortality of CTS and permanent or temporary disturbance of modeled habitat. Covered Activities may also result in the indirect impacts on CTS in the vicinity of Covered Activities that results in habitat alteration or degradation later in time. Additionally, Covered Activities and Conservation Strategy actions would affect designated critical habitat for the species. Each of these impacts are described below.

### Direct Impacts

Covered Activities that result in temporary ground disturbance, permanent ground disturbance, vehicle and equipment movement, hazardous materials exposure, and placement of materials (i.e., stockpiled soil and chipped plant material) within CTS modeled habitat could directly affect CTS.

Covered Activities such as grading, trenching, or excavation in upland modeled habitat (e.g., grasslands, oak woodlands, pastures) could result in direct mortality or injury of adult or juvenile CTS (e.g., those occupying burrows or soil crevices), particularly when

these activities are implemented close to aquatic modeled habitat (e.g., vernal pools and stock ponds). The parking of vehicles and/or the placement of equipment and staging materials may injure or kill individuals by crushing them or by collapsing burrows containing salamanders. Vehicles and equipment traveling to and from work areas within upland habitat could potentially kill or injure salamanders by running over them when they are active aboveground.

Ground disturbance such as blading and excavation within upland modeled habitat can injure or kill CTS by unearthing individuals and collapsing burrows containing salamanders. Placement of stockpiled or excess soil or chipped plant material could also entomb salamanders using underground burrows if these materials are placed on top of occupied burrow entrances. CTS could be injured or killed as a result of being entrapped in trenches or holes that are excavated in upland modeled habitat and left open and uncovered for extended periods of time. CTS could also be injured or killed as a result of getting caught in monofilament netting if these materials are used for erosion control, or as a result of handling and relocating individuals to move them out of harm's way. Generally, SMUD will not conduct Covered Activities within a waterbody, so injury or killing of eggs or larvae resulting from in-water work is unlikely.

Most Covered Activities will typically disturb only small areas (less than 0.1 acre), take place over short time periods (1 to fewer than 10 days), occur during daylight hours, and involve few personnel and vehicles. Furthermore, most Covered Activities will not typically take place near CTS aquatic modeled habitat used for breeding. Accordingly, the likelihood of encountering CTS while conducting Covered Activities is low. Large-scale Covered Activities involving more heavy equipment, personnel, and ground disturbance pose greater potential for injury or mortality of CTS. However, planning and coordination of Covered Activities requires siting facilities and locating work areas away from sensitive habitat to the extent feasible.

Permanent ground disturbance and long-term disturbances that result in habitat modification within aquatic and upland modeled habitat extending more than 1 year would be considered permanent habitat loss for CTS. Impacts associated with all Covered Activities are anticipated to permanently remove an average of 0.17 acre of CTS aquatic modeled habitat (consisting of Open Water/Fringe, Other Depressional Wetland, Vernal Pool, Seasonal Wetland, and Swale land cover types) in the Permit Area annually and no more than 5.0 acres over the 30-year Permit Term. Covered Activities could also permanently remove 0.82 acre of upland modeled habitat (consisting of Blue Oak Woodland, Valley Oak Woodland, Pasture, and Grasses and Forbs land cover types within 1.2 miles of breeding habitat) annually and no more than 24.6 acres over the 30-year Permit Term (HCP Table 4-9). Permanent loss of upland modeled habitat would result mainly from siting new facilities in an area where none currently exist, and these areas would generally be 0.25 acre or less, geographically dispersed over 95,327 acres of Permit Area upland modeled habitat. The small amount of permanent loss of modeled habitat is not expected to significantly impair the life history requirements of CTS or reduce the population.

Temporary habitat disturbance is attributed to Covered Activities within CTS aquatic or upland modeled habitat that involve excavation, grading, stockpiling of soil, or staging of equipment that alters existing vegetation, soils, topography, and hydrology for a period no longer than 12 months. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis. Impacts associated with all Covered Activities are anticipated to temporarily disturb an average of 0.017 acre of CTS aquatic modeled habitat (consisting of Open Water/Fringe, Other Depressional Wetland, Vernal Pool, Seasonal Wetland, and Swale land cover types) annually and no more than 0.5 acre over the 30-year Permit Term (HCP Table 4-9). Covered Activities could also temporarily remove 3.65 acres of upland modeled habitat (consisting of Blue Oak Woodland, Valley Oak Woodland, Pasture, and Grasses and Forbs land cover types within 1.2 miles of breeding habitat) annually and no more than 109.5 acres over the 30-year Permit Term (HCP Table 4-9). The temporary disturbance of any given modeled habitat area would generally be less than 0.1 acre. The temporary loss of small amounts of modeled habitat across a large area is not expected to significantly impair essential behavioral patterns for CTS and is not expected to fragment habitat or inhibit dispersal.

Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with AMMs summarized below in parentheses and presented in Table 2-11 to avoid and minimize direct permanent and temporary impacts on CTS as described above. These measures restrict the type, extent, and timing of activities that are conducted within and near modeled habitat to prevent inadvertent impacts on CTS for applicable Covered Activities.

- G-AMM2 (Minimize work area footprint)
- G-AMM4 (Limit off-road speed limit to 15 mph to minimize animal strikes)
- G-AMM5 (Implement general guidelines that prohibit pets on work sites to prevent interaction with sensitive animals)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM7 (Prevent refueling of construction equipment within 250 feet of Vernal Pool, Seasonal Wetland, and Swale land cover types and within 100 feet of Open Water/Fringe and Depressional Wetland land cover types)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM10 (Cover trenches and holes at the end of each day and inspect prior to starting work the next day)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)

- G-AMM12 (Avoid placing excess soil in Open Water/Fringe, Other Depressional Wetland, Vernal Pool, Seasonal Wetland, and Swale land cover types or over burrows within upland modeled habitat)
- G-AMM13 (Avoid stockpiling soil in Open Water/Fringe, Other Depressional Wetland, Vernal Pool, Seasonal Wetland, and Swale land cover types or over burrows within upland modeled habitat)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM16 (Avoid placing chipped plant material in Open Water/Fringe, Other Depressional Wetland, Vernal Pool, Seasonal Wetland, and Swale land cover types or over burrows within upland modeled habitat)
- G-AMM18 (Stop work and contact SMUD if an HCP-covered or ESA- and CESA-listed species encountered within 100 feet of work)
- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)
- VP-AMM1 (Avoid driving through vernal pools, seasonal wetlands and swales)
- VP-AMM2 (Minimize vehicle impacts on vernal pools, seasonal wetlands, and swales by evaluating moisture content)
- CTS-AMM1 (Restrict construction activities in upland modeled habitat during the wet season to dry periods when there is less than 70 percent chance of rain and no active rain events greater than 0.25 inch)
- CTS-AMM2 (Conduct pre-work clearance surveys when conducting activities in modeled habitat between October 15 and July 15 or when disturbance within upland modeled habitat is greater than 0.1 acre)
- CTS-AMM3 (Require a biological monitor to be present during activities requiring more than 0.1 acre of disturbance within upland modeled habitat)
- CTS-AMM4 (Avoid work within aquatic modeled habitat when water is present)
- CTS-AMM5 (Install wildlife exclusion fencing around work area if activities will occur between October 15 and July 15 and are longer than 1 week in duration)
- CTS-AMM6 (Avoid using monofilament netting for erosion control within upland modeled habitat)
- CTS-AMM7 (Prepare a CTS relocation plan for activities that result in disturbance of more than 0.1 acre within modeled habitat)

- CTS-AMM8 (Install and maintain permanent wildlife exclusion fencing around perimeter of the CPP)
- CTS-AMM9 (cover trenches and steep-walled holes greater than 6 inches in depth or install escape ramps to prevent entrapment)

### Indirect Impacts

Covered Activities could also result in indirect impacts on CTS individuals and modeled habitat that occur later in time but are reasonably certain to occur. Indirect impacts on CTS and modeled habitat could include disturbances resulting from increased human presence that cause individuals to leave the area; ground vibrations that cause individuals to emerge from burrows exposing them to heat, desiccation, trampling, or predation; temporary and permanent night lighting that could expose individuals emerging from burrows to increased risks of being crushed or predated; increased temporary runoff that leads to increased sedimentation and degradation of nearby breeding habitat; permanent changes in hydrology or stormwater runoff that alters the hydroperiod of nearby breeding habitat; spread of invasive or nonnative plants that replace native species and alters the physical or chemical characteristic of upland and aquatic habitats; and hazardous materials exposure that could reduce water quality of nearby breeding habitat.

Altered hydrology, erosion, sedimentation, or contamination may reduce CTS fitness or render aquatic habitat unsuitable for supporting successful breeding, thereby affecting the species by reducing population size.

Covered Activities are anticipated to indirectly disturb an average of 0.11 acre of CTS aquatic modeled habitat (consisting of Open Water/Fringe, Other Depressional Wetland, Vernal Pool, Seasonal Wetland, and Swale land cover types) within the Permit Area annually and no more than 3.2 acres over the 30-year Permit Term.

Implementation of the Conservation Strategy would require that applicable Covered Activities be conducted in accordance with AMMs summarized below and presented in Table 2-11 to avoid and minimize indirect impacts on CTS and modeled habitat that could result from temporary and permanent nighttime lighting and from hydrologic alteration, erosion, sedimentation, and contamination as described above.

- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM7 (Avoid refueling or equipment maintenance activities within 250 feet of vernal pools, seasonal wetlands, and swales)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM9 (Prevent adverse effects from HDD by implementing a frac-out contingency plan and properly containing all drilling fluids)

- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM13 (Avoid stockpiling soil material in areas that could result in runoff into CTS aquatic or upland modeled habitat and cover any exposed stockpiles)
- G-AMM17 (Direct temporary night lighting away from CTS modeled habitat and for permanent lighting orient downward to minimize glare)
- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)

### Critical Habitat Impacts

Critical habitat was designated by the USFWS for CTS in 2005 (69 FR 48570). There are 19,569 acres of CTS critical habitat (7,926 acres of which is modeled habitat) in the Permit Area (Figure 3.4-1).

Covered Activities would permanently affect an estimated 2.14 acres and temporarily affect an estimated 6.01 acres of modeled habitat within CTS critical habitat over the Permit Term. This represents less than 0.1 percent of designated critical habitat in the Permit Area.

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. CTS are known to occur on the SMUD Bank. This Direct Action could affect CTS and modeled habitat. A quantitative analysis of impacts on CTS modeled habitat from implementation of the Conservation Strategy is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Direct Actions is provided below.

### Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank

As part of the Conservation Strategy, SMUD will offset impacts on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement plan and a slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management that could result in temporary

disturbance of vernal pools that are used by breeding CTS. Inoculation of vernal pools with Sacramento Orcutt grass and slender Orcutt grass seed would be conducted in the dry season when CTS are not present. Invasive plant management could be conducted during the dry season or wet season. Activities that are conducted in vernal pools when water is present and CTS adults, larvae, or juveniles are present, could result in direct injury or mortality of individuals.

Although enhancement activities could result in modification of vernal pools that provide CTS breeding habitat, these activities are not expected to result in the loss of habitat because habitat conditions conducive to Sacramento Orcutt grass and slender Orcutt grass would also be suitable for CTS.

The movement of vehicles and equipment in the vicinity of vernal pool enhancement and inoculation activities could result in direct impacts on CTS by crushing individual salamanders if they are active aboveground.

Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not require disturbance of pools when they are inundated and could be occupied by CTS. Surveys that require walking through pools would be conducted during the dry season and are not expected to affect CTS.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on CTS associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on CTS modeled habitat associated with all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

#### Operation and Maintenance

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections, for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and

overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct and indirect impacts on CTS modeled habitat in the Permit Area, including temporary disturbance and permanent loss of habitat and injury or mortality of individuals. For some of the O&M activities, permanent and temporary habitat loss will be avoided because these activities would not result in ground disturbance and would be conducted during the dry season when CTS are underground. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility and pipeline easements, which minimizes habitat impacts. Most of these activities do not involve ground disturbance and are not expected to result in direct or indirect impacts on CTS modeled habitat. Proposed HCP implementation would include trimming, transplanting, and removal of elderberry shrubs (V5a, V5b, V5c) and trimming or removal of trees and shrubs within existing utility line and gas pipeline easements (V2, V4, V7) in areas that overlap with CTS modeled habitat could result in temporary disturbance of modeled habitat and injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Permanent habitat loss from vegetation management activities is not anticipated.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. A quantitative analysis of impacts on CTS from all covered activities, including Indirect Actions, is estimated and described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below.

The discussion below discloses the types of impacts that may occur and the types of measures that may reduce potentially significant effects of these Indirect Actions, which would be refined and further explained as part of future CEQA review.

### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct and indirect impacts on CTS modeled habitat, including temporary disturbance and permanent loss of potentially occupied habitat and injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would likely result in ground disturbance within CTS modeled habitat. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance and permanent loss of suitable habitat and injury or mortality of individuals. These activities would likely involve ground disturbance, including grading and excavation, outside of existing easements and existing facility footprints and would have the potential to directly or indirectly affect CTS modeled habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities would result in ground disturbance from equipment access associated with vegetation management inspections (V1); future tree, shrub, and ground vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include transplanting and removal of elderberry shrubs (V5b) adjacent to CTS upland habitat. Excavation to remove or transplant elderberry shrubs have the potential to result in direct and indirect impacts on CTS modeled habitat, including temporary disturbance of upland habitat, sedimentation runoff into nearby aquatic breeding habitat, and injury or mortality of adult and juvenile

salamanders during dispersal or during excavation where occupied burrows are present. In general, vegetation management activities would have minimal impacts on salamanders underground because most vegetation management activities would occur aboveground. The movement and staging of vehicle and equipment within upland modeled habitat has the greatest potential to result in injury or mortality of dispersing salamanders during vegetation management activities. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance and vehicle and equipment movements through upland habitat is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, construction of a new pipeline valve, and construction of a temporary access road from Clay East Road to the work area. Excavation and grading associated with the replacement of portions of the existing CPP underground water pipeline that occur within CTS modeled habitat have the potential to result in direct and indirect impacts on CTS. These impacts would result in temporary disturbance and permanent removal of modeled habitat and could result in injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring could result in direct or indirect adverse impacts on CTS if ground-disturbing activities occur in or near modeled habitat and designated critical habitat. Implementation of the AMMs (consistent with applicable mitigation measures contained in the SMUD Bank IS/MND) would ensure that potential adverse impacts on CTS from Direct Actions are **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Implementation of Indirect Actions could also result in direct or indirect adverse impacts on CTS. Implementation of the AMMs summarized above in *Description of Impacts from*

*Covered Activities and Conservation Strategy* and contained in Table 2-11 would avoid and minimize impacts from Indirect Actions on CTS. Implementation of the Conservation Strategy actions to preserve, restore, and enhance CTS habitat would offset adverse impacts from Indirect Actions on CTS modeled habitat and designated critical habitat.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19, VP-AMM1 through VP-AMM7, and CTS-AMM1 through CTS-AMM8 (described in Table 2-11) would be implemented to avoid and minimize impacts on CTS for applicable Covered Activities.

The Conservation Strategy would offset permanent, temporary, and indirect impacts on CTS modeled habitat and designated critical habitat by acquiring appropriate habitat credits at the SMUD Bank. Permanent impacts will be mitigated at 3:1 (3 acres preserved and restored/created for every 1 acre permanently affected), temporary impacts at a ratio of 0.5:1 (0.5 acre preserved for every 1 acre temporarily affected), and indirect impacts at a ratio of 1:1 (1 acre preserved for every 1 acre indirectly affected). In accordance with the Conservation Strategy, SMUD will preserve 142.25 acres of CTS habitat (128.55 acres upland and 13.7 acres aquatic) and will create or restore 5.0 acres of aquatic habitat to mitigate for the permanent loss of 24.6 acres of upland habitat and 5.0 acres of aquatic habitat, and the temporary disturbance of 109.5 acres of upland habitat and 0.5 acre of aquatic habitat throughout the Permit Area over the 30-year Permit Term.

Implementation of the AMMs would be effective in reducing impacts to a **less-than-significant** level because they restrict the type, extent, and timing of ground-disturbing activities in or near modeled habitat for CTS; require preconstruction surveys to determine presence of the species or suitable habitat features to be avoided; prevent dewatering of occupied aquatic habitat; minimize entrapment of salamanders within excavated holes and trenches; require the presence a biological monitor during work in aquatic habitats to ensure that Conservation Strategy measures are properly implemented during construction; and compensate for permanent, temporary, and indirect impacts on modeled habitat.

#### Mitigation Measures

No mitigation is required.

***Impact 3.4-6: Temporary and permanent impacts on giant garter snake (Covered Species)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on GGS and therefore would have **no impact**.

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GGS is state- and federally listed as threatened. The Permit Area supports 19,344 acres of aquatic modeled habitat for GGS consisting of Rice, Riverine, Open Water/Fringe, and Other Depressional Wetland land cover types. Aquatic modeled habitat is limited to areas west of the Natomas East Main Drainage Canal in the northern portion of the Permit Area (including Yolo County) where suitable habitat is present and lowlands below 90 feet elevation in the southern portion of the Permit Area (HCP Figure 3-16). The Permit Area also supports 22,171 acres of upland modeled habitat for GGS that consists of Valley Foothill Riparian, Blue Oak Woodland, Valley Oak Woodland, Pasture, and Grasses and Forbs land cover types located within 200 feet of aquatic modeled habitat (HCP Figure 3-16).

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities could result in direct injury or mortality of GGS and permanent or temporary disturbance of modeled habitat. Covered Activities may also result in indirect impacts on GGS in the vicinity of Covered Activities that results in habitat alteration or degradation later in time. Each of these impacts is described below. There is no modeled habitat for GGS at the SMUD Bank, therefore the Conservation Strategy actions would not impact this species.

**Direct Impacts**

Covered Activities that result in temporary ground disturbance, permanent ground disturbance, vehicle and equipment movement, hazardous materials exposure, and placement of materials (i.e., stockpiled soil and chipped plant material) within GGS modeled habitat could directly affect GGS.

Covered Activities such as grading, trenching, or excavation in uplands could result in direct mortality or injury of individuals (e.g., those occupying burrows), particularly when these activities are implemented close to aquatic modeled habitat. Parking of vehicles and/or placement of equipment and staging materials may injure or kill individual snakes if these materials are placed or vehicles driven into areas where snakes are basking. Vehicles and equipment traveling to and from work areas within upland habitat could potentially run over snakes dispersing across the road or basking. Ground disturbance such as blading and excavation can injure or kill individuals that are dispersing above ground or snakes that occupy burrows below ground. Placement of stockpiled or excess soil or chipped plant material within upland areas containing burrows could prevent snakes from being able to leave the burrows, essentially entombing them. Individuals

could also be injured or killed as a result of being entrapped in trenches or holes created during pole or line installation.

Most Covered Activities will typically disturb only small areas (less than 0.1 acre), take place over short time periods (1 to fewer than 10 days), and involve few personnel and vehicles. Accordingly, the likelihood of encountering GGS while conducting Covered Activities is low. Large-scale Covered Activities involving more heavy equipment, personnel, and ground disturbance pose greater potential for injury or mortality of GGS. However, planning and coordination of Covered Activities requires siting facilities and locating work areas away from sensitive habitat to the extent feasible.

Permanent ground disturbance and long-term disturbances that result in habitat modification within aquatic and upland modeled habitat extending more than 1 year would result in permanent habitat loss for GGS. Impacts associated with all Covered Activities are anticipated to permanently remove less than 0.01 acre of GGS aquatic modeled habitat (consisting of Rice, Riverine, Open Water/Fringe, and Other Depressional Wetland land cover types) in the Permit Area annually and no more than 0.1 acre over the 30-year Permit Term (HCP Table 4-9). Covered Activities could also permanently remove up to 0.80 acre of upland modeled habitat (consisting of Valley Foothill Riparian, Blue Oak Woodland, Valley Oak Woodland, Pasture, and Grasses and Forbs land cover types located within 200 feet of aquatic modeled habitat) annually and no more than 24.1 acres over the 30-year Permit Term (HCP Table 4-9). Permanent loss of upland modeled habitat would result mainly from siting new facilities in areas where none currently exist, and these areas would generally be 0.25 acre or less.

Temporary habitat disturbance is attributed to Covered Activities within GGS aquatic or upland modeled habitat that involve excavation, grading, stockpiling of soil, or staging of equipment that alters existing vegetation, soils, topography, and hydrology for a period no longer than 12 months. Covered Activities are anticipated to temporarily disturb an average of 0.35 acre of GGS aquatic modeled habitat (consisting of Rice, Riverine, Open Water/Fringe, and Other Depressional Wetland land cover types) annually and no more than 10.4 acres over the 30-year Permit Term (HCP Table 4-9). Covered Activities could also temporarily disturb 3.4 acres of upland modeled habitat (consisting of Valley Foothill Riparian, Blue Oak Woodland, Valley Oak Woodland, Pasture, and Grasses and Forbs land cover types located within 200 feet of aquatic modeled habitat) annually and no more than 102.2 acres over the 30-year Permit Term (HCP Table 4-9). The temporary loss of small amounts of modeled habitat across a large area is not expected to significantly impair essential behavioral patterns for GGS and is not expected to fragment habitat.

The small amount of temporary disturbance and permanent loss of modeled habitat for GGS represents only 0.27 percent of the overall modeled habitat in the Permit Area. Because this overall impact would be very small and dispersed over a large geographic area throughout the 30-year Permit Term, it is not expected to significantly impair the life history requirements of GGS or reduce the local population.

Implementation of the proposed HCP would require that applicable Covered Activities be conducted in accordance with AMMs summarized below in parentheses and presented in Table 2-11 to avoid and minimize direct permanent and temporary impacts on GGS as described above.

- G-AMM1 (Perform annual training for crews conducting Covered Activities to review all HCP AMMs and relevance)
- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Park vehicles and equipment on pavement, existing roads, or previously disturbed areas to the maximum extent feasible)
- G-AMM4 (Limit off-road speed limit to 15 mph to minimize animal strikes)
- G-AMM5 (Implement general guidelines that prohibit pets on work sites to prevent interaction with sensitive animals)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM7 (Prevent refueling of construction equipment within 100 feet of Riverine, Open Water/Fringe, and Depressional Wetland land cover types)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM10 (Cover trenches and holes at the end of each day and inspect prior to starting work the next day)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in Riverine, Open Water/Fringe, and Depressional Wetland land cover types or over burrows within upland modeled habitat)
- G-AMM13 (Avoid stockpiling soil in Riverine, Open Water/Fringe, and Depressional Wetland land cover types or over burrows within upland modeled habitat)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM16 (Avoid placing chipped plant material within 100 feet of Riverine, Open Water/Fringe, Depressional Wetland, and Vernal Pool, Seasonal Wetland, and Swale land cover types or over burrows within upland modeled habitat)
- G-AMM18 (Stop work and contact SMUD if an HCP-covered or ESA- and CESA-listed species encountered within 100 feet of work)

- G-AMM19 (Avoid discharging hydrostatic test water into aquatic habitats)
- CTS-AMM6 (Avoid using monofilament netting for erosion control within upland modeled habitat)
- GGS-AMM1 (Require a biological monitor to be present during all activities in GGS modeled habitat during active season and for activities greater than 0.1 acre in modeled habitat during inactive season)
- GGS-AMM2 (Initiate construction activities within GGS modeled habitat between May 1 and October 1 and relocate GGS encountered in construction area consistent with an agency-approved relocation plan)
- GGS-AMM3 (Minimize vegetation clearing within GGS modeled habitat)
- GGS-AMM4 (Allow dewatered habitats to remain dry for 15 consecutive days)

### Indirect Impacts

Covered Activities could also result in indirect impacts on GGS and modeled habitat that occur later in time but are reasonably certain to occur. Indirect impacts on GGS and modeled habitat could include disturbances resulting from increased human presence that cause individuals to leave the area; ground vibrations that cause individuals to emerge from burrows exposing them to trampling/running over or predation; increased temporary runoff that leads to increased sedimentation and degradation of nearby aquatic habitat; permanent changes in hydrology or stormwater runoff that alters nearby aquatic habitat (i.e., perennial habitat becomes seasonal); spread of invasive or nonnative plants that replace native species and alters the physical characteristic of upland and aquatic habitats; and hazardous materials exposure that could reduce water quality of nearby aquatic habitat. Hydrology could also be altered or habitat contaminated with bentonite or polymer material as a result of HDD if drilling fluids are unintentionally returned to the surface, and these fluids enter the modeled habitat.

Altered hydrology, erosion, sedimentation, or contamination could diminish the potential of an aquatic feature to support GGS. This change in habitat could result in a reduction in basking areas or disrupt the species' normal foraging and breeding activities.

Implementation of the Conservation Strategy would require that applicable Covered Activities be conducted in accordance with AMMs summarized in parentheses below and presented in Table 2-11 to avoid and minimize indirect impacts on GGS and modeled habitat that could result from temporary and permanent nighttime lighting and from hydrologic alteration, erosion, sedimentation, and contamination as described above.

- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)

- G-AMM7 (Prevent refueling of construction equipment within 100 feet of Riverine, Open Water/Fringe, and Depressional Wetland land cover types)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM13 (Avoid stockpiling soil in Riverine, Open Water/Fringe, and Depressional Wetland land cover types or over burrows within upland modeled habitat)
- G-AMM19 (Avoid discharging hydrostatic test water into aquatic habitats)

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The SMUD Bank does not support GGS aquatic or upland modeled habitat; therefore, this Direct Action will not affect GGS.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on GGS associated with implementation of Covered Activities (Indirect Actions).

No impacts on GGS are anticipated from Indirect Actions associated with ongoing conservation and enhancement activities and miscellaneous Covered Activities because GGS modeled habitat does not occur on the SMUD Bank, CPP existing facility, or the Rancho Seco Property.

A quantitative analysis of impacts on GGS modeled habitat from all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

### **Operation and Maintenance**

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a,

E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct and indirect impacts on GGS modeled habitat in the Permit Area, including temporary disturbance and permanent loss of habitat and injury or mortality of individuals. For many of the O&M activities, permanent and temporary habitat loss will be avoided by conducting ground-disturbing activities outside of suitable aquatic habitats. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include trimming or removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility line and pipeline easements, which minimizes habitat impacts. Most of these activities do not involve ground disturbance and are not expected to result in direct or indirect impacts on GGS modeled habitat. The trimming or removal of brushy vegetation within existing transmission line easements (V3c) and trees and shrubs within existing pipeline easements (V7) that overlap with GGS modeled habitat could result in temporary disturbance of upland and aquatic modeled habitat, sedimentation runoff into nearby aquatic habitat, and injury or mortality of adult and juvenile GGS during basking or dispersal. In general, vegetation management activities would have minimal impacts on GGS underground because most vegetation management activities would occur aboveground and because areas heavily vegetated with trees and shrubs are generally not considered suitable upland habitat for GGS. The movement and staging of vehicle and equipment within upland modeled habitat has the greatest potential to result in injury or mortality of snakes during vegetation management activities. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance and vehicle and equipment movements through upland habitat is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities.

A quantitative analysis of impacts on GGS from all Covered Activities, including Indirect Actions, is estimated and described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below.

#### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct and indirect impacts on GGS, including temporary disturbance and permanent loss of upland and aquatic modeled habitat and injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would likely result in ground disturbance within GGS modeled habitat. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance and permanent loss of suitable habitat and injury or mortality of individuals. These activities would likely involve ground disturbance, including grading and excavation, outside of existing easements and existing facility footprints and would have the potential to directly or indirectly affect GGS modeled habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### Vegetation Management for New Facilities

Vegetation management activities for new facilities would consist of inspections (V1); future tree, shrub, and ground vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include transplanting and

removal of elderberry shrubs (V5b) adjacent to GGS modeled habitat. Excavation to remove or transplant elderberry shrubs and equipment access have the potential to result in direct and indirect impacts on GGS modeled habitat, including temporary disturbance of upland habitat, sedimentation runoff into nearby aquatic habitat, and injury or mortality of GGS during basking, dispersal, or during excavation where occupied burrows are present. In general, vegetation management activities would have minimal impacts on GGS underground because most vegetation management activities would occur aboveground and because areas heavily vegetated with trees and shrubs are generally not considered suitable upland habitat for GGS. The movement and staging of vehicle and equipment within upland modeled habitat has the greatest potential to result in injury or mortality of snakes during vegetation management activities. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance and vehicle and equipment movements through upland habitat is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. Excavation and grading associated with new construction on the CPP underground water pipeline that occur within GGS modeled habitat have the potential to result in direct and indirect impacts on GGS. These impacts would result in temporary disturbance and permanent removal of modeled habitat and could result in injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### **Conclusion**

##### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring will not affect GGS upland or aquatic modeled habitat. Therefore, Direct Actions will have **no impact**.

##### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities could result in direct or indirect adverse impacts on GGS. Implementation of the AMMs contained in Table 2-11 would avoid and minimize impacts from Indirect Actions on GGS. Implementation of Conservation Strategy actions to preserve and restore/create suitable habitat would offset adverse impacts from Indirect Actions on GGS.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

. G-AMM1 through G-AMM19 and GGS-AMM1 through GGS-AMM4 (described in Table 2-11) would be implemented for applicable Covered Activities to avoid and minimize impacts from Indirect Actions on GGS.

The Conservation Strategy would offset permanent and temporary impacts on GGS modeled habitat. Permanent impacts would be mitigated at 3:1 (3 acres preserved and restored/created for every 1 acre permanently affected) and temporary impacts at a ratio of 0.5:1 (0.5 acre preserved for every 1 acre temporarily affected). In accordance with the Conservation Strategy, SMUD will preserve 128.9 acres of GGS habitat (123.4 acres upland and 5.4 acres aquatic) and create or restore 0.10 acre of GGS habitat to mitigate for the permanent loss of 24.1 acres of upland habitat and 0.1 acre of aquatic habitat, and the temporary disturbance of 102.2 acres of upland habitat and 10.4 acres of aquatic habitat throughout the Permit Area over the 30-year Permit Term. Mitigation for GGS would be achieved by collaborating with the implementing entity of another HCP upon wildlife agency approval (take would be authorized under the proposed HCP, not the other HCP) or purchase credit from another CDFW/USFWS-approved mitigation program if available, or GGS credits at a USFWS-approved conservation/mitigation bank. Candidate HCPs include the Western Placer County HCP/NCCP, the Natomas Basin HCP, the Yolo HCP/NCCP, and the South Sacramento HCP, as well as other future HCPs that may be developed over the proposed HCP 30-year Permit Term.

Implementation of the AMMs would be effective in reducing impacts to a **less-than-significant** level because they restrict the type, extent, and timing of ground-disturbing activities in or near modeled habitat for GGS; require dewatered areas to remain dry for 15 days to ensure that no snakes or prey are present; require the presence a biological monitor for activities within modeled habitat during the active season and for activities greater than 0.1 acre in modeled habitat during inactive season for applicable Covered Activities and compensate for permanent and temporary impacts on modeled habitat.

### Mitigation Measures

No mitigation is required.

#### ***Impact 3.4-7: Temporary and permanent impacts on Crotch bumble bee and western bumble bee (not covered under proposed HCP)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in temporary disturbance of Crotch bumble bee and western bumble bee habitat and potential injury or mortality of Crotch bumble bee and western bumble bee adults, pupae, larvae, or eggs. Loss of individuals could reduce the local population of a rare species and would be considered an adverse impact. Implementation of Conservation Strategy AMMs would reduce this impact to **less than significant**.

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Two special-status bumble bees could occur in the Permit Area—Crotch bumble bee and western bumble bee. These species were previously designated by CDFW as candidates for state listing as endangered but this action was invalidated by the Sacramento Superior Court on November 13, 2020. The Court ruled that insects are ineligible for listing under CESA and that CDFW does not have the authority to list bumble bee species. CDFW appealed this decision on February 5, 2021. Because the legal status of Crotch bumble bee and western bumble bee is uncertain at the time this EIR was prepared and because sufficient information is available to warrant protection of the species as rare throughout California (Hatfield et al. 2018), Crotch bumble bee and western bumble bee are considered special-status species for purposes of this EIR.

The Permit Area supports 168,230 acres of Grasses and Forbs and 18,888 acres of Oak Woodland land cover types (Table 3.4-1) that represent potential habitat for native bees. Flowering plants within these habitats may provide nectar and pollen sources for foraging native bees and abandoned rodent burrows, woody debris, and disturbed soils may provide nesting and overwintering sites. Flowering plants may also be present within developed and landscaped areas adjacent to natural grassland and oak woodland habitats.

#### ***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities occur within grassland and oak woodland habitats could result in direct impacts on Crotch bumble bee and western bumble bee. Bumble bee adults, pupae, larvae, or eggs could be crushed or killed if nests or underground overwintering sites are crushed by vehicles, equipment, or foot traffic. Stockpiled soil or chipped plant material could be placed on top of nest entrances or in areas that contain overwintering bees, which could entrap bees resulting in the mortality of individuals or an entire hive. Aboveground, adult bees could be injured or killed by moving vehicles or equipment.

Impacts associated with all Covered Activities are anticipated to permanently remove an average of 2.01 acres of bumble bee habitat (grassland and oak woodlands) in the Permit

Area annually and no more than 60.32 acres over 30 years (Table 3.4-4). Temporary habitat disturbance is attributed to Covered Activities within suitable habitat that involve excavation, grading, stockpiling of soil, or staging of equipment for a period no longer than 12 months. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis. Covered Activities are anticipated to temporarily disturb an average of 13.93 acres of bumble bee habitat (grassland and oak woodlands) annually and no more than 417.80 acres over 30 years (Table 3.4-4).

Implementation of the proposed HCP would require that applicable Covered Activities be conducted in accordance with AMMs summarized in parentheses below and presented in Table 2-11, which would minimize impacts on modeled habitats for upland species that also support potential habitat for Crotch bumble bee and western bumble bee within grassland and oak woodland habitats.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas, where possible)
- G-AMM4 (Limit off-road speed limit to 15 mph to minimize animal strikes)
- G-AMM5 (Implement general guidelines that prohibit pets on work sites to prevent interaction with sensitive animals)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM12 (Avoid placing excess soil over burrows within upland modeled habitat)
- G-AMM13 (Avoid stockpiling soil over burrows within upland modeled habitat)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- G-AMM16 (Avoid placing chipped plant material over burrows within upland modeled habitat)

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Crotch and western bumble bees would not likely occupy vernal pools on the SMUD Bank and would not be affected by enhancement and introduction activity. A quantitative analysis of impacts on Crotch and western bumble bee habitat associated with all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation*

*Strategy.* A qualitative discussion of impacts associated with Direct Actions is provided below.

Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank as part of the Conservation Strategy, SMUD will offset impacts on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introducing slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement and a slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management. Increased human presence to access the enhancement and introduction areas could potentially disturb active bee colonies if these activities occur during the bumble bee active season and the species is present in the vicinity of enhancement and introduction activities. Overall, the potential for impacts on Crotch bumble bee and western bumble bee from enhancement and introduction activities is unlikely due to the passive nature of the activity and limited area of disturbance. In addition, enhancement of Sacramento Orcutt Grass populations and introduction of slender Orcutt grass on the SMUD Bank would occur in or around vernal pools in habitats that not likely to be occupied by Crotch and western bumble bee; therefore, direct impacts on the species as a result of the Sacramento Orcutt grass enhancement and slender Orcutt grass introduction activities are not anticipated.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on Crotch bumble bee and western bumble bee associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on Crotch bumble bee and western bumble bee habitat from all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions is provided below.

### **Operation and Maintenance**

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c,

E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct impacts on Crotch bumble bee and western bumble bee if these activities occur within occupied habitat. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. However, if an active bumble bee nest is present within or adjacent to work areas, the nest could be crushed during ground-disturbing activities and adults could be killed during collisions with vehicles and equipment.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include the removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility and pipeline easements (V2, V3a, V3b, V4, V6, V7). Most of these activities do not involve ground disturbance and are not expected to result in direct or indirect impacts on Crotch bumble bee and western bumble bee. Vegetation management activities that require overland access through occupied habitat have the potential to result in direct impacts on Crotch bumble bee and western bumble bee if these activities occur within occupied habitat. Similar to O&M activities, vegetation management activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. However, if Crotch bumble bee or western bumble bee nests are present within work areas, the nest could be crushed and adults could be killed during the movement of and collisions with vehicles and equipment. Foraging nectar sources could also be removed or disturbed during vegetation management activities; however, most of these activities are focused on removing large trees and shrubs that interfere with utility line safety and access and generally are not primary nectar sources for bumble bees.

Overall, this potential impact is expected to be negligible because the area of effect would be limited to a narrow corridor through potential habitat or within existing disturbed areas that likely do not provide suitable habitat.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

A quantitative analysis of impacts on Crotch bumble bee and western bumble bee from all Covered Activities, including Indirect Actions, is estimated and described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below. These impacts would be refined and further explained as part of future CEQA review if required.

### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct impacts on Crotch bumble bee and western bumble bee if these activities occur within occupied habitat. If a Crotch bumble bee or western bumble bee nest is present within or adjacent to work areas, the nest could be crushed during ground-disturbing activities and adults could be killed during collisions with vehicles and equipment. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that could result in ground disturbance within potential habitat for Crotch bumble bee and western bumble bee. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance of habitat for Crotch bumble bee and western bumble bee. These activities would likely involve ground disturbance outside of existing easements and existing facility footprints and would have the potential to directly affect Crotch bumble bee and western bumble bee if these activities occur within or near occupied habitats. If a Crotch bumble bee or western bumble bee nest is present within or adjacent to work areas, the nest could be crushed during ground-disturbing activities and adults could be killed during collisions with vehicles and equipment. Construction of new facilities could also result in the permanent loss of potential Crotch bumble bee and western bumble bee habitat (grassland and oak woodlands). A more detailed description of the types of direct and indirect impacts that

are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### Vegetation Management for New Facilities

Vegetation management activities for new facilities would consist of inspections (V1); include future tree, shrub, and ground and vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include transplanting and removal of elderberry shrubs (V5b). Vegetation management activities that require vehicles and equipment to access through occupied habitat have the potential to result in direct impacts on Crotch bumble bee and western bumble bee. If a Crotch bumble bee or western bumble bee nest is present within work areas, the nest could be crushed and adults could be killed from the movement of vehicles and equipment. Overall, this potential impact is expected to be negligible because the area of effect would be limited to a narrow corridor through potential habitat or within existing disturbed areas that likely do not provide suitable habitat. Permanent habitat loss from vegetation management activities is not anticipated.

#### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. Excavation and grading associated with new construction on the CPP underground water pipeline that occur within occupied Crotch bumble bee or western bumble bee habitat would have the potential to directly or indirectly affect these species, including the temporary disturbance of potential habitat.

Most of the miscellaneous Covered Activities will occur within existing facilities and along existing easements with a high level of habitat disturbance, which reduces the potential for Crotch bumble bees and western bumble bees. If a Crotch bumble bee or western bumble bee nest is present within or adjacent to work areas, the nest could be crushed during ground-disturbing activities and adults could be killed during collisions with vehicles and equipment. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct

Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring could result in the incidental loss of Crotch bumble bee and western bumble bees, candidates for state listing as endangered if ground-disturbing activities occur in areas occupied by these species. Because enhancement and introduction activities would be limited to existing vernal pools and no excavation is proposed, the potential for adverse impacts on bumble bees would be low. Implementation of the AMMs that minimize disturbance areas and restrict access to existing roads with reduced speeds would reduce potential adverse impacts on Crotch bumble bee and western bumble bee to a **less-than-significant** level.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could result in the incidental loss of Crotch bumble bee or western bumble bee. The greatest potential for adverse impacts from Indirect Actions are associated with the construction of new facilities, particularly facilities that require removal of more than 0.25 acre of grassland or woodland habitat.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 would be implemented for applicable Covered Activities (described in Table 2-11). These measures would minimize habitat disturbance and potential adverse impacts on Crotch bumble bee and western bumble bee by reducing the disturbance footprint (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), restricting vehicle speeds on unpaved roads (G-AMM4), restricting the placement of soils or debris to prevent covering burrow entrances (G-AMM12, G-AMM13, and G-AMM16), revegetating disturbed areas (G-AMM14), and minimizing clearing and grading (G-AMM15) in modeled habitat for Covered Species (overlaps with habitats for native bumble bees).

### ***Impact 3.4-8: Temporary and permanent impacts on monarch butterfly (not covered under proposed HCP)***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action

could result in temporary disturbance of monarch butterfly foraging habitat within vernal pools on the SMUD Bank. These actions could modify the assemblage of species within vernal pools but would not result in the long-term loss of foraging habitat. Impacts on monarch butterfly from this Direct Action would be **less than significant**.

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Monarch butterflies have been reported to migrate through and breed within the Permit Area. Information on observed locations, breeding sites, and presence of milkweed (larval host plant) is available through a recently developed web-based public reporting system (Western Monarch Milkweed Mapper 2020). Past observations occur in a variety of habitats and include urban gardens. A petition to list monarch butterfly was submitted to USFWS in August 2014. On December 15, 2020, USFWS announced that listing the monarch as endangered or threatened under the ESA is warranted but precluded by higher priority listing actions. The monarch butterfly is now designated as a candidate for listing under ESA and its status will be reviewed annually until a listing decision is made.

The Permit Area supports 168,230 acres of Grasses and Forbs and 18,888 acres of Oak Woodland land cover types (Table 3.4-1) that represent potential foraging and breeding habitat for monarch butterflies. Flowering plants within these habitats may provide nectar sources for foraging adult butterflies and where present, milkweed plants (*Asclepias* sp.) represents potential host plants for monarch butterfly larvae and pupae. Flowering plants, including milkweed, may also be present within developed and landscaped areas throughout the Permit Area. Monarch butterflies are not expected to winter in the Permit Area because the only known wintering sites in California occur along the coast.

### ***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities occur within grassland and oak woodland habitats could result in direct impacts on monarch butterfly. Monarch pupae, larvae, or eggs could be destroyed or killed during vegetation removal or by equipment or vehicles that drive over occupied milkweed plants. Grubbing activities associated with Covered Activities could also result in the loss of flowering plants that provide a nectar source for monarch adults; however, these impacts are expected to be small (generally less than 0.25 acre) and distributed across the entire Permit Area.

Impacts associated with all Covered Activities are anticipated to permanently remove an average of 2.01 acres of potential monarch butterfly habitat (grassland and oak woodlands) in the Permit Area annually and no more than 60.32 acres over 30 years (Table 3.4-4). Temporary habitat disturbance is attributed to Covered Activities within suitable habitat that involve excavation, grading, or staging of equipment for a period no longer than 12 months. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis. Covered Activities are anticipated to temporarily disturb an average of 13.93 acres of potential monarch butterfly habitat (grassland and oak woodlands) annually and no more than 417.80 acres over 30 years (Table 3.4-4).

Wintering monarch butterflies are not expected to be affected by Covered Activities

because the Permit Area does not occur within the wintering range of the species, which is restricted to coastal areas in Central California.

Implementation of the proposed HCP would require that applicable Covered Activities be conducted in accordance with AMMs summarized in parentheses below and contained in Table 2-11, which would minimize impacts on modeled habitats for upland species that also provide potential habitat for monarch butterflies within grassland and oak woodland habitats.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas, where possible)
- G-AMM4 (Limit off-road speed limit to 15 mph to minimize animal strikes)
- G-AMM5 (Implement general guidelines that prohibit pets on work sites to prevent interaction with sensitive animals)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM12 (Avoid placing excess soil over burrows within upland modeled habitat)
- G-AMM13 (Avoid stockpiling soil over burrows within upland modeled habitat)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- G-AMM16 (Avoid placing chipped plant material over burrows within upland modeled habitat)

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not directly affect potential monarch butterfly habitat (grasslands and oak woodlands). A quantitative analysis of impacts on monarch butterfly habitat associated with all Covered Activities is described above. A qualitative discussion of impacts associated with Direct Actions is provided below.

### Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at the SMUD Bank

As part of the Conservation Strategy, SMUD will offset impacts on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement and a slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management. Vernal pools where enhancement and introduction activities are proposed are not likely to be occupied by monarch butterflies because milkweed plants are not expected to occur within or immediately adjacent to vernal pools. Therefore, direct impacts on the species as a result of Sacramento Orcutt grass enhancement and slender Orcutt grass introduction activities are not anticipated. Adult monarch butterflies could potentially forage on flowering plants within vernal pools. Vernal pool enhancement activities could result in the temporary disturbance of potential foraging habitat but would not result in the long-term loss of habitat. Although some flowering vernal pool plants could be replaced by Orcutt grasses as a result of enhancement and introduction activities, removal of invasive grasses and non-flowering plants could promote the growth of native nectar-producing plants that would benefit monarch butterflies.

Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not require habitat disturbance and are not expected to directly affect foraging or breeding monarch butterflies.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on monarch butterfly associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on monarch butterfly habitat from all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions is provided below.

### Operation and Maintenance

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct impacts on monarch butterfly if they result in the destruction or removal of occupied milkweed habitat. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. However, if monarch butterflies are present within or adjacent to work areas, milkweed plants containing eggs, larvae, or pupae could be destroyed during vegetation removal or overland access and adults could be killed by collisions with vehicles and equipment. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include the removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility and pipeline easements (V2, V3a, V3b, V4, V6, V7). Most of these activities do not involve ground disturbance and are not expected to result in direct or indirect impacts on monarch butterfly. Vegetation management activities may require overland access through occupied habitat. If vegetation removal activities include the removal or destruction of milkweed plants or nectar-producing plants, they could result in the loss of monarch butterfly breeding and foraging habitat. Similar to O&M activities, vegetation management activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. Also, most vegetation removal involves trees and shrubs, which do not provide significant resources for monarch butterflies. However, if monarch butterflies are present within vegetation management work areas, milkweed plants containing eggs, larvae, or pupae could be destroyed and adults could be killed by collisions with vehicles and equipment.

Overall, this potential impact is expected to be negligible because the area of effect would be limited to a narrow corridor through potential habitat or within existing disturbed areas that likely do not provide suitable habitat.

***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

A quantitative analysis of impacts on monarch butterfly habitat from all Covered Activities, including Indirect Actions, is estimated and described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below. These impacts would be refined and further explained as part of future CEQA review if required.

**Operation and Maintenance for New Facilities**

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct impacts on monarch butterfly if these activities occur within occupied milkweed habitat. If monarch butterflies are present within or adjacent to work areas, milkweed plants containing eggs, larvae, or pupae could be destroyed during vegetation removal or overland access and adults could be killed by collisions with vehicles and equipment. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

**New Construction**

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that could result in ground disturbance within potential habitat for monarch butterfly. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the

potential to result in the temporary disturbance of habitat for monarch butterfly. These activities would likely involve grubbing and vegetation removal to clear areas for new construction. If occupied milkweed plants are present within areas where construction activities are proposed, these activities could result in the removal or destruction of plants containing monarch butterfly eggs, larvae, or pupae. If suitable foraging habitat is present within or adjacent to the new construction, monarch butterfly adults could be killed during collisions with vehicles and equipment. Construction of new facilities could result in the permanent loss of potential monarch butterfly foraging and breeding habitat if nectar-producing or milkweed plants are present within the facility footprint. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### Vegetation Management for New Facilities

Vegetation management activities for new facilities would consist of inspections (V1); future tree, shrub, and ground and vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include transplanting and removal of elderberry shrubs (V5b). Vegetation management activities that require vehicles and equipment to access through occupied habitat have the potential to result in direct impacts on monarch butterfly if these activities occur within or near occupied habitats. If vegetation removal activities include the removal or destruction of milkweed plants or nectar-producing plants, they could result in the loss of monarch butterfly breeding and foraging habitat. If monarch butterflies are present within vegetation management work areas, milkweed plants containing eggs, larvae, or pupae could be destroyed and adults could be killed by collisions with vehicles and equipment.

Overall, this potential impact is expected to be negligible because the area of effect would be limited to a narrow corridor through potential habitat or within existing disturbed areas that likely do not provide suitable habitat.

#### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. Excavation and grading associated with new construction on the CPP underground water pipeline that occur within occupied monarch butterfly habitat would have the potential to directly or indirectly affect these species, including the temporary disturbance of potential habitat.

Most of the miscellaneous Covered Activities will occur within existing facilities and along existing easements with a high level of habitat disturbance, which reduces the potential for monarch butterfly. If monarch butterflies are present within or adjacent to work areas,

milkweed plants containing eggs, larvae, or pupae could be destroyed and adults could be killed by collisions with vehicles and equipment. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring would be limited to existing vernal pools and removal of milkweed plants (host plant) is not expected. Although some flowering vernal pool plants could be replaced by Orcutt grasses as a result of enhancement and introduction activities, removal of invasive grasses and non-flowering plants could promote the growth of native nectar-producing plants that would benefit monarch butterflies.

Implementation of the Conservation Strategy would result in a **less-than-significant** impact on monarch butterfly.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could result in the incidental loss of monarch butterfly adults, pupae, larvae, or eggs from vehicle collisions and removal of occupied milkweed plants. The greatest potential for adverse impacts from Indirect Actions are associated with the construction of new facilities, particularly facilities that require removal of more than 0.25 acre of grassland or woodland habitat.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 would be implemented for applicable Covered Activities (described in Table 2-11). These measures would minimize habitat disturbance and potential adverse impacts on monarch butterfly and its habitat by reducing the disturbance

footprint (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), restricting vehicle speeds on unpaved roads (G-AMM4), revegetating disturbed areas (G-AMM14), and minimizing clearing and grading (G-AMM15) in modeled habitat for Covered Species (overlaps with habitat for monarch butterfly).

***Impact 3.4-9: Temporary and permanent impacts on western spadefoot toad (not covered under proposed HCP)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in temporary disturbance of western spadefoot toad aquatic habitat and potential injury or mortality of western spadefoot toad eggs, larvae, juveniles, and adults. Loss of individuals could reduce the local population of a rare species and would be considered an adverse impact. Implementation of the AMMs would reduce this impact to **less than significant**.

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Western spadefoot toad is designated as a state species of special concern by CDFW. The entire Permit Area is within the range of western spadefoot toad and supports 22,807 acres of potential aquatic habitat for the species consisting of Open Water/Fringe, Other Depressional Wetland, and Vernal Pool, Seasonal Wetland, and Swale land cover types (Table 3.4-1). The Permit Area also supports potential upland habitat consisting of Blue Oak Woodland, Valley Oak Woodland, Pasture, and Grasses and Forbs land cover types surrounding suitable aquatic habitat.

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions that occur within suitable aquatic (Open Water/Fringe, Other Depressional Wetland, and Vernal Pool, Seasonal Wetland, and Swale land cover types) or in nearby upland habitats (grassland and oak woodlands) could result in direct impacts on western spadefoot toad. Ground-disturbing activities (i.e., excavation, grading, and stockpiling of soil) that occur in these habitats could result in injury or mortality of western spadefoot toad if they are present in active work areas. Individuals could be run over by vehicles or equipment during construction and maintenance activities or be entrapped in pits or trenches if these features are left open overnight. Individuals seeking shade or refuge under vehicles or equipment could be crushed when vehicles or equipment are moved. Construction activities would also permanently and temporarily disturb suitable habitat.

Most small-scale O&M activities involve small areas and few personnel and vehicles. Smaller-scale activities are generally conducted year-round from existing roads and have limited impacts on natural vegetation. There is a greater potential for larger-scale O&M activities and new construction to adversely affect individuals of the species, when movement of vehicles, removal of vegetation, or grading of roads could result in the mortality of western spadefoot toads.

Covered Activities could also result in indirect impacts on western spadefoot toad that

occur later in time but are reasonably certain to occur. Indirect impacts on western spadefoot toad could include disturbances resulting from increased human presence that cause individuals to leave the area; ground vibrations that cause individuals to emerge from burrows exposing them to trampling/running over or predation; increased temporary runoff that leads to increased sedimentation and degradation of nearby breeding habitat; permanent changes in hydrology or stormwater runoff that alters the hydroperiod of nearby breeding habitat; spread of invasive or nonnative plants that replace native species and alters the physical or chemical characteristic of upland and aquatic habitats; and hazardous materials exposure that could reduce water quality of nearby breeding habitat.

Covered Activities are anticipated to permanently remove an average of 0.47 acre of western spadefoot toad aquatic habitat (Open Water/Fringe, Other Depressional Wetland, and Vernal Pool, Seasonal Wetland, and Swale land cover types) in the Permit Area annually and no more than 14.08 acres over 30 years (HCP Table 4-2). Temporary habitat disturbance is attributed to Covered Activities within suitable habitat that involve excavation, grading, stockpiling of soil, or staging of equipment for a period no longer than 12 months. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis. Covered Activities are anticipated to temporarily disturb an average of 0.32 acre of western spadefoot toad aquatic habitat annually and no more than 9.74 acres over 30 years (HCP Table 4-2).

Covered Activities could temporarily remove up to 3.65 acres of potential western spadefoot upland habitat (annual grassland and oak woodland) annually and no more than 109.5 acres over the 30-year Permit Term (HCP Table 4-9). It is expected that only a small portion of the overall impacts of Covered Activities on potential upland habitat would be occupied by western spadefoot toad. While there is limited information available on the known distances traveled from breeding areas, the most current research suggests that western spadefoot toads use suitable upland habitats within approximately 1,207 feet of occupied aquatic habitats (USFWS 2004). The estimation of impacts on upland habitat for western spadefoot toad is expected to be similar to upland habitat impacts determined for CTS because these species occupy similar habitats.

Implementation of the proposed HCP would require that applicable Covered Activities be conducted in accordance with AMMs summarized below in parentheses and presented in Table 2-11, which would minimize impacts on western spadefoot toad. Some of the AMMs are general measures implemented throughout the Permit Area and some of the measures are specific to Covered Species (vernal pool fairy shrimp, vernal pool tadpole shrimp, and CTS) whose modeled habitats overlap with western spadefoot toad habitat and will provide protections for western spadefoot toad when conducting activities within suitable aquatic and upland habitats.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas)
- G-AMM4 (Limit off-road speed limit to 15 mph to minimize animal strikes)

- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM7 (Prevent refueling of construction equipment within 250 feet of Vernal Pool, Seasonal Wetland, and Swale land cover types and within 100 feet of Open Water/Fringe and Depressional Wetland land cover types)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM10 (Cover trenches and holes at the end of each day and inspect prior to starting work the next day)
- G-AMM12 (Avoid placing excess soil in Open Water/Fringe, Other Depressional Wetland, and Vernal Pool, Seasonal Wetland, and Swale land cover types or over burrows within upland modeled habitat)
- G-AMM13 (Avoid stockpiling soil in Open Water/Fringe, Other Depressional Wetland, and Vernal Pool, Seasonal Wetland, and Swale land cover types or over burrows within upland modeled habitat)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- G-AMM16 (Avoid placing chipped plant material in Open Water/Fringe, Other Depressional Wetland, and Vernal Pool, Seasonal Wetland, and Swale land cover types or over burrows within upland modeled habitat)
- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)
- VP-AMM1 (Avoid driving through vernal pools, seasonal wetlands, and swales)
- VP-AMM2 (Minimize vehicle impacts on vernal pools, seasonal wetlands, and swales by evaluating moisture content)
- CTS-AMM4 (Avoid work within CTS aquatic modeled habitat when water is present)
- CTS-AMM6 (Avoid using monofilament netting for erosion control within CTS upland modeled habitat)

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only

the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Western spadefoot toads are known to occur on the SMUD Bank. This Direct Action could affect western spadefoot toad habitat. A quantitative analysis of impacts on western spadefoot toad habitat from implementation of the Covered Activities and the Conservation Strategy is described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Direct Actions is provided below.

#### Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank

As part of the Conservation Strategy, SMUD will offset impacts on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement plan and a slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management that could result in temporary disturbance of vernal pools that are used by western spadefoot toads for breeding. Inoculation of vernal pools with Sacramento Orcutt grass and slender Orcutt grass seed would be conducted in the dry season when western spadefoot toads are not present. Invasive plant management could be conducted during the dry season or wet season. Activities that are conducted in vernal pools when water is present and western spadefoot adult, larvae, or juveniles are present, could result in direct injury or mortality of individuals. Although enhancement activities could permanently modify vernal pools that provide western spadefoot toad breeding habitat, these activities are not expected to result in the loss of habitat because habitat conditions conducive to Sacramento Orcutt grass and slender Orcutt grass would also be suitable for western spadefoot toads.

The movement of vehicles and equipment in the vicinity of vernal pool enhancement and inoculation activities could result in direct impacts on western spadefoot toads by crushing individuals aboveground or shallowly buried if they are present in these areas.

Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not require disturbance of pools when they are inundated and could be occupied by western spadefoot toads. Surveys that require walking through pools would be conducted during the dry season and are not expected to affect western spadefoot toad.

***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on western spadefoot toad associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on western spadefoot toad habitat from all Covered Activities is described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

**Operation and Maintenance**

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct and indirect impacts on western spadefoot toad in the Permit Area, including temporary disturbance and permanent loss of habitat and injury or mortality of individuals. For many of the O&M activities, permanent and temporary habitat loss will be avoided because these activities would not result in ground disturbance. O&M activities typically avoid in-water work; therefore, impacts on breeding western spadefoot toads during O&M activities are not anticipated. However, if western spadefoot toads are present within upland work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts.

**Vegetation Management**

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include the removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility and pipeline easements (V2, V3a, V3b, V4, V6, V7), which minimizes habitat impacts. Most of these activities do not involve ground disturbance and are not expected to result in direct or

indirect impacts on western spadefoot toad. Vegetation management activities that require overland access through occupied habitat could result in temporary disturbance of western spadefoot toads and injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Permanent habitat loss from vegetation management activities is not anticipated.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. A quantitative analysis of impacts on western spadefoot toad from all Covered Activities, including Indirect Actions, is estimated and described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below. These impacts would be refined and further explained as part of future CEQA review.

#### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct impacts on western spadefoot toad if these activities occur within suitable aquatic and upland habitat. If western spadefoot toads are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

#### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would likely result in ground disturbance within potential western spadefoot toad habitat. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance and permanent loss of suitable habitat and injury or mortality of individuals. These activities would likely involve ground

disturbance outside of existing easements and existing facility footprints and would have the potential to directly affect western spadefoot toads if these activities occur in suitable aquatic and upland habitats. If western spadefoot toads are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods. Construction of new facilities would not occur within ponded wetland habitat and so impacts on breeding western spadefoot toads are not expected.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities would require inspections (V1); future tree, shrub, and ground vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include trimming, transplanting, and removal of elderberry shrubs (V5b) adjacent to western spadefoot toad upland habitat. Excavation to remove or transplant elderberry shrubs has the potential to result in direct impacts on western spadefoot toad if this activity occurs within suitable habitats. If western spadefoot toads are present within work areas, they could be crushed by the movement of vehicles and equipment. Permanent habitat loss from vegetation management activities is not anticipated.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, construction of a new pipeline valve, and construction of a temporary access road from Clay East Road to the work area. Excavation and grading associated with the replacement of portions of the existing CPP underground water pipeline that occur within occupied western spadefoot toad habitat have the potential to result in direct and indirect impacts on western spadefoot toads. These impacts would result in temporary disturbance and permanent removal of suitable habitat and could result in injury or mortality of individuals. Miscellaneous Covered Activities would occur along and within existing facility and easement footprints, which minimizes impacts.

A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct

Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring at the SMUD Bank could result in the incidental loss of western spadefoot toad. Direct Actions are designed and timed to minimize temporary disturbance within suitable aquatic and upland habitats for western spadefoot toad and are not expected to result in the permanent loss of suitable upland or aquatic habitat for western spadefoot toad. Injury or mortality of western spadefoot toads could result in an adverse impact on the local population on the SMUD Bank and would be considered significant. Implementation of the AMMs (Table 2-11) for vernal pool species and CTS would also benefit western spadefoot toad because they occur in similar habitats and would reduce potential adverse impacts on western spadefoot toad to a **less-than-significant** level.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could also result in the incidental loss of western spadefoot toad and loss of suitable aquatic and upland habitat. The greatest potential for adverse impacts from Indirect Actions are associated with the construction of new facilities, particularly facilities that require the permanent removal of aquatic habitat. Implementation of the AMMs contained in Table 2-11 would minimize disturbance of potential western spadefoot toad habitat from Indirect Actions.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19, VP-AMM1 through VP-AMM7, and CTS-AMM1 through CTS-AMM8 would be implemented for applicable Covered Activities (described in Table 2-11). These measures would minimize disturbance within suitable habitats for Covered Species, which also provide habitat for western spadefoot toad. Potential adverse impacts on western spadefoot toad and their habitat would be minimized by reducing the disturbance footprint (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), restricting vehicle speeds on unpaved roads (G-AMM4), requiring that open trenches and holes be covered (G-AMM10), minimizing vegetation clearing and grading for access (G-AMM15) in modeled habitat for Covered Species (overlaps with habitats for western spadefoot toad), minimizing disturbance to vernal pools and swales by avoiding direct disturbances from trenching and driving through inundated aquatic habitats (VP-AMM1, VP-AMM2, and VP-AMM3), and minimizing

indirect impacts by restricting activities near aquatic habitat to dry season and stockpiling material away from habitats (CTS-AMM1, VP-AMM5 and VP-AMM6).

In addition to implementation of AMMs, SMUD would continue to perform environmental review and screening as part of their Work Flow Integration process for Covered Activities. This process aids SMUD in identifying if a Covered Activity has the potential to affect sensitive biological resources (including western spadefoot toad) by using a spatial mapping resource called the Green Zone. The Green Zone map depicts locations of biological resource occurrences based on available data such as the CNDDDB. The Green Zone map is used to identify where Covered Activities could affect sensitive biological resources. Based on this review, an environmental specialist will consider the Covered Activity effects and disturbance, time of year, and results of the desktop review to identify appropriate measures to avoid or minimize potential impacts and prescribe them to the SMUD field crews. Measures could include preconstruction surveys, biological monitoring, establishing buffers, exclusion fencing, and seasonal work windows. Measures similar or equally effective to those listed below would be implemented to avoid or reduce impacts on western spadefoot toad if a potential adverse effect is identified through the Work Flow Integration process.

- Western Spadefoot Preconstruction Survey. Prior to Covered Activities, the work area would be surveyed by a qualified biologist to determine if upland habitat for western spadefoot toad is present within the work area. If no upland habitat is identified, no further measures would be required.
- Biological Monitoring. A qualified biologist would be onsite during Covered Activities if western spadefoot toad upland habitat is present and activities could adversely affect the species. The biologist would have the authority to stop work if personnel are out of compliance with the prescribed AMMs, or if there is a risk that western spadefoot toads could be killed or injured. Prior to the start of work each day the monitor would perform a preconstruction survey of the work area.
- Avoid Inundated Aquatic Habitat. SMUD field crews would not perform Covered Activities within western spadefoot aquatic habitat when the habitat is inundated and has the potential to support western spadefoot larvae. A biologist would determine the point at which the aquatic habitat is no longer supporting suitable habitat for larvae.
- Exclusion Fencing. Western spadefoot toads are most likely to be dispersing between December 1 and July 15. If SMUD field crews must perform Covered Activities within western spadefoot toad upland habitat during this period and the Covered Activity is going to take more than 1 week, amphibian exclusion fencing would be installed around the work area to minimize the potential for western spadefoot to enter the work area.
- Wildlife-Friendly Erosion Control. SMUD field crews would not use erosion control materials that contains plastic monofilament material that could entrap small animals within potential habitat for western spadefoot habitat. SMUD field crews

would use tightly woven fiber netting or similar material for erosion control or other purposes to ensure that western spadefoots do not get trapped. Coconut coir matting is an acceptable erosion control material.

In addition to measures aimed at avoiding and minimizing impacts on habitats that could be used by western spadefoot toad, the Conservation Strategy would also offset permanent, temporary, and indirect impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp modeled habitat and CTS modeled habitat by acquiring appropriate habitat credits at the SMUD Bank and other approved conservation/mitigation banks. Because western spadefoot toads occupy similar habitats as these species, western spadefoot toad would also benefit from the Conservation Strategy.

***Impact 3.4-10: Temporary and permanent impacts on Blainville's horned lizard (not covered under proposed HCP)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse impacts on Blainville's horned lizard and therefore would have **no impact**.

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Blainville's horned lizard is designated as a state species of special concern by CDFW. The Permit Area supports a total of 168,230 acres of Grassland and 18,888 acres of Oak Woodland land cover types (Table 3.4-1) that represent potential habitat for Blainville's horned lizard. Within these land cover types, Blainville's horned lizard would be expected to occupy only limited areas that support specific microhabitat conditions, particularly loose friable soils within sparsely vegetated areas that support abundant harvester ant colonies (prey source).

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities that occur within grassland and oak woodland habitats could result in direct impacts on Blainville's horned lizard. Ground-disturbing activities (i.e., excavation, grading, and stockpiling of soil) that occur in these habitats could result in injury or mortality of Blainville's horned lizard if they are present in active work areas. Individuals could be run over by vehicles or equipment during construction and maintenance activities or be entrapped in pits or trenches if these features are left open overnight. Individuals seeking shade or refuge under vehicles or equipment could be crushed when vehicles or equipment are moved. Construction activities would also permanently and temporarily disturb suitable habitat.

Most small-scale O&M activities involve small areas and few personnel and vehicles. Blainville's horned lizard adults or juveniles would likely move away from the source of disturbance. Smaller-scale activities are generally conducted year-round from existing roads and have limited impacts on natural vegetation. There is a greater potential for larger-scale O&M activities and new construction to adversely affect individuals of the species, when movement of vehicles, removal of vegetation, or grading of roads during

the day could result in the mortality of Blainville's horned lizard.

Covered Activities are anticipated to permanently remove an average of 2.01 acres of potential Blainville's horned lizard habitat (grassland and oak woodlands) in the Permit Area annually and no more than 60.32 acres over 30 years (Table 3.4-4). Temporary habitat disturbance is attributed to Covered Activities within suitable habitat that involve excavation, grading, stockpiling of soil, or staging of equipment for a period no longer than 12 months. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis. Covered Activities are anticipated to temporarily disturb an average of 13.93 acres of Blainville's horned lizard habitat (grassland and oak woodlands) annually and no more than 417.80 acres over 30 years (Table 3.4-4). In total, permanent and temporary impacts over the 30-year Permit Term would only disturb 0.25 percent of the available potential habitat in the Permit Area.

Implementation of the proposed HCP would require that applicable Covered Activities be conducted in accordance with AMMs summarized below in parentheses and presented in Table 2-11 that will avoid and minimize potential disturbance of Blainville's horned lizard when conducting activities within grassland and oak woodland habitats.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas, where possible)
- G-AMM4 (Limit off-road speed limit to 15 mph to minimize animal strikes)
- G-AMM5 (Implement general guidelines that prohibit pets on work sites to prevent interaction with sensitive animals)
- G-AMM10 (Cover trenches and holes at the end of each day and inspect prior to starting work the next day)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Blainville's horned lizards would not likely occupy vernal pools on the SMUD Bank and would not be affected by enhancement and introduction activities. A quantitative analysis of impacts on Blainville's horned lizard from implementation of the Conservation Strategy is described above. A qualitative discussion of impacts associated with Direct Actions is provided below.

### Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank

Enhancement of Sacramento Orcutt Grass populations and introduction of slender Orcutt grass on the SMUD Bank would occur in or around vernal pools in habitats that are not likely to be occupied by Blainville's horned lizard; therefore, direct impacts on the species as a result of Sacramento Orcutt grass enhancement and slender Orcutt grass introduction activities are not anticipated.

Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not require habitat disturbance and are not expected to directly affect Blainville's horned lizards.

#### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on Blainville's horned lizard associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on Blainville's horned lizard associated with Covered Activities is described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

#### Operation and Maintenance

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct impacts on Blainville's horned lizard if these activities occur within occupied areas in grassland and oak woodland habitats. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. However, if Blainville's horned lizard adults or juveniles are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include the removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility and pipeline easements (V2, V3a, V3b, V4, V6, V7). Most of these activities do not involve ground disturbance and are not expected to result in direct or indirect impacts on Blainville's horned lizard. Vegetation management activities that require overland access through occupied habitat have the potential to result in direct impacts on Blainville's horned lizard. Similar to O&M activities, vegetation management activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. However, if Blainville's horned lizard adults or juveniles are present within work areas, they could be crushed by the movement of vehicles and equipment. Permanent habitat loss from vegetation management activities is not anticipated.

### ***Impacts from Covered Activities—Indirect Actions are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

A quantitative analysis of impacts on Blainville's horned lizard from Covered Activities, including Indirect Actions, is estimated and described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below. These impacts would be refined and further explained as part of future CEQA review.

### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct impacts on Blainville's horned lizard if these activities occur within occupied grassland and oak woodland habitats. If Blainville's horned lizard adults or juveniles are present within work areas, they could be

crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would likely result in ground disturbance within potential Blainville's horned lizard habitat. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance and permanent loss of suitable habitat and injury or mortality of individuals. These activities would likely involve ground disturbance outside of existing easements and existing facility footprints and would have the potential to directly affect Blainville's horned lizard if these activities occur in occupied grassland and oak woodland habitats. If Blainville's horned lizard adults or juveniles are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities would require inspections (V1); future tree, shrub, and ground vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include trimming, transplanting, and removal of elderberry shrubs (V5b) adjacent to potential Blainville's horned lizard habitat. Excavation and grading to remove or transplant elderberry shrubs have the potential to result in direct impacts on Blainville's horned lizard if these activities occur within occupied grassland and oak woodland habitats. If Blainville's horned lizard adults or juveniles are present within work areas, they could be crushed by the movement of vehicles and equipment. Permanent habitat loss from vegetation management activities is not anticipated.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, construction of a new pipeline valve, and construction of a temporary access road from Clay East Road to the work area. Excavation and grading associated with the replacement of portions of the existing CPP underground water pipeline that occur within occupied Blainville's horned lizard habitat have the potential to directly affect Blainville's horned lizard. If Blainville's horned lizard adults or juveniles are

present within work areas, they could be crushed by the movement of vehicles and equipment. Miscellaneous Covered Activities would occur along and within existing facility and easement footprints, which minimizes potential impacts.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring at the SMUD Bank are not anticipated to directly affect Blainville's horned lizard because the species has not been previously detected on the SMUD Bank and they are unlikely to be present in vernal pools where enhancement and introduction activities are proposed. Therefore, Direct Actions would have **no impact** on Blainville's horned lizard.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could result in the incidental loss of Blainville's horned lizard and loss of potential habitat if the species is present within Covered Activities work areas.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 would be implemented for applicable Covered Activities (described in Table 2-11). These measures would minimize habitat disturbance and potential adverse impacts on Blainville's horned lizards and their habitat by reducing the disturbance footprint (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), restricting vehicle speeds on unpaved roads (G-AMM4), requiring that open tranches and holes be covered (G-AMM10), and minimizing vegetation clearing and grading for access (G-AMM15) in modeled habitat for Covered Species (overlaps with habitats for Blainville's horned lizard).

In addition to implementation of AMMs, SMUD would continue to perform environmental review and screening as part of their Work Flow Integration process for Covered Activities. This process aids SMUD in identifying if a Covered Activity has the potential to affect sensitive biological resources (including Blainville's horned lizard) by using a spatial mapping resource called the Green Zone. The Green Zone map depicts locations of biological resource occurrences based on available data such as the CNDDDB. The Green Zone map is used to identify where Covered Activities could affect sensitive biological resources. Based on this review, an environmental specialist will consider the Covered Activity effects and disturbance, time of year, and results of the desktop review to identify appropriate measures to avoid or minimize potential impacts and prescribe them to the SMUD field crews. Measure could include preconstruction surveys, biological monitoring, establishing buffers, exclusion fencing, and seasonal work windows. Overall, there is a low potential to encounter Blainville's horned lizard during Covered Activities because the species has low potential to occur where the activities are proposed based on the absence of known populations and disturbed conditions within existing easements.

***Impact 3.4-11: Temporary and permanent impacts on western pond turtle (not covered under proposed HCP)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on western pond turtle and therefore would have **no impact**.

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Western pond turtle is designated as a state species of special concern by CDFW. The entire Permit Area is within the range of western pond turtle and supports 26,732 acres of potential aquatic habitat for the species consisting of Riverine, Open Water/Fringe, and Other Depressional Wetland land cover types (Table 3.4-1). The Permit Area also supports potential upland habitat consisting of Valley Foothill Riparian, Blue Oak Woodland, Valley Oak Woodland, Pasture, and Grasses and Forbs land cover types surrounding suitable aquatic habitat. Western pond turtles could use adjacent uplands for nesting, dispersal, and overwintering. The species nests in nearby uplands with low, sparse vegetation, such as grassland, generally within approximately 1,500 feet of aquatic habitat.

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions that occur within suitable aquatic (Riverine, Open Water/Fringe, and Other Depressional Wetland land cover types) or in nearby upland habitats (Grasslands, Pastures, and Riparian and Oak Woodlands) could result in direct impacts on western pond turtle. Ground-disturbing activities (i.e., excavation, grading, and stockpiling of soil) that occur in these habitats could result in injury or mortality of western pond turtles if they are present in active work areas. Individuals could be run over by vehicles or equipment during construction and maintenance activities or be entrapped in pits or trenches if these features are left open overnight. Individuals seeking shade or refuge under vehicles or equipment could be

crushed when vehicles or equipment are moved. Additionally, hatchlings or eggs in pond turtle nests could be crushed and killed during the movement of construction equipment in these habitat areas during the western pond turtle nesting season (generally, March to November). Construction activities would also permanently and temporarily disturb suitable habitat.

Most small-scale O&M activities involve small areas and few personnel and vehicles. Smaller-scale activities are generally conducted year-round from existing roads and have limited impacts on natural vegetation. There is a greater potential for larger-scale O&M activities and new construction to adversely affect individuals of the species, when movement of vehicles, removal of vegetation, or grading of roads during the day could result in the mortality of western pond turtles.

Covered Activities could also result in indirect impacts on western pond turtle that occur later in time but are reasonably certain to occur. Indirect impacts on western pond turtle could include disturbances resulting from increased human presence that cause individuals to leave the area; increased temporary runoff that leads to increased sedimentation and degradation of nearby aquatic habitat; permanent changes in hydrology or stormwater runoff that alters the suitability of nearby aquatic habitat (i.e., reduction in pond depths); spread of invasive or nonnative plants that replace native species and alters the physical characteristic of upland and aquatic habitats; and hazardous materials exposure that could reduce water quality of nearby aquatic habitat.

Covered Activities are anticipated to permanently remove less than 0.01 acre of western pond turtle aquatic habitat (Riverine, Open Water/Fringe, and Other Depressional Wetland land cover types) in the Permit Area annually and no more than 0.08 acre over 30 years (HCP Table 4-2). Temporary habitat disturbance is attributed to Covered Activities within suitable habitat that involve excavation, grading, stockpiling of soil, or staging of equipment for a period no longer than 12 months. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis. Covered Activities are anticipated to temporarily disturb an average of 0.42 acre of western pond turtle aquatic habitat annually and no more than 12.54 acres over 30 years (HCP Table 4-2).

Covered Activities could also permanently remove up to 2.02 acres of potential western pond turtle upland habitat (consisting of Valley Foothill Riparian, Blue Oak Woodland, Valley Oak Woodland, Pasture, and Grasses and Forbs land cover types) annually and no more than 60.56 acres over the 30-year Permit Term (HCP Table 4-9). Covered Activities are anticipated to temporarily disturb an average of 17.56 acres of western pond turtle upland habitat annually and no more than 526.8 acres over the 30-year Permit Term (HCP Table 4-9). It is expected that only a small portion of the overall impacts of Covered Activities on potential upland habitat would be occupied by western pond turtles because turtles typically occur within uplands that are within 1,500 feet of occupied aquatic habitat.

Implementation of the proposed HCP would require that applicable Covered Activities be conducted in accordance with AMMs summarized in parentheses below and presented

in Table 2-11, which would minimize impacts on western pond turtle. Some of the AMMs are general measures implemented throughout the Permit Area and some of the measures are specific to Covered Species (CTS and GGS) whose modeled habitats overlap with western pond turtle, and will provide protections for western pond turtle when conducting activities within suitable aquatic and upland habitats.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas)
- G-AMM4 (Limit off-road speed limit to 15 mph to minimize animal strikes)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM7 (Prevent refueling of construction equipment within 250 feet of Vernal Pool, Seasonal Wetland, and Swale land cover types and within 100 feet of Open Water/Fringe and Depressional Wetland land cover types)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM10 (Cover trenches and holes at the end of each day and inspect prior to starting work the next day)
- G-AMM12 (Avoid placing excess soil in Riverine, Open Water/Fringe, and Other Depressional Wetland land cover types)
- G-AMM13 (Avoid stockpiling soil in Riverine, Open Water/Fringe, and Other Depressional Wetland land cover types)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- G-AMM16 (Avoid placing chipped plant material in Riverine, Open Water/Fringe, and Other Depressional Wetland land cover types)
- G-AMM19 (Avoid discharging hydrostatic test water into aquatic habitats)
- CTS-AMM4 (Avoid work within CTS aquatic modeled habitat when water is present)
- CTS-AMM6 (Avoid using monofilament netting for erosion control within CTS upland modeled habitat)
- GGS-AMM3 (Minimize vegetation clearing within GGS modeled habitat)

***Impacts from Direct Actions***

Issuance of the s and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. A qualitative discussion of impacts on western pond turtle associated with Direct Actions is provided below.

**Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank**

As part of the Conservation Strategy, SMUD will offset impacts on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement plan and a slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management. Western pond turtles are known to occur on the SMUD Bank; however, they do not occupy vernal pools on the SMUD Bank and would not be affected by enhancement and introduction activities. No impacts on western pond turtle are anticipated from enhancement of Sacramento Orcutt grass population and introduction of slender Orcutt grass at the SMUD Bank.

Monitoring activities at the SMUD Bank as a part of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not require habitat disturbance and are not expected to directly affect western pond turtles.

***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on western pond turtle associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on potential western pond turtle aquatic habitat associated with Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts

associated with Indirect Actions that could occur under baseline conditions is provided below.

### Operation and Maintenance

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct impacts on western pond turtle if these activities occur within suitable aquatic and upland habitats. For many of the O&M activities, permanent and temporary habitat loss will be avoided by conducting ground-disturbing activities outside of suitable aquatic habitats. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. However, if western pond turtles or nests containing eggs or hatchlings are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include trimming or removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility line and pipeline easements, which minimizes habitat impacts. Most of these activities do not involve ground disturbance and are not expected to directly or indirectly affect western pond turtles. The trimming or removal of brushy vegetation within existing transmission line easements (V3c) and trees and shrubs within existing pipeline easements (V7) could directly affect western pond turtle if these activities occur within occupied habitat. Similar to O&M activities, vegetation management activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. However, if western pond turtles or nests containing eggs or hatchlings are present within work areas, they could be crushed by the movement of vehicles and equipment. Permanent habitat loss from vegetation management activities is not anticipated.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential

environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. A quantitative analysis of impacts on western pond turtle aquatic habitat from all covered activities, including Indirect Actions, is estimated and described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below. These impacts would be refined and further explained as part of future CEQA review if required.

### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct impacts on western pond turtles if these activities occur within or near suitable aquatic and upland habitat. If western pond turtle adults or nests containing eggs or hatchlings are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would likely result in ground disturbance within potential western pond turtle habitat. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance and permanent loss of suitable habitat and injury or mortality of individuals. These activities would likely involve ground disturbance, including grading and excavation, outside of existing easements and existing facility footprints and would have the potential to directly affect western pond turtles if these activities occur within or near suitable aquatic and upland habitats. If western pond turtle adults or nests containing eggs or hatchlings are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods. In general, most new construction would be sited outside of perennial aquatic habitat suitable for pond turtles.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities would consist of inspections (V1); include future tree, shrub, and ground and vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include transplanting and removal of elderberry shrubs (V5b). Excavation to remove or transplant elderberry shrubs and equipment access have the potential to result in direct impacts on western pond turtles if these activities occur within or adjacent to suitable aquatic and upland habitats. If western pond turtle adults or nests containing eggs or hatchlings are present within work areas, they could be crushed by the movement of vehicles and equipment.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. Excavation and grading associated with new construction on the CPP underground water pipeline that occur within occupied western pond turtle habitat could directly affect western pond turtles. Most of the miscellaneous Covered Activities will occur within existing facilities and along existing easements with a high level of habitat disturbance, which reduces the potential for western pond turtles. If western pond turtle adults or nests containing eggs or hatchlings are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring at the SMUD Bank is not expected to adversely affect western pond turtle because the Direct Actions do not involve ground disturbance within suitable western pond turtle habitat. The Direct Actions would have **no impact** on western pond turtle.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could result in the incidental loss of western pond turtle adults, hatchlings, or eggs and loss of potential habitat if the species is present within Covered Activities work areas.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19, CTS-AMM1 through CTS-AMM8, and GGS-AMM1 through GGS-AMM4 (described in Table 2-11) would be implemented for applicable Covered Activities. These measures would minimize disturbance and potential adverse impacts on western pond turtles and suitable aquatic and upland habitats by reducing the disturbance footprint (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), restricting vehicle speeds on unpaved roads (G-AMM4), requiring that open trenches and holes be covered (G-AMM10), minimizing vegetation clearing and grading for access (G-AMM15 and GGS-AMM3) in modeled habitat for Covered Species (overlaps with habitats for western pond turtle), and requiring that a biological monitor be present during activities within aquatic habitats for GGS that could be also used by western pond turtles (GGS-AMM1).

In addition to implementation of AMMs, SMUD would continue to perform environmental review and screening as part of their Work Flow Integration process for Covered Activities. This process aids SMUD in identifying if a Covered Activity has the potential to affect sensitive biological resources (including western pond turtle) by using a spatial mapping resource called the Green Zone. The Green Zone map depicts locations of biological resource occurrences based on available data such as the CNDDDB. The Green Zone map is used to identify where Covered Activities could affect sensitive biological resources. Based on this review, an environmental specialist will consider the Covered Activity effects and disturbance, time of year, and results of the desktop review to identify appropriate measures to avoid or minimize potential impacts and prescribe them to the SMUD field crews. Measure could include preconstruction surveys, biological monitoring, establishing buffers, exclusion fencing, and seasonal work windows. Measures similar or equally effective to those listed below would be implemented to avoid or reduce impacts on western pond turtle if a potential adverse effect is identified through the Work Flow Integration process.

- Western Pond Turtle Preconstruction Surveys. A qualified biologist would conduct a preconstruction survey prior to the start of work within suitable aquatic and

upland habitat to determine presence or absence of pond turtles in the work area. The surveys would be timed to coincide with the time of day when turtles are most likely to be basking and visible. Prior to conducting presence/absence surveys the biologist would locate the microhabitats for turtle basking (logs, rocks, brush thickets) and determine a location to quietly observe turtles. Each survey will include a 30-minute wait time after arriving onsite to allow startled turtles to return to open basking areas. The survey will consist of a minimum 15-minute observation time per area where turtles could be observed.

- Biological Monitor. A qualified biologist would be onsite during Covered Activities if western pond turtle aquatic and/or upland habitat is present and activities could adversely affect the species. The biologist would have the authority to stop work if personnel are out of compliance with the prescribed AMMs, or if there is a risk that western pond turtles or their eggs/young could be killed or injured. Prior to the start of work each day the monitor would perform a preconstruction survey of the work area.
- Western Pond Turtle Avoidance. If western pond turtles are observed in the work area prior to or during Covered Activities and are at risk of mortality as a result of Covered Activities, they would be captured with traps and relocated outside of the work area to appropriate aquatic habitat. Handling of western pond turtles would be conducted under appropriate permits or agency authorization.

In addition to measures aimed at avoiding and minimizing impacts on habitats that could be used by western pond turtles, the Conservation Strategy would offset permanent, temporary, and indirect impacts on CTS and GGS modeled habitat by acquiring appropriate habitat credits at the SMUD Bank or other approved conservation/mitigation bank, or by participating in other permitted HCPs. Because western pond turtles occupy similar habitats as these species, western pond turtles would also benefit from implementation of the Conservation Strategy.

***Impact 3.4-12: Temporary and permanent impacts on special-status migratory birds and raptors (not covered under proposed HCP)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could temporarily disturb ground-nesting and foraging special-status migratory birds and raptors. Implementation of the Conservation Strategy, SMUD's Avian Protection Plan (APP), and compliance with the MBTA, CFGC, CESA, and the Bald and Golden Eagle Protection Act would reduce impacts on migratory birds and raptors to **less than significant**.

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The Permit Area supports approximately 189,470 acres of grassland and pasturelands (Table 3.4-1) that represent potential nesting and foraging habitat for ground-nesting special-status birds and raptors such as grasshopper sparrow (*Ammodramus* *savannarum*), northern harrier (*Circus hudsonius*), and western burrowing owl (*Athene*

*cunicularia*). Approximately 32,505 acres of riparian and oak woodlands (Table 3.4-1) in the Permit Area represent potential nesting habitat for tree- and shrub-nesting special-status birds and raptors, including loggerhead shrike (*Lanius ludovicianus*), yellow-breasted chat (*Icteria virens*), yellow warbler (*Setophaga petechial*), white-tailed kite (*Elanus leucurus*), Swainson's hawk (*Buteo swainsoni*), golden eagle (*Aquila chrysaetos*), and bald eagle (*Haliaeetus leucocephalus*). Special-status birds and raptors such as California black rail (*Laterallus jamaicensis coturniculus*), Modesto song sparrow (*Melospiza melodia mailliardi*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), tricolored blackbird (*Agelaius tricolor*), and northern harrier could also nest in freshwater marsh and riparian scrub vegetation associated with the 6,502 acres of Open Water/Fringe land cover type (Table 3.4-1) in the Permit Area. Table 3.4-3 includes information on the listing status and habitat associations for the special-status birds and raptors that could nest in the Permit Area.

### **Description of Impacts from Covered Activities and the Conservation Strategy**

Covered Activities and the Conservation Strategy actions that occur during the migratory bird and raptor breeding season (generally March 1 through August 31) could disturb or remove occupied nests of special-status birds and raptors. Removal of suitable nesting habitat associated with ground disturbance and vegetation removal could result in the incidental loss of adult birds and their fertile eggs or nestlings, or otherwise lead to nest abandonment. Increased levels of noise and human activity in the vicinity of an active nest could also result in nest abandonment or forced fledging and subsequent loss of fertile eggs, nestlings, or juveniles. Covered Activities could also result in the permanent and temporary removal of foraging habitat for locally nesting special-status birds and raptors.

Ground disturbance, vegetation trimming and removal, and vehicle and equipment movement associated with all Covered Activities could result in the permanent and temporary loss of nesting and foraging habitat for special-status birds and raptors. Table 3.4-5 summarizes the temporary and permanent habitat disturbance from all Covered Activities that are anticipated annually and over the 30-year Permit Term. For purposes of summarizing impacts on special-status birds and raptors, these impacts are grouped according to vegetation associations, specifically tree and shrub dominated land cover types (riparian, oak, and eucalyptus woodlands), short vegetation land cover types (grassland and pasture), and the marsh and riparian scrub-dominated land cover type (open water/fringe).

**Table 3.4-5 Summary of Special-Status Bird and Raptor Habitat Loss or Disturbance**

SMUD HCP Land Cover Types	Annual Loss or Disturbance		Total Loss or Disturbance over 30-Year Permit Term	
	Temporary (acres)	Permanent (acres)	Temporary (acres)	Permanent (acres)
<b>Tree- and Shrub-Nesting Habitat</b>				
Eucalyptus Woodland	0.02	0.0001	0.65	0.003
Valley Foothill Riparian	1.76	0.003	52.77	0.09
Blue Oak Foothill Pine	0.11	0.001	3.41	0.02
Blue Oak Woodland	1.56	0.01	46.78	0.23
Valley Oak Woodland	0.21	0.001	6.24	0.03
Mine Tailing Riparian Woodland	0.05	0.0001	1.38	0.004
<b>Total</b>	<b>3.71</b>	<b>0.03</b>	<b>45.57</b>	<b>0.83</b>
<b>Ground-Nesting and Foraging Habitat</b>				
Pasture	1.98	0.01	59.51	0.26
Grasses and Forbs	12.05	2.00	361.37	60.04
<b>Total</b>	<b>14.03</b>	<b>2.01</b>	<b>420.88</b>	<b>60.30</b>
<b>Marsh-Nesting Habitat</b>				
Open Water/Fringe	0.06	0.0003	1.83	0.01
<b>Total</b>	<b>0.06</b>	<b>&lt;0.01</b>	<b>1.83</b>	<b>0.01</b>

Implementation of the Conservation Strategy would require that Covered Activities be conducted in accordance with AMMs summarized in parentheses below and contained in Table 2-11 to minimize habitat disturbance and avoid and minimize potential impacts on sensitive biological resources within HCP modeled habitats, which also provide habitat for special-status nesting birds and raptors. SMUD would continue to comply with the MBTA, CFGC, CESA, and the Bald and Golden Eagle Protection Act. In addition, SMUD would continue to implement their APP. The goal of the APP is to reduce the potential of mortality associated with SMUD’s electrical facilities and minimize impacts on nesting birds. The APP addresses efforts to reduce collision and electrocution risks, facility design to reduce avian interactions, bird nest management, and outlines the APP training program, which includes an introduction to federal and state laws that protect birds and reporting requirements pertinent to SMUD’s Special Purpose Utility Permit issued by USFWS.

- G-AMM1 (Perform annual training for crews conducting Covered Activities to review all HCP AMMs and relevance)
- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Park vehicles and equipment on pavement, existing roads, or previously disturbed areas to the maximum extent feasible)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. A qualitative discussion of impacts on special-status birds and raptors associated with Direct Actions is provided below.

**Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at the SMUD Bank**

As part of the Conservation Strategy, SMUD will offset impacts on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement plan and a slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management. Increased human presence within the enhancement and introduction areas could potentially disturb active ground nests if these activities occur during the breeding season and active nests are present in the vicinity of enhancement and introduction activities. Overall, the potential for impacts on special-status nesting birds from enhancement and introduction activities is unlikely due to the passive nature of the activity and limited area of disturbance. Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not require habitat disturbance and are not expected to directly affect nesting special-status birds or raptors.

***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with the O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on special-status birds and raptors associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on potential nesting and foraging habitat for special-status migratory birds and raptors associated with all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

### Operation and Maintenance

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities may result in temporary impacts on nesting and foraging habitat for special-status birds and raptors and temporary impacts on bird behavior due to increased noise, increased visual disturbances, and ground vibrations. Vegetation trimming or removal within and immediately adjacent to nesting habitat could result in the disruption of nesting behavior or loss of nests.

Existing wood poles are inspected regularly for structural integrity and maintained to prevent development of crevices large enough to support nesting birds; although, there is a potential special-status bird (e.g., purple martin [*Progne subis*]) that can nest in wood pole cavities. In addition, there is the potential for special-status birds to nest on top of poles or pole-mounted equipment which could result in the permanent loss of bird nests in limited cases. Most O&M activities are implemented in previously disturbed or urbanized areas and in existing utility easements utilizing existing access roads that are kept clear of vegetation. Therefore, most O&M activities do not require vegetation removal and impacts on suitable nesting and foraging habitat are anticipated to be minimal. Furthermore, Covered Activities would involve continuing O&M on existing gas and electric infrastructure and would not result in a substantial increase in disturbance to nesting and foraging habitat.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include trimming or removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility line and pipeline easements. Vegetation management activities have the highest risk of impacting special-status birds and raptors because nests could be incidentally disturbed or removed during the trimming or removal of vegetation, especially trees and shrubs. In addition to potential loss of active nests from direct removal, vegetation management activities that require the use of gas-powered equipment would create a high degree of noise disturbance in the vicinity of vegetation removal, which could cause nest abandonment or forced fledging and subsequent loss of fertile eggs, nestlings, or juveniles.

Vegetation management activities would result in some permanent loss of potential nesting habitat for special-status birds and raptors; however, most of the vegetation loss would be due to trimming and would be considered a temporary impact.

***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

A quantitative analysis of impacts on special-status birds and raptors associated with all Covered Activities, including Indirect Actions, is estimated and described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below. These impacts would be refined and further explained in future CEQA review.

**Operation and Maintenance for New Facilities**

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3) similar to those described for existing facilities and infrastructure. Grading, excavation, and vehicle and foot traffic are commonly associated with routine inspections, repairs, and replacement of wood poles, transmission and telecommunication towers, underground and aboveground pipelines, underground utility lines. Future O&M activities in the Permit Area have the potential to result in temporary disturbance to nesting special-status birds and raptors in the vicinity of maintenance activities and potential loss of active nests resulting from the removal of occupied vegetation or wood poles and destruction of ground nests within access and staging areas.

**New Construction**

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3). These activities would likely involve ground disturbance outside of existing easements and existing facility

footprints and would likely require vegetation removal. New construction is expected to result in permanent loss of nesting and foraging habitat for special-status birds and raptors and is estimated for all Covered Activities under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities consist of inspections (V1); future tree, shrub, and ground and vegetation removal, and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include transplanting and removal of elderberry shrubs (V5b). Similar to impacts described above for ongoing vegetation management, future vegetation management activities have the potential to directly remove active bird and raptor nests and disturb special-status birds and raptors nesting in the vicinity of vegetation removal, which could cause nest abandonment or forced fledging and subsequent loss of fertile eggs, nestlings, or juveniles.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. Activities associated with new construction on the CPP underground water pipeline that occur during the breeding season could directly affect nesting special-status birds and raptors. Impacts on special-status birds and raptors associated with miscellaneous activities would be similar to those described above for O&M and new construction. Vegetation removal and trimming, as well as access to facilities that require off-road travel, could result in the loss of active nests (direct removal or destruction) or disturbance to special-status birds and raptors from noise generated by construction activities and human presence in the vicinity of active nests.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring at the SMUD Bank could result in temporary disturbance of special-status bird and raptor eggs or nestlings if these activities occur during the breeding season. Overall, habitat enhancement within vernal pools would result in minimal ground disturbance in the vicinity of vernal pools and minimal noise disturbances that could result in the take of migratory birds. Implementation of the Conservation Strategy includes measures to minimize potential impacts on suitable nesting bird habitat

by reducing the disturbance footprint to the minimum necessary to complete the action (G-AMM2) and using pre-existing roads and staging areas, as feasible (G-AMM3). SMUD would comply with applicable laws and regulations pertaining to migratory birds and their active nest, including the MBTA, to avoid direct take of migratory birds. Based on the limited scope and area associated with the direct actions, implementation of AMMs to minimize ground disturbance, and compliance with the MBTA, potential impacts on migratory birds and raptors would be **less than significant**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could result in the incidental loss of special-status bird and raptor eggs or nestlings, or lead to nest abandonment if these activities are conducted during the nesting season (generally March 1 through August 31) and active nests are present within or near proposed work areas. The greatest potential for adverse impacts from Indirect Actions are associated with vegetation removal activities. Ongoing O&M and vegetation management activities would be conducted in compliance with the MBTA, CFGC, CESA, and the Bald and Golden Eagle Protection Act to avoid and minimize disturbance to nesting birds and raptors. In addition, SMUD will continue to implement its APP to reduce collision and electrocution risks to migratory birds and raptors. The goal of the APP is to reduce the potential of mortality associated with SMUD's electrical facilities and minimize impacts on nesting birds. The APP addresses efforts to reduce collision and electrocution risks, facility design to reduce avian interactions, bird nest management, and outlines the APP training program, which includes an introduction to federal and state laws that protect birds and reporting requirements pertinent to SMUD's Special Purpose Utility Permit issued by USFWS.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 would be implemented for applicable Covered Activities (described in Table 2-11). These measures would minimize disturbance within suitable habitats for covered species, which also provide habitat for special-status and non-special-status migratory birds and raptors. Disturbance of nesting and foraging habitat for migratory birds and raptors would be minimized by reducing the disturbance footprint associated with Covered Activities (G-AMM2), requiring the use of pre-existing roads and

staging areas, as feasible (G-AMM3), and minimizing vegetation clearing and grading for access in modeled habitat for Covered Species (G-AMM15).

SMUD would also continue to perform environmental review and screening as part of their Work Flow Integration process for Covered Activities. This process aids SMUD in identifying if a Covered Activity has the potential to affect sensitive biological resources (including migratory birds and raptors) by using a spatial mapping resource called the Green Zone. The Green Zone map depicts locations of biological resource occurrences based on available data such as the CNDDDB. The Green Zone map is used to identify where Covered Activities could affect sensitive biological resources. Based on this review, an environmental specialist will consider the Covered Activity effects and disturbance, time of year, and results of the desktop review to identify appropriate measures to avoid or minimize potential impacts and prescribe them to the SMUD field crews. Measures could include preconstruction surveys, biological monitoring, establishing buffers, exclusion fencing, and seasonal work windows. Nesting bird protection measures similar or equally effective to the one listed below would be implemented to avoid and minimize effects from Covered Activities on migratory birds and raptors during the nesting season (generally March 1 through August 31) if a potential adverse impact is identified through the Work Flow Integration process.

- Nesting Bird Protection. A qualified biologist would determine if preconstruction surveys are required to determine if there are active nests present within or near the work area and if nest buffers and/or monitoring are needed. Nesting bird surveys would be conducted following appropriate survey protocols by a qualified biologist if Covered Activities will take place between February 1 and September 15, and within 14 days prior of initiation of Covered Activities. Initial nesting surveys should begin as early as February when the foliage on the trees are at a minimum and the nest building activity is high. If nesting birds or young are found, the qualified biologist would establish an appropriate nest buffer. Nest buffers would be species-specific depending on the disturbance level of the Covered Activity, site conditions, observed bird behavior as determined by a qualified biologist. To prevent encroachment, the established buffer(s) shall be clearly marked by high visibility material. Established buffers would remain until the young have fledged and are independent of the nest or the nest is no longer active as confirmed by the qualified biologist. Active nests would be periodically monitored until the young have fledged or the Covered Activity has been completed. If birds are showing signs of agitation within the established buffer(s), the buffer(s) shall be expanded to prevent birds from abandoning their nest.

In addition to the potential disturbance of active bird and raptor nests, Indirect Actions that permanently remove natural lands would result in the permanent loss of potential foraging and nesting habitat for several special-status birds and raptors. Because these individual impacts would be small and spread out over the entire Permit Area, the loss of nesting and foraging habitat over the Permit Term is not expected to adversely affect special-status nesting birds and raptors. Implementation of the Conservation Strategy would further reduce potential impacts from loss of foraging and nesting habitat because

the Conservation Strategy will offset temporary disturbance and permanent loss of modeled habitats by acquiring appropriate habitat credits at the SMUD Bank or other approved conservation/mitigation bank, or by participating in other permitted HCPs. Because modeled habitats would also provide nesting and foraging habitat for special-status birds and raptors, these species would benefit from implementation of the Conservation Strategy.

***Impact 3.4-13: Temporary and permanent impacts on special-status bats (not covered under proposed HCP)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on special-status bats and therefore would have **no impact**.

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All of the land cover types in the Permit Area represent potential roosting or foraging habitat for special-status bats, as well as other non-special-status bats. Pallid bats are cavity roosters that could breed or winter in tree hollows, rock crevices, bridges, and buildings throughout the Permit Area. Western red bats are foliage roosters that could use broad-leaf trees within natural and developed habitats throughout the Permit Area. Pallid bat and western red bat are designated as state species of special concern by CDFW (Table 3.4-3).

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and the Conservation Strategy actions that occur within potential bat roosting habitat (e.g., wooded areas, rock outcrops, buildings, structures) during the breeding/pupping season (generally April 1 through September 15) or the hibernation period (generally November 1 through February 28) could result in direct impacts on special-status bats. Felling or limbing of trees that contain an active bat roost could cause injury or mortality of adults or pups. O&M or other ground-disturbing activities that are conducted in close proximity to active bat roosts could result in a temporary increase in noise and ground vibrations that could cause adult bats to abandon their flightless young, or they may simply not return to the roost once disturbed, resulting in the loss of that roost as habitat for the local population.

Covered Activities that result in the construction of new facilities and structures would generally be less than 0.25 acre in size and distributed across the entire Permit Area, minimizing the potential for adverse effects on local bat populations. The largest footprint for permanent disturbance would be for the construction of four new transmission substations (11 acres each) and two distribution substations (0.5 acre each) under the proposed HCP over the 30-year Permit Term. SMUD's existing easements and facilities would continue to be subject to ongoing vegetation management activities and disturbances, and these areas would likely support fewer bats than undisturbed habitats because they are less likely to contain mature trees with large hollows and dense canopies. Overall, mortality of roosting bats during the breeding/pupping season or

hibernation period that results from tree removal or trimming, or other disturbances could affect individuals but is not expected to result in a substantial reduction in the local populations of these species.

Implementation of the Conservation Strategy would require that Covered Activities be conducted in accordance with AMMs summarized below in parentheses and presented in Table 2-11 to minimize habitat disturbance and avoid and minimize potential impacts on sensitive biological resources within HCP modeled habitats, which also provide roosting and foraging habitat for bats. Implementation of SMUD's annual vegetation management training would also minimize impacts on sensitive habitats, including potential bat roosts.

- G-AMM1 (Perform annual training for crews conducting Covered Activities to review all HCP AMMs and relevance)
- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Park vehicles and equipment on pavement, existing roads, or previously disturbed areas to the maximum extent feasible)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not be conducted within areas that provide suitable roosting habitat for special-status bats. Therefore, Direct Actions will not affect special-status bats.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with the O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on special-status bats associated with implementation of Covered Activities (Indirect Actions).

A qualitative discussion of impacts associated with Indirect Actions that are part of the baseline conditions is provided below. Potential impacts on roosting bats from all Indirect Actions are further described above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Operation and Maintenance

O&M activities may result in temporary impacts on roosting special-status bats due to increased noise and ground vibrations. Vegetation trimming or removal could result in the loss or disturbance of a maternity or hibernation roost containing adults or pups. Existing wood poles are inspected regularly for structural integrity and maintained to prevent development of crevices large enough to support roosting bats. Most O&M activities are implemented in previously disturbed or urbanized areas around existing facilities and along existing easements that support limited suitable roosting habitat (i.e., mature trees with hollows, peeling bark, or dense canopies). Therefore, impacts on roosting bats from O&M activities are anticipated to be minimal.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include trimming or removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility line and pipeline easements. Vegetation management activities have the highest risk of impacting special-status bats because active roosts could be lost or disturbed during the trimming or removal of vegetation, especially mature trees. In addition to potential loss of active roosts from direct removal, vegetation management activities that require the use of gas-powered equipment would create a high degree of noise disturbance in the vicinity of vegetation removal. It is expected that disturbances from vegetation management would be of short duration (less than 1 day in a particular area) and while these short disturbances could disrupt the normal activity of bats in a given area, it would likely not result in long-term effects on the health of the bats or cause abandonment of a roost.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### Operation and Maintenance for New Facilities

Future O&M activities in the Permit Area have the potential to result in temporary impacts on roosting special-status bats due to increased noise and ground vibrations. Vegetation trimming or removal could result in the loss or disturbance of a maternity or hibernation roost containing adults or pups if an active roost is encountered during O&M activities. O&M activities for new facilities would likely occur within recently disturbed areas that

have been cleared of large, mature trees that could be used by special-status bats. Therefore, impacts on roosting bats from O&M activities for new facilities are anticipated to be minimal.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3). These activities would likely involve ground disturbance outside of existing easements and existing facility footprints and would likely require vegetation removal. New construction could result in temporary disturbance and permanent loss of active bat roosts if they are present within the construction footprint. As discussed under *Description of Impacts from Covered Activities and the Conservation Strategy*, ground-disturbing activities that are conducted in close proximity to active bat roosts could result in a temporary increase in noise and ground vibrations that could cause adult bats to abandon their flightless young, or they may simply not return to the roost once disturbed, resulting in the loss of that roost as habitat for the local population.

Construction of new facilities and expansion of existing facilities and structures would generally be less than 0.25 acre in size and distributed across the entire Permit Area, minimizing the potential for adverse effects on local bat populations.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities consist of inspections (V1); future tree, shrub, and ground and vegetation removal, and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include trimming, transplanting, and removal of elderberry shrubs (V5b). Similar to impacts described above for ongoing vegetation management, future vegetation management activities have the potential to directly remove an active roost or disturb nearby roosts as a result of noise disturbance from gas-powered equipment. It is expected that disturbances from vegetation management would be of short duration (less than 1 day in a particular area) and while these short disturbances could disrupt the normal activity of bats in a given area, it would likely not result in long-term effects on the health of the bats or cause abandonment of a roost.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c).

The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. The existing CPP pipeline easement is maintained to be free of large, mature trees and is not expected to support known or potential bat roosts. If an active bat roost is present in the vicinity of CPP water pipeline management activities, special-status bats could be temporarily disturbed from noise generated by construction activities, similar to those described above for O&M activities and new construction. Overall, impacts on roosting bats from miscellaneous Covered Activities are anticipated to be minimal.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring at the SMUD Bank would not affect special-status bats because suitable roosting habitat would not be affected by these actions. Therefore, Direct Actions would have **no impact** on roosting bats.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could result in impacts on special-status bats if an active bat roost is disturbed or removed. The greatest potential for adverse impacts from Indirect Actions are associated with vegetation removal activities. As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations, but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

G-AMM1 through G-AMM19 would be implemented for applicable Covered Activities (described in Table 2-11). These measures would minimize disturbance within suitable habitats for covered species, which also provide roosting and foraging habitat for special-status and non-special-status bats. Disturbance of habitats that could also be used by bats would be minimized by reducing the disturbance footprint of Indirect Actions (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), and minimizing vegetation clearing and grading for access in modeled habitat for Covered Species (G-AMM15).

In addition to implementation of AMMs, SMUD would continue implement their annual vegetation management training to inform vegetation management crews of the sensitive species, including bats, that could be encountered and methods to minimize impacts. SMUD would also continue to perform environmental review and screening as part of their Work Flow Integration process for Covered Activities. This process aids SMUD in identifying if a Covered Activity has the potential to affect sensitive biological resources (including special-status bats) by using a spatial mapping resource called the Green Zone. The Green Zone map depicts locations of biological resource occurrences based on available data such as the CNDDDB. The Green Zone map is used to identify where Covered Activities could affect sensitive biological resources. Based on this review, an environmental specialist will consider the Covered Activity effects and disturbance, time of year, and results of the desktop review to identify appropriate measures to avoid or minimize potential impacts and prescribe them to the SMUD field crews. Measures could include preconstruction surveys, biological monitoring, establishing buffers, exclusion fencing, and seasonal work windows. Measures similar or equally effective to the one listed below would be implemented to avoid and minimize effects from Covered Activities on roosting bats if a potential adverse impact is identified through the Work Flow Integration process.

- Protect Bats. When feasible, work that would affect known bat roost sites must be done when bats are seasonally active and young are self-sufficient (generally March through mid-April). If work would affect known or suspected roost sites during hibernation and maternity seasons (generally, October 16 through February 27 and April 15 through October 14), SMUD would evaluate known or suspected roost sites. If roosting bats are detected, conducting construction activities that may directly affect that active roost would include the following:
  - As necessary, an exclusionary buffer would be maintained around active roosts. The size of the buffer may be modified at the discretion of the biologist based on the bat species and species' sensitivity to disturbance from O&M activities and the status of the roost.
  - As necessary, a biologist would monitor active roost site buffers during O&M activities to determine if roosting activity is influenced by noise or vibrations.
  - Vegetation management and tree removal projects affecting bat roosting habitat would occur during time periods which would minimize potential loss: March 1 to April 15 (to avoid hibernating bats and prior to formation of maternity colonies) and August 31 to October 15 (prior to hibernation). Trees should be trimmed and/or removed in a two-phased removal system conducted over two consecutive days. The first day (in the afternoon), limbs and branches should be removed by a tree cutter using chainsaws only. Limbs with cavities, crevices or deep bark fissures should be avoided, and only branches or limbs without those features should be removed. On the second day, the entire tree should be removed.

***Impact 3.4-14: Temporary and permanent impacts on American badger (not covered under proposed HCP)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on American badger and therefore would have **no impact**.

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American badger is designated as a state species of special concern by CDFW (Table 3.4-3). The Permit Area supports a total of 168,230 acres of Grasses and Forbs and 18,888 acres of Oak Woodland land cover types (Table 3.4-1) that represent potential habitat for American badger. Badgers typically inhabit large expanse areas of grassland with low disturbance.

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions that occur within grassland and oak woodland habitats could result in direct impacts on American badger. Ground-disturbing activities (i.e., excavation, grading, and stockpiling of soil) that occur in these habitats could result in injury or mortality of American badgers if they are present in active work areas. Individuals could be run over by vehicles or equipment during construction and maintenance activities or be entrapped in pits or trenches if these features are left open overnight. Construction activities would also permanently and temporarily disturb potential habitat.

Most Covered Activities will typically disturb only small areas (less than 0.1 acre), take place over short time periods (1 to fewer than 10 days), occur during daylight hours, and involve few personnel and vehicles. Accordingly, the likelihood of encountering American badgers while conducting Covered Activities is low.

Covered Activities are anticipated to permanently remove an average of 2.01 acres of American badger habitat (grassland and oak woodlands) in the Permit Area annually and no more than 60.32 acres over 30 years (Table 3.4-4). Temporary habitat disturbance is attributed to Covered Activities within suitable habitat that involve excavation, grading, stockpiling of soil, or staging of equipment for a period no longer than 12 months. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis. Covered Activities are anticipated to temporarily disturb an average of 13.93 acres of American badger habitat (grassland and oak woodlands) annually and no more than 417.80 acres over 30 years (Table 3.4-4). In total, permanent and temporary impacts over the 30-year Permit Term would only disturb 0.25 percent of the available habitat in the Permit Area.

Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with AMMs summarized in parentheses below and presented in Table 2-11 that will minimize disturbance of HCP modeled habitats that also provide habitat for American badgers.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas, where possible)
- G-AMM4 (Limit off-road speed limit to 15 mph to minimize animal strikes)
- G-AMM5 (Implement general guidelines that prohibit pets on work sites to prevent interaction with sensitive animals)
- G-AMM10 (Cover trenches and holes at the end of each day and inspect prior to starting work the next day)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action could affect potential American badger grassland habitat. A quantitative analysis of impacts on American badger from implementation of the Conservation Strategy is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Direct Actions is provided below.

#### Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank

Enhancement of Sacramento Orcutt Grass populations and introduction of slender Orcutt grass on the SMUD Bank would occur in or around vernal pools that are located within habitats that are not likely to be occupied by American badger. Additionally, badgers have not been previously identified on the SMUD Bank. Therefore, direct impacts on the species as a result of Sacramento Orcutt grass enhancement activities are not anticipated.

Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not require habitat disturbance and are not expected to directly affect American badgers.

***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on American badger associated with implementation of Covered Activities (Indirect Actions).

A quantitative analysis of impacts on American badger habitat from all Covered Activities is described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

**Operation and Maintenance**

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct impacts on American badgers if these activities occur within occupied habitat. Ongoing O&M activities typically occur within existing facilities and along existing easements, which would minimize habitat impacts. Also, O&M activities typically occur during the day when American badgers are not likely to be active aboveground, reducing the potential to encounter badgers during these activities. If American badgers are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

**Vegetation Management**

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include the removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility and pipeline easements (V2, V3a, V3b, V4, V6, V7). Most of these activities do not involve ground disturbance and are not expected to result in direct or indirect impacts on American badger. Vegetation management activities that require overland access through occupied habitat have the potential to result in direct impacts on American badgers if these activities occur within occupied habitat. Similar to O&M activities, vegetation management activities typically occur within existing facilities, along existing easements, and during the day, which minimizes potential impacts. However, if American badgers are present within work

areas, they could be crushed by the movement of vehicles and equipment. Permanent habitat loss from vegetation management activities is not anticipated.

### ***Impacts from Covered Activities—Indirect Actions are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

A quantitative analysis of impacts on American badger habitat from all Covered Activities, including Indirect Actions, is estimated and described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with indirect actions that would result in a change in baseline conditions is provided below. These impacts would be refined and further explained as part of future CEQA review.

#### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct impacts on American badger if these activities occur within occupied habitat. If American badgers are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

#### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would likely result in ground disturbance within potential American badger habitat. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance and permanent loss of suitable habitat

and injury or mortality of individuals. These activities would likely involve ground disturbance outside of existing easements and existing facility footprints and would have the potential to directly affect American badger if these activities occur in occupied habitats. If American badgers are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities would require inspections (V1); future tree, shrub, and ground vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include trimming, transplanting, and removal of elderberry shrubs (V5b) adjacent to potential American badger habitat. Excavation and grading to remove or transplant elderberry shrubs have the potential to result in direct impacts on American badger if these activities occur within occupied. If American badgers are present within work areas, they could be crushed by the movement of vehicles and equipment. Permanent habitat loss from vegetation management activities is not anticipated.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, construction of a new pipeline valve, and construction of a temporary access road from Clay East Road to the work area. Excavation and grading associated with the replacement of portions of the existing CPP underground water pipeline that occur within occupied badger habitat have the potential to directly affect American badgers. If American badgers are present within work areas, they could be crushed by the movement of vehicles and equipment or entrapped within trenches or holes left open for extended periods. Miscellaneous Covered Activities would occur along an existing facility and easement footprints with a high level of existing habitat disturbance, which minimizes potential impacts.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring at the SMUD Bank is not expected to adversely affect American badgers because the Direct Actions do not involve ground disturbance within suitable badger habitat. Badgers have not been previously identified on the SMUD Bank.

If they inhabit nearby areas it is unlikely that passive surveys and activities associated with vernal pool enhancement would affect badgers because these activities would be conducted during the day when badgers are not active above ground. Therefore, Direct Actions would have **no impact** on American badger.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could result in the incidental loss of American badgers and loss of potential habitat if the species is present within Covered Activities work areas.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 would be implemented for applicable Covered Activities (described in Table 2-11). These measures would minimize habitat disturbance within HCP modeled habitats and potential adverse impacts on American badgers and their habitat by reducing the disturbance footprint (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), restricting vehicle speeds on unpaved roads (G-AMM4), requiring that open trenches and holes be covered (G-AMM10), and minimizing vegetation clearing and grading for access (G-AMM15) in modeled habitat for Covered Species (overlaps with habitat for American badger).

In addition to implementation of AMMs, SMUD would continue to perform environmental review and screening as part of their Work Flow Integration process for Covered Activities. This process aids SMUD in identifying if a Covered Activity has the potential to affect sensitive biological resources (including American badger) by using a spatial mapping resource called the Green Zone. The Green Zone map depicts locations of biological resource occurrences based on available data such as the CNDDDB. The Green Zone map is used to identify where Covered Activities could affect sensitive biological resources. Based on this review, an environmental specialist will consider the Covered Activity effects and disturbance, time of year, and results of the desktop review to identify appropriate measures to avoid or minimize potential impacts and prescribe them to the SMUD field crews. Measures could include preconstruction surveys, biological monitoring, establishing buffers, exclusion fencing, and seasonal work windows. Measures similar or equally effective to those listed below would be implemented to avoid

or reduce impacts on American badger if a potential adverse effect is identified through the Work Flow Integration process.

- Badger Preconstruction Surveys. A qualified biologist would conduct a preconstruction survey within 14 days prior to the start of work within suitable habitat to determine occupancy of badgers or potential dens in the work area.
- Avoidance of Known or Potential Badger Dens. Known and potential badger dens would be avoided to the extent practicable. If a known badger den is identified, then a qualified biologist will establish a no disturbance buffer. If a potential badger den is in conflict (i.e., subject to direct effects) with a Covered Activity for which there is no alternative, CDFW would be consulted to determine if additional protection measures would be applicable to the Covered Activity.

***Impact 3.4-15: Temporary and permanent impacts on special-status fish (not covered under proposed HCP)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in adverse effects on special-status fish and therefore would have **no impact**.

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The Permit Area supports 10,793 acres of riverine habitat (Table 3.4-1) that includes rivers, creeks, canals, and small ephemeral drainages, which represent potential migration, rearing and foraging habitat for special-status fish. Many of the larger, perennial water features within the Permit Area are known, or have the potential, to support a variety of special-status fish species, including Central Valley spring-run, winter-run, and fall/late fall-run Chinook salmon, Central Valley steelhead, green sturgeon, river lamprey, Pacific lamprey, hardhead, and Sacramento splittail. Within the Permit Area there are also rare occurrences of delta smelt and longfin smelt within the Sacramento River. Table 3.4-3 includes information on the listing status and habitat associations for the special-status fish that could occur in the Permit Area.

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions could result in direct impacts associated with temporary disturbance or permanent loss of special-status fish habitat. Covered Activities may also result in indirect impacts on special-status fish habitat in the vicinity of Covered Activity work areas that results in habitat alteration or degradation later in time. Additionally, Covered Activities and Conservation Strategy actions could affect designated critical habitat for the species. Each of these impacts is described below.

Direct Impacts

Covered Activities and Conservation Strategy actions could directly affect special-status fish if construction activities are conducted within or adjacent to occupied streams.

Increases in noise/vibrations, turbidity, and suspended sediment during construction may cause temporary, localized effects on aquatic habitat and potential harassment, injury, and mortality of special-status fish species.

The potential for adverse effects on special-status fish species from noise, turbidity, and suspended sediment depends on the timing, duration, and extent of disturbance; the potential for exposure of the species to these effects based on their timing, abundance, and distribution in the Permit Area; and the sensitivity and types of responses of the species and life stages to these disturbances. Turbidity and suspended sediment resulting from these activities would be temporary and are not expected to exceed levels associated with direct injury or mortality of fish; however, such disturbances may cause behavioral responses in fish that may temporarily disrupt normal feeding, sheltering, and migration behavior. Underwater noise from the use of construction equipment (e.g., drilling rigs, excavators) in or near open water may have similar behavioral effects. These impacts could degrade aquatic habitat or result in behavioral responses in fish that may temporarily disrupt normal feeding, sheltering, and migration behavior; result in physiological stress; or result in injury or direct mortality.

While SMUD's overhead facilities are typically sited outside the limits of perennial streams, directional boring (for certain pipeline activities) occurs below the stream channel. If HDD methods are used to bore under streams, there is a potential for the inadvertent release of drilling fluids into the stream if the drilling mud/slurry (e.g., bentonite) used to lubricate the bore leaks from the bore hole. Should the lubricant reach the surface of the stream channel and mix with water, it would affect water quality and the aquatic substrate.

Covered Activities are anticipated to permanently remove less than 0.002 acre of riverine habitat (only some of which represents suitable habitat for special-status fish) in the Permit Area annually and no more than 0.05 acre over 30 years (Table 3.4-4). Temporary habitat disturbance is attributed to Covered Activities within suitable habitat for a period no longer than 12 months. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis. Covered Activities are anticipated to temporarily disturb an average of 0.15 acre of riverine habitat annually and no more than 4.62 acres over 30 years (Table 3.4-4).

### Indirect Impacts

Covered Activities could result in indirect impacts on special-status fish habitat in areas near Covered Activity work areas. These activities could result in habitat disturbance or degradation that occurs later in time but is reasonably certain to occur. Indirect impacts on special-status fish habitat could include: increased temporary runoff that leads to increased sedimentation; permanent changes in hydrology or stormwater runoff that alters the seasonal water flow; increased human activities that result in long-term disturbances, hazardous materials exposure, and placement of materials (i.e., debris, sand) that could be carried into nearby habitats.

Water quality within perennial streams could be altered by sediment transport into these habitats during ground-disturbing activities, which could physically alter spawning or rearing habitat. Also, chemicals inadvertently released (e.g., fuel, lubricants, degreasers) during construction and subsequently deposited in nearby aquatic habitat could affect water quality and result in mortality, injury, or reduced reproductive success of special-status fish.

Implementation of the Conservation Strategy would require that applicable Covered Activities be conducted in accordance with AMMs summarized in parentheses below and presented in Table 2-11 to minimize habitat disturbance within HCP modeled habitats, which include potential habitat for special-status fish. Implementation of these AMMs and any required permit measures would minimize impacts on water quality by controlling potential pollutants, including sediment, and runoff discharges from the site. SMUD would also continue to comply with the requirements of the SWRCB's Construction General Permit requirements, which requires the implementation of a stormwater pollution prevention plan for activities disturbing 1 acre would continue to be addressed through the application of the BMPs for water quality described above. SMUD would continue to coordinate with and obtain any required authorizations from USACE, CDFW, and RWQCB on a per-activity basis (as required) when working within special-status fish habitat. O&M activities within fish habitat would be conducted in accordance with the additional permit measures to avoid and minimize direct impacts on special-status fish and fish habitat such as seasonal work restrictions, specific dewatering protocols, fish rescue plans, and a frac-out plan, if deemed necessary.

- G-AMM1 (Perform annual training for crews conducting Covered Activities to review all HCP AMMs and relevance)
- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM7 (Prevent refueling of construction equipment within 100 feet of Riverine land cover types)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM9 (Implement HDD preventative measures such as secondary containment and follow a frac-out contingency plan)
- G-AMM12 (Avoid placing excess soil in riverine land cover types)
- G-AMM13 (Avoid stockpiling soil in riverine land cover types)

- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- G-AMM16 (Avoid placing chipped plant material in Riverine land cover types)
- G-AMM19 (Avoid discharging hydrostatic test water into aquatic habitats)

### Critical Habitat Impacts

The Permit Area supports designated critical habitat for five special-status fish DPSs and Evolutionarily Significant Units (ESU) (Figure 3.4-1).

Critical habitat was designated for the green sturgeon southern DPS on October 9, 2009 (74 FR 52300). Within the Permit Area, designated critical habitat for green sturgeon occurs within the Sacramento River.

Critical habitat was designated for Central Valley steelhead DPS on September 2, 2005 (70 FR 52488). Within the Permit Area, designated critical habitat for Central Valley steelhead occurs within the Sacramento River, American River, a portion of the Natomas East Main Drainage, Dry Creek, and portions of the Mokelumne River and lower Cosumnes River.

Critical habitat was designated for Sacramento River winter-run Chinook salmon ESU on June 16, 1993 (58 FR 33212). Within the Permit Area, designated critical habitat for Sacramento River winter-run Chinook salmon occurs within the Sacramento River.

Critical habitat was designated for Central Valley spring-run Chinook salmon ESU on September 2, 2005 (70 FR 52488). Within the Permit Area, designated critical habitat for Central Valley spring-run Chinook salmon occurs within the Sacramento River and the lower portion of the American River.

Critical habitat was designated for delta smelt on December 19, 1994 (59 FR 65256). Within the Permit Area, designated critical habitat for delta smelt occurs within the Delta habitats.

Covered Activities are expected to have negligible effects on designated critical habitat for special-status fish because impacts on rivers and creeks that support these habitats would be avoided. Indirect effects could occur as a result of ground disturbance in the vicinity of critical habitat. A more detailed description of potential indirect effects on special-status fish habitats and AMMs that would minimize these effects are provided above.

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction

at SMUD Bank activity could result in physical environmental effects. The SMUD Bank does not support suitable habitat for special-status fish; therefore, this Direct Action will not affect special-status fish species.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with the O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on special-status fish species associated with implementation of Covered Activities (Indirect Actions). Impacts on special-status fish from conservation and enhancement activities and miscellaneous Covered Activities are not anticipated because the SMUD Bank and Rancho Seco Property do not support suitable habitat for special-status fish.

A quantitative analysis of impacts on riverine land cover type (some of which provides suitable habitat for special-status fish) from all Covered Activities is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that could occur under baseline conditions is provided below.

#### Operation and Maintenance

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). Most O&M activities in the Permit Area would avoid impacts on riverine habitats. However, some existing facilities are located adjacent to suitable habitat for special-status fish and O&M activities in these areas have the potential to result in direct and indirect impacts on special-status fish from noise generated during the use of equipment adjacent to an occupied waterway, and sediment or chemical runoff off from adjacent work areas that results in habitat degradation and injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal

regulations. Vegetation management activities include trimming or removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility line and pipeline easements, which minimizes habitat impacts. Most of these activities do not involve ground disturbance and are not expected to directly or indirectly affect special-status fish species. Similar to O&M activities, sediment or chemical runoff off from adjacent work areas could result in habitat degradation and injury or mortality of fish if they are present in the adjacent waterway. Permanent habitat loss from vegetation management activities is not anticipated.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

A quantitative analysis of impacts on riverine land cover type (some of which provides suitable habitat for special-status fish) from all Covered Activities, including Indirect Actions, is estimated and described under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below. These impacts would be refined and further explained as part of future CEQA review.

### **Operation and Maintenance for New Facilities**

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). If new facilities are sited adjacent to riverine land cover types that provide suitable habitat for special-status fish, future O&M activities in the Permit Area have the potential to result in direct and indirect impacts on special-status fish from noise generated from the use of equipment adjacent to an occupied waterway, and sediment or chemical runoff off from adjacent work areas that results in habitat degradation and injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### New Construction

The proposed HCP includes construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3). These activities would likely involve ground disturbance outside of existing easements and existing facility footprints and would have the potential to directly and indirectly affect special-status fish if these activities occur within or adjacent to suitable aquatic habitat. Most new construction would be sited outside of perennial waterways and installation new sections of pipeline across perennial waterways would likely be conducted using HDD (G10b); therefore, impacts on special-status fish are expected to be limited to indirect impacts.

If new construction (e.g., construction of a new pipeline, installation of a culvert) is conducted in or adjacent to a perennial waterway, these activities could directly or indirectly affect special-status fish from temporary dewatering of suitable habitat, noise generated from the use of equipment adjacent to an occupied waterway, and sediment or chemical runoff off from adjacent work areas that results in habitat degradation and injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities would consist of inspections (V1); future tree, shrub, and ground and vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include transplanting and removal of elderberry shrubs (V5b). Excavation to remove or transplant elderberry shrubs would have the potential to result in direct or indirect impacts on special-status fish. These activities could result in sediment or chemical runoff from adjacent work areas leading to habitat degradation and injury or mortality of fish if they are present in the adjacent waterway.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. Construction activities associated with new construction on the CPP underground water pipeline that occur within riverine habitat could directly affect special-status fish species. Direct and indirect impacts on special-status fish under miscellaneous Covered Activities would be

similar to those described above for O&M and new construction. If new construction (e.g., construction of a new pipeline, installation of a culvert) is conducted in or adjacent to a perennial waterway, these activities could directly or indirectly affect special-status fish from temporary dewatering of suitable habitat, noise generated from the use of equipment adjacent to an occupied waterway, and sediment or chemical runoff from adjacent work areas that results in habitat degradation and injury or mortality of individuals. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring at the SMUD Bank will not affect special-status fish because suitable habitat does not occur on the SMUD Bank and therefore will not be affected by Direct Actions. Therefore, Direct Actions will have **no impact** on special-status fish.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could result in impacts on special-status fish if these activities involve in-water work or disturbance within a perennial waterway.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 and GGS-AMM1 through GGS-AMM4 (described in Table 2-11) would be implemented for applicable Covered Activities. These measures would minimize habitat disturbance and potential impacts within HCP modeled habitats, which include special-status fish habitats, by implementing erosion control measures near riverine habitats (G-AMM6), avoiding and minimizing water quality impacts from hazardous materials (G-AMM7, G-AMM8, and G-AMM19), implementing a frac-out contingency plan (G-AMM9), and restricting the placement of soil or plant materials in or

near riverine habitats (G-AMM12, G-AMM13, and G-AMM16). In addition, SMUD would implement relevant fish and water quality protection measures contained in permits acquired for future Covered Activities that may disturb the bed, bank, or channel of a federal and state jurisdictional waterway.

Indirect Actions would not occur within or under a federal or state jurisdictional waterway without first acquiring the necessary agency permits. For Indirect Actions that may affect listed fish species, SMUD will coordinate with the necessary agencies to obtain permits, if needed. If permits are required and obtained for work associated with streams that provide habitat for special-status fish, these permits would include additional measures to avoid and minimize direct impacts on special-status fish and fish habitat such as seasonal work restrictions, specific dewatering protocols, fish rescue plans, and a frac-out plan, if deemed necessary.

Implementation of these AMMs and any required permit measures would minimize impacts on water quality by controlling potential pollutants, including sediment, and runoff discharges from the site. SMUD would also continue to comply with the requirements of the SWRCB's Construction General Permit requirements, which requires the implementation of a stormwater pollution prevention plan for activities disturbing 1 acre would continue to be addressed through the application of the BMPs for water quality described above. SMUD would continue to coordinate with and obtain any required authorizations from USACE, NMFS, CDFW, and RWQCB on a per-activity basis (as required) when working within special-status fish habitat. O&M activities within fish habitat would be conducted in accordance with the additional permit measures to avoid and minimize direct impacts on special-status fish and fish habitat such as seasonal work restrictions, specific dewatering protocols, fish rescue plans, and a frac-out plan, if deemed necessary.

***Impact 3.4-16: Temporary and permanent impacts on sensitive natural communities***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could permanently modify or temporarily disturb SNCs as a result of enhancement activities. Implementation of the Conservation Strategy would result in a net benefit to vernal pool habitat; therefore, this impact would be **less than significant**.

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CDFW considers Natural Communities with ranks of S1–S3 as SNCs to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2020b). Given the geographic extent of the Permit Area, focused vegetation community mapping to identify SNCs has not taken place within a significant portion of the area due to the nature of the method requiring repeated sampling of large sample plots in each type (CDFW 2018). Instead, the primary tool used to compile, map, and analyze existing land cover data for the proposed HCP was ArcGIS 10.2 software and the data sources listed above in *Permit Area Setting*.

Approximately 1,089 acres of Valley Oak Woodland, an SNC with a state rarity ranking of S3, occurs within the Permit Area (HCP Table 3-2). In addition, another 10,316 acres of Valley Foothill Riparian; 168,175 acres of Grasses and Forbs; and 7,689 acres of Vernal Pools, Seasonal Wetlands, and Swale land cover types could contain unmapped SNCs within the Permit Area.

While considering SNCs, it is important to also consider them as habitat for special-status species, or as protected aquatic and riparian habitats that would be restored and mitigated in accordance with the proposed HCP. Many Grasses and Forbs and Oak Woodland land cover types within the Permit Area are dominated by nonnative species. Some of them are considered semi-natural alliances by the Manual of California Vegetation (CNPS 2020), with their own unique membership rules. Specifically, owing to strong seasonality in dominant plant cover, CDFW recommends seasonal grassland habitat be more broadly inclusive, and include those SNC habitats with relative native species cover at just 10 percent of the community (CDFW 2020b).

### ***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions could result in loss or temporary disturbance of SNC habitats. Covered Activities may also result in indirect impacts on SNCs in the vicinity of Covered Activity work areas that results in habitat alteration or degradation later in time. Each of these impacts is described below.

#### **Direct Impacts**

Covered Activities that result in temporary and permanent vegetation removal or ground disturbance, vehicle and equipment movement, hazardous materials exposure, and placement or stockpiling of staging materials could directly affect SNCs. The movement or parking of vehicles and/or the placement of equipment and staging materials may damage or crush vegetation. Ground disturbance such as blading and excavation can destroy or damage vegetation and seed banks.

Permanent ground disturbance and long-term disturbances that result in habitat modification within some land cover types would result in permanent loss of SNCs. Covered Activities could result in permanent habitat loss or disturbance of up to a total of 74.32 acres of potential land cover types that could contain an SNC (Table 3.4-4). Up to 0.12 acre of Valley Foothill Riparian habitat could be permanently lost over 30 years, representing less than 0.001 percent of the habitat available within the Permit Area. Up to 0.03 acre of Valley Oak Woodland habitat could be permanently lost over 30 years, representing less than 0.002 percent of the habitat available within the Permit Area. Up to 60.04 acres of Grasses and Forbs habitat could be permanently lost over 30 years, representing less than 0.03 percent of the habitat available within the Permit Area. Up to 14.13 acres of Aquatic land cover types could be lost over 30 years, representing less than 0.18 percent of the habitat available within the Permit Area. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis.

Temporary habitat disturbance attributed to Covered Activities within the vicinity of SNCs include dust generated from vehicle access, dust generated from construction, increased temporary runoff, permanent change in hydrology or runoff, spread of invasive or nonnative plants, hazardous materials exposure, and placement of materials. Covered Activities are anticipated to temporarily disturb up to 434.74 acres of land cover types that could contain an SNC (52.77 acres of Valley Foothill Riparian, 6.24 acres of Valley Oak Woodland, 361.37 acres of Grasses and Forbs, and 14.36 acres of Aquatic land cover types) within the Permit Area over the 30-year Permit Term (HCP Table 3.4-4).

Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with the AMMs summarized in Table 2-11. These AMMs are designed to avoid and minimize direct permanent and temporary impacts on HCP modeled habitats that could contain SNCs.

### Indirect Impacts

Covered Activities could result in indirect impacts on SNCs in areas near Covered Activity work areas. These activities could result in habitat disturbance or degradation that occurs later in time but is reasonably certain to occur. Indirect impacts on SNCs could include: increased temporary runoff that leads to increased sedimentation; permanent changes in hydrology or stormwater runoff that alters the hydroperiod; spread of invasive or nonnative plants that replace native species and alters the physical or chemical characteristic of a SNC; increased human activities that result in long-term disturbances, hazardous materials exposure, and placement of materials (e.g., debris, sand) that could be carried into nearby SNCs.

Water quality within SNCs could be altered by sediment transport into these habitats during ground-disturbing activities such that dominant plants die or fail to persist. Also, chemicals inadvertently released (e.g., fuel, lubricants, degreasers) during construction and subsequently deposited into SNCs near or adjacent to work areas could also affect soil conditions and result in changes in plant community composition. Covered Activities could also indirectly affect SNCs by altering the hydrology that supports vernal pool, wetland, and swale habitat (e.g., altering surface runoff patterns, breaking through hardpan or claypan restrictive layers), increasing human intrusion, introducing invasive species, and causing pollution. Sidecast soil from excavation, spilled materials, and other substances (e.g., oil leaked from a transformer) could be carried by ditches or swales to nearby sensitive areas, causing physical or physiological damage to the special-status plants there. Discharge of water from hydrostatic testing could also flow into an aquatic SNC and alter its hydrology, cause erosion or sedimentation, or introduce contaminants. Hydrology could also be altered, or habitat contaminated with bentonite or polymer material as a result of HDD if drilling fluids are unintentionally returned to the surface, and these fluids enter the aquatic SNC.

Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with the AMMs contained in Table 2-11 to avoid and minimize direct permanent and temporary impacts on HCP modeled habitats, including SNCs.

***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action could affect SNCs. However, a quantitative analysis of impacts on SNC habitat has not been performed as these natural communities are not covered by the proposed HCP. A qualitative discussion of impacts associated with Direct Actions is provided below.

**Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank**

As part of the Conservation Strategy, SMUD will offset impacts on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement plan and a slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management. Enhancement and introduction activities would occur within vernal pools that could be classified as an SNC but are not expected to result in the loss of aquatic herbaceous SNC habitat because enhancement of vernal pool habitat conditions would benefit these habitats. As described above under *Description of Impacts from Covered Activities and the Conservation Strategy*, HCP AMMs would be implemented during enhancement activities to avoid and minimize direct impacts on vernal pools that may qualify as an SNC.

Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not require disturbance of pools that are classified as an SNC. Therefore, no impacts are anticipated.

***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with the O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on SNCs associated with implementation of Covered Activities (Indirect Actions).

A qualitative analysis of impacts on SNCs is described above under *Description of Impacts from Covered Activities and the Conservation Strategy* and a qualitative

discussion of impacts associated with Indirect Actions that are part of the baseline conditions is provided below.

### Operation and Maintenance

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct and indirect impacts on SNCs, including permanent and temporary disturbance of habitat and injury or mortality of seed banks needed to restore the habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include trimming or removal of trees, shrubs, and ground vegetation within existing facilities and along existing utility line and pipeline easements, which minimizes habitat impacts. The trimming or removal of brushy vegetation within existing transmission line easements (V3c) and trees and shrubs within existing pipeline easements (V7) could directly and indirectly affect SNCs, including temporary disturbance of habitat and sedimentation runoff into aquatic habitats. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing vegetation management activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. Permanent habitat loss from vegetation management activities is not anticipated.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject

to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below.

The discussion below discloses the types of impacts that may occur and the types of measures that may reduce potentially significant effects of these Indirect Actions, which would be refined and further explained as part of future CEQA review if required.

#### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct and indirect impacts on SNCs, including permanent and temporary disturbance of habitat and injury or mortality of seedlings and adults. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*. Permanent habitat loss from O&M activities is not anticipated.

#### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would likely result in ground disturbance within SNCs. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance and permanent loss of SNCs. These activities would likely involve ground disturbance outside of existing easements and existing facility footprints and would have the potential to directly or indirectly modify SNCs. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### Vegetation Management for New Facilities

Vegetation management activities for new facilities would consist of inspections (V1); future tree, shrub, and ground and vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed

facilities (V4). In addition, proposed HCP implementation would include transplanting and removal of elderberry shrubs (V5b). Vegetation management activities that require vehicles and equipment to access through SNCs for new facilities, or for the removal of elderberry shrubs, have the potential to directly or indirectly affect SNCs, including temporary disturbance of habitat and sedimentation runoff into aquatic habitats. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

#### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. Excavation and grading associated with new construction on the CPP underground water pipeline that occur within an SNC would have the potential to directly or indirectly modify SNCs. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring would have beneficial impacts on vernal pools that may qualify as an SNC because these actions would remove invasive species and encourage the establishment of slender Orcutt grass and other sensitive plant species that occur in SNCs. Therefore, impacts from Direct Actions on SNCs would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could result in permanent or temporary loss or disturbance of SNCs. As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific

Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 and VP-AMM1 through VP-AMM7 (described in Table 2-11) would be implemented for applicable Covered Activities. These measures would avoid and minimize impacts on HCP modeled habitats, including Vernal Pool, Wetland, and Swale land cover types that may contain or be classified as an SNC by reducing disturbance footprints (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), restricting the placement of soil or plant materials in or near Covered Species habitats (G-AMM12, G-AMM13, and G-AMM16), and minimizing vegetation clearing and grading for access within Covered Species habitats (G-AMM15). These AMMs are designed to avoid and minimize direct permanent and temporary impacts on Covered Species habitats but are not specifically designed to protect SNCs that may be present in other habitats.

***Impact 3.4-17: Temporary and permanent impacts on wetlands and other regulated aquatic resources***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could permanently modify or temporarily disturb wetlands and other regulated aquatic resources as a result of enhancement activities. Implementation of the Conservation Strategy could benefit vernal pool habitats because enhancement and introduction activities could potentially introduce new populations of sensitive plant species that would enhance the overall habitat value. Therefore, impacts from Direct Actions on wetlands and other regulated aquatic resources would be **less than significant**.

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The Permit Area supports a total of 34,516 acres of Aquatic land cover types including Riverine; Open Water/Fringe; Vernal Pool, Seasonal Wetland, and Swale; and Other Depressional Wetlands (Table 3.4-1).

***Description of Impacts from Covered Activities and the Conservation Strategy***

Covered Activities and Conservation Strategy actions could result in direct loss or temporary disturbance of wetlands and other regulated aquatic resources. Covered Activities may also result in indirect impacts on wetlands and other regulated aquatic resources in the vicinity of Covered Activity work areas that results in habitat alteration or degradation later in time. Each of these impacts is described below.

Direct Impacts

Covered Activities that result in temporary and permanent vegetation removal or ground disturbance, vehicle and equipment movement, hazardous materials exposure, and placement or stockpiling of staging materials could directly affect wetlands and other

regulated aquatic resources. The movement or parking of vehicles and/or the placement of equipment and staging materials may damage wetlands and other regulated aquatic resources. Ground disturbance such as blading and excavation can destroy or damage wetlands and other regulated aquatic resources.

Permanent ground disturbance and long-term disturbances that result in habitat modification within wetlands and other regulated aquatic resources would result in permanent habitat loss of wetlands and other regulated aquatic resources. Covered Activities are anticipated to permanently remove an average of 0.47 acre of aquatic land cover types in the Permit Area annually and no more than 14.13 acres over the 30-year Permit Term (Table 3.4-4), representing less than 0.18 percent of the habitat available within the Permit Area. Habitat disturbance that continues longer than 12 months is considered a permanent impact for purposes of this analysis.

Temporary habitat disturbance attributed to Covered Activities within the vicinity of modeled habitat include dust generated from vehicle access, dust generated from construction, increased temporary runoff, permanent change in hydrology or runoff, spread of invasive or nonnative plants, hazardous materials exposure, and placement of materials. Covered Activities are anticipated to temporarily disturb an average of 0.47 acre of aquatic land cover types within the Permit Area annually and no more than 14.36 acres over the 30-year Permit Term (Table 3.4-4).

Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with the AMMs summarized in Table 2-11. These AMMs are designed to avoid and minimize direct permanent and temporary impacts on HCP modeled habitats that include regulated aquatic resources.

### Indirect Impacts

Covered Activities could result in indirect impacts on wetlands and other regulated aquatic resources in areas near Covered Activity work areas. These activities could result in habitat disturbance or degradation that occurs later in time but is reasonably certain to occur. Indirect impacts on wetlands and other regulated aquatic resources could include: increased temporary runoff that leads to increased sedimentation; permanent changes in hydrology or stormwater runoff that alters the hydroperiod; spread of invasive or nonnative plants that replace native species and alters the physical or chemical characteristic of a habitat; increased human activities that result in long-term disturbances, hazardous materials exposure, and placement of materials (e.g., debris, sand) that could be carried into nearby wetlands and other regulated aquatic resources.

Water quality within wetlands and other regulated aquatic resources could be altered by sediment transport into these habitats during ground-disturbing activities such that the function of wetlands and other regulated aquatic resources are impaired. Also, chemicals inadvertently released (e.g., fuel, lubricants, degreasers) during construction and subsequently deposited in wetlands and other regulated aquatic resources near or adjacent to work areas could also affect water quality and result in mortality or reduced reproductive success. Covered Activities could also indirectly affect wetlands and other

regulated aquatic resources by altering the hydrology that supports vernal pool, wetland, and swale habitat (e.g., altering surface runoff patterns, breaking through hardpan or claypan restrictive layers), increasing human intrusion, introducing invasive species, and causing pollution. Sidecast soil from excavation, spilled materials, and other substances (such as oil leaked from a transformer) could be carried by ditches or swales to nearby sensitive areas, causing physical change to wetlands or other regulated aquatic resources. Discharge of water from hydrostatic testing could also flow into an aquatic wetlands or other regulated aquatic resources and alter its hydrology, cause erosion or sedimentation, or introduce contaminants. Hydrology could also be altered or habitat contaminated with bentonite or polymer material as a result of HDD if drilling fluids are unintentionally returned to the surface, and these fluids enter the wetlands or other regulated aquatic resources.

Implementation of the proposed HCP would require that Covered Activities be conducted in accordance with the AMMs contained in Table 2-11 to avoid and minimize direct permanent and temporary impacts on HCP modeled habitats that include wetlands and other regulated aquatic resources.

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action could affect wetlands or other regulated aquatic resources. A quantitative analysis of impacts on land cover types that contain wetlands or other regulated aquatic resources associated with all Covered Activities is described above under *Description of Impacts from Covered Activities and the Conservation Strategy*. A qualitative discussion of impacts associated with Direct Actions is provided below.

#### **Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank**

As part of the Conservation Strategy, SMUD will offset impacts on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement plan and a slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management within a regulated aquatic resource.

However, enhancement activities are not expected to result in the loss of wetlands and other regulated aquatic resources because enhancement of vernal pool habitat conditions

would benefit these habitats. As described above under *Description of Impacts from Covered Activities and the Conservation Strategy*, HCP AMMs would be implemented during enhancement activities to avoid and minimize direct impacts on vernal pools.

Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and would not directly or indirectly affect a regulated aquatic resource. Therefore, no impacts are anticipated.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with the O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on wetlands and regulated aquatic resources associated with implementation of Covered Activities (Indirect Actions).

A qualitative analysis of impacts on wetlands and other regulated aquatic resources is described above under *Description of Impacts from Covered Activities and the Conservation Strategy* and a qualitative discussion of impacts associated with Indirect Actions that are part of the baseline conditions is provided below.

#### Operation and Maintenance

O&M activities for existing facilities would result in various levels of ground disturbance. Grading, excavation, vegetation removal, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, E2b, E5, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b, E9c, E9d, E9e), underground and aboveground pipelines and components (G5a, G5b, G6, G7, G8), steel lattice towers (E10a, E10b, E10c, E10d), and telecommunication towers and overhead fiber-optic cable (T1, T3); and reconstruction and reconductoring of overhead utility lines (E11). These O&M activities have the potential to result in direct and indirect impacts on wetlands and other regulated aquatic resources, including permanent and temporary disturbance of habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing O&M activities typically occur within existing facilities and along existing easements, which minimize habitat impacts.

#### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. Vegetation management activities include trimming or removal of trees,

shrubs, and ground vegetation within existing facilities and along existing utility line and pipeline easements, which minimizes habitat impacts. The trimming or removal of brushy vegetation within existing transmission line easements (V3c) and trees and shrubs within existing pipeline easements (V7) could directly and indirectly affect wetlands and other regulated aquatic resources, including temporary disturbance of habitat or sedimentation runoff into nearby aquatic habitats. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*. Ongoing vegetation management activities typically occur within existing facilities and along existing easements, which minimize habitat impacts. Permanent habitat loss from vegetation management activities is not anticipated.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. A qualitative discussion of impacts associated with Indirect Actions that would result in a change in baseline conditions is provided below.

The discussion below discloses the types of impacts that may occur and the types of measures that may reduce potentially significant effects of these Indirect Actions, which would be refined and further explained as part of future CEQA review if required.

#### **Operation and Maintenance for New Facilities**

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in direct and indirect impacts on wetlands and other regulated aquatic resources, including permanent and temporary disturbance of habitat. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area that would likely result in ground disturbance within wetlands and other regulated aquatic resources. Activities such as construction of new and relocated overhead utility lines (E13); trenching, directional drilling, hydrostatic testing, or HDD to install new underground utility lines and natural gas pipelines (E14a, E14b, G10a, G10b, G10c, G10d); construction of new or expansion of existing substations (E15, E16); construction of new valve stations and a pressure-limiting station (G9); and installation of new telecommunications towers and overhead fiber-optic cable (T2, T3) have the potential to result in the temporary disturbance and permanent loss of wetlands and other regulated aquatic resources. These activities would likely involve ground disturbance outside of existing easements and existing facility footprints and would have the potential to directly or indirectly modify wetlands and other regulated aquatic resources. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities would consist of inspections (V1); future tree, shrub, and ground and vegetation removal and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include transplanting and removal of elderberry shrubs (V5b). Vegetation management activities that require vehicles and equipment to access through wetlands and other regulated aquatic resources for new facilities, or for the removal of elderberry shrubs, have the potential to directly or indirectly affect wetlands and other regulated aquatic resources, including temporary disturbance of habitat, sedimentation runoff into nearby aquatic habitats, and injury or mortality of seeds and adults. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c). The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. Excavation and grading associated with new construction on the CPP underground water pipeline that occur within aquatic habitats would have the potential to directly or indirectly modify wetlands or other regulated aquatic resources. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is

provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring would have beneficial impacts on vernal pools that qualify as regulated aquatic resources. Enhancement and introduction activities would benefit vernal pool habitats because they could potentially introduce new populations of sensitive plant species that would enhance the overall habitat value. Therefore, impacts from Direct Actions on wetlands and other regulated aquatic resources would be **less than significant**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could also result in direct or indirect adverse impacts on wetlands and other regulated aquatic resources.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM1 through G-AMM19 and VP-AMM1 through VP-AMM7 (described in Table 2-11) would be implemented for applicable Covered Activities. These measures would avoid and minimize impacts on HCP modeled habitats that include wetlands and other regulated aquatic resources by implementing erosion control measures near aquatic habitats for Covered Activities (G-AMM6), avoiding and minimizing water quality impacts from hazardous materials (G-AMM7, G-AMM8, and G-AMM19), implementing a frac-out contingency plan (G-AMM9), and restricting the placement of soil or plant materials in or near aquatic habitats for Covered Activities (G-AMM12, G-AMM13, and G-AMM16).

Indirect Actions would not occur within or under a federal or state jurisdictional waterway without first acquiring the necessary agency permits. In addition to the AMMs, SMUD

would implement the relevant water quality protection measures contained in permits acquired for future Covered Activities that may disturb the bed, bank, or channel of a federal or state jurisdictional waterway.

***Impact 3.4-18: Temporary and permanent impacts on native resident or migratory wildlife species or established native resident or migratory wildlife corridors, and the use of native wildlife nursery sites***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could temporarily disturb the movement of native or migratory wildlife species that utilize vernal pool habitats during enhancement activities. However, Direct Actions would not affect established native resident or migratory wildlife corridors or nursery sites. Implementation of the Conservation Strategy would result in a net benefit to vernal pools on the SMUD Bank that provides habitat for resident and migratory wildlife. Therefore impacts on resident and migratory wildlife from Direct Actions would be **less than significant**.

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The Permit Area supports a variety of terrestrial land cover types (Eucalyptus Woodland, Valley Foothill Riparian, Blue Oak Woodland, Blue Oak Foothill Pine, Valley Oak Woodland, Mine Tailing Riparian Woodland, Orchard/Vineyard, Cropland, Pasture, Rice, Grasses and Forbs) that represent suitable habitat for many common wildlife species including but not limited to squirrels, mice, rabbits, deer, coyote, raccoon, skunk, bats, various species of migratory birds, various insect species such as monarch butterfly, and special-status wildlife species discussed above. Many of these species are likely to move through and breed in the Permit Area. Some species such as birds and bats may also breed in urban areas, particularly on existing buildings and structures.

***Description of Impacts from Covered Activities and the Conservation Strategy***

Ground disturbance and increased human activity associated with Covered Activities may temporarily cause native animals to avoid active work areas or impede wildlife movement through the work area. To maintain safe and effective O&M of electric utility and gas infrastructure, SMUD has managed their utility easements to prevent excessive vegetation growth. Because overhead electric facilities and underground gas facilities are not barriers to wildlife movement, these managed utility corridors have accommodated wildlife movement throughout much of the Permit Area. In some cases, utility easements represent the only semi-natural corridor through urban areas, which provide important habitat linkages for terrestrial wildlife.

Impacts on native wildlife movement or native wildlife nursery sites may result from temporary disturbances within or in proximity to breeding sites or movement corridors. Many of these areas have been previously disturbed by the installation and O&M of existing facilities and access roads. Disturbance and noise associated with the repair of facilities, construction of new facilities, and vegetation removal and trimming could divert wildlife using linkages or interrupt behavior at breeding or nursery sites in proximity to

work activity at certain times of the year. Vegetation clearing may reduce cover for some wildlife from predators, introduce invasive plant species, and change linkage habitat conditions.

Most of the O&M activities are small, localized, and mostly temporary in nature, while the conversion of habitat during new construction could permanently change native wildlife usage and movements within the area of development. Many aboveground structures or facilities that could be installed within the Permit Area would have small footprints (e.g., electric pole or transmission tower installations, telecommunication towers, cathodic testing stations). The largest footprint for permanent disturbance would be for the construction of four new transmission substations (11 acres each) and 2 distribution substations (0.5 acre each) under the proposed HCP over the 30-year Permit Term. Construction of the substations could impede movement of terrestrial wildlife species that would be required to travel longer distances to go around these areas, but they would not eliminate existing corridors for avian species and flying insects. The Pacific Flyway for avian species, or flight corridors for monarch butterfly and native bumble bees, would generally not be affected by Covered Activities.

Construction of new access roads could remove vegetation that provides cover for terrestrial wildlife and resting and nesting areas for arboreal wildlife. While access roads are not expected to create barriers to wildlife movement, they could increase potential vehicle collisions. Ground disturbance associated with O&M activities, new construction, and vegetation management activities that remove trees, shrubs, forbs, and grasses could result in the permanent and temporary loss of breeding and foraging habitat for resident and migratory wildlife.

Overall, the loss of breeding and foraging habitat for resident and migratory wildlife species would be relatively small and distributed across the Permit Area. Covered Activities are anticipated to permanently remove an average of 2.16 acres of terrestrial habitat (Eucalyptus Woodland, Valley Foothill Riparian, Blue Oak Woodland, Blue Oak Foothill Pine, Valley Oak Woodland, Mine Tailing Riparian Woodland, Orchard/Vineyard, Cropland, Pasture, Rice, Grasses and Forbs) for resident and migratory wildlife annually and no more than 64.8 acres over the 30-year Permit Term, representing less than 0.001 percent of the available habitat in the Permit Area. Temporary habitat disturbance from Covered Activities would total 23.33 acres annually and 700.0 acres over the 30-year Permit Term. The reduction in habitat availability distributed across the entire 577,554-acre Permit Area is not expected to result in a substantial reduction of breeding and foraging habitat for resident and migratory wildlife.

Implementation of the Conservation Strategy would require that applicable Covered Activities be conducted in accordance with AMMs summarized in parentheses below and presented in Table 2-11. While some of the AMMs are designed to minimize habitat disturbance throughout the Permit Area, other measures are specific to Covered Species. Covered Species AMMs will also provide protections for other species of resident and migratory wildlife when conducting activities within terrestrial habitats.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previously disturbed areas)
- G-AMM4 (Limit off-road speed limit to 15 mph to minimize animal strikes)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM10 (Cover trenches and holes at the end of each day and inspect prior to starting work the next day)
- G-AMM12 (Avoid placing excess soil in aquatic habitats or over burrows in upland modeled habitat)
- G-AMM13 (Avoid stockpiling soil in aquatic habitats or over burrows in upland modeled habitat)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within upland modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- G-AMM16 (Avoid placing chipped plant material in aquatic habitats or over burrows in upland modeled habitat)
- CTS-AMM6 (Avoid using monofilament netting for erosion control within CTS upland modeled habitat)
- GGS-AMM3 (Minimize vegetation clearing within GGS modeled habitat)

### ***Impacts from Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. A qualitative discussion of impacts on native wildlife movement or native wildlife nursery sites associated with Direct Actions is provided below.

#### **Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank**

As part of the Conservation Strategy, SMUD will offset impacts on Sacramento Orcutt grass and slender Orcutt grass modeled habitat through enhancement of the Sacramento

Orcutt grass population and introduction of slender Orcutt grass on the SMUD Bank. SMUD will develop a Sacramento Orcutt grass population enhancement plan and a slender Orcutt grass introduction plan for CDFW, USFWS, and IRT approval by Year Five of proposed HCP implementation. SMUD will then implement the enhancement and introduction plan and conduct 5 years of monitoring followed by long-term monitoring conducted concurrent with the SMUD Bank Long Term Monitoring Plan. Details of the enhancement and introduction plan are not known at this time but could include inoculation of vernal pools and invasive plant management. Increased human presence within the enhancement and introduction areas could temporarily disturb localized wildlife movements and active ground-nesting birds if these activities occur during the breeding season and active nests are present in the vicinity of enhancement and introduction activities. However, these impacts would be small and of short duration and are not expected to substantially impede wildlife movement or disturb breeding/nursery sites.

Sacramento Orcutt grass enhancement is not expected to result in the permanent loss of habitat for resident and migratory wildlife. Enhancement and introduction activities would potentially introduce new populations of special-status plants within vernal pools on the SMUD Bank, increasing their habitat value for native species. Removal of nonnative plants within vernal pools is not expected to substantially reduce the availability of nectar- and pollen-producing plants used by native bees and butterflies.

Monitoring activities at the SMUD Bank would be conducted within vernal pools that are enhanced for Sacramento Orcutt grass and inoculated with slender Orcutt grass. These monitoring activities would consist of passive surveys and are not expected to substantially impede wildlife movement or disturb breeding/nursery sites.

### ***Impacts from Covered Activities—Indirect Actions that are Part of Baseline Conditions***

Covered Activities include Indirect Actions associated with the O&M for existing facilities and vegetation management within existing rights-of-way. These Indirect Actions are ongoing activities that are part of baseline conditions in the Permit Area and will be covered by the take authorizations but are not entitled by this EIR. As discussed in Section 3.0, this section discloses reasonably foreseeable impacts on special-status birds and raptors associated with implementation of Covered Activities (Indirect Actions).

### **Operation and Maintenance**

O&M activities may result in temporary impacts on resident and migratory wildlife that are present within existing utility easements and existing facilities during O&M activities. Increased noise and ground disturbance could cause wildlife to avoid or move out of an area where O&M activities are occurring. Vegetation trimming or removal within and immediately adjacent to nesting bird or raptor habitat could result in the disruption of nesting behavior or loss of nests. Most O&M activities are implemented in previously disturbed or urbanized areas and in existing utility easements utilizing existing access roads and would not result in the loss or substantial modification of habitat for resident and migratory wildlife. O&M activities will also not create any additional barriers to wildlife

movements. Therefore, impacts on resident and migratory wildlife are anticipated to be minimal.

### Vegetation Management

Within its existing facilities and along existing easements, SMUD routinely performs vegetation management activities to maintain compliance with state and federal regulations. These activities include trimming or removal of trees and shrubs within existing utility and pipeline easements and clearing of ground vegetation in the vicinity of pole replacements and along pipeline and underground utility easements. Vegetation management activities that require the use of gas-powered equipment would create a high degree of noise disturbance in the vicinity of vegetation removal, which could cause wildlife to avoid or move out of an area where vegetation removal and trimming is occurring. Vegetation removal could also result in the incidental loss of active bird raptor nests from direct removal, nest abandonment or forced fledging and subsequent loss of fertile eggs, nestlings, or juveniles.

Vegetation management activities would result in some permanent loss of vegetated habitat for resident and migratory wildlife; however, much of the vegetation loss would be due to trimming under overhead utility lines and would not completely remove vegetative cover. While vegetation removal activities could remove some nectar- and pollen-producing plants that provide forage for native bumble bees and butterflies, most vegetation removal would be focused on taller trees and shrubs that impeded access or cause safety concerns for existing utility infrastructure.

### ***Impacts from Covered Activities—Indirect Actions that are Not Part of Baseline Conditions***

Covered Activities also include Indirect Actions that would result in a change in baseline conditions. These Indirect Actions include O&M of new facilities, new construction, vegetation management for new facilities, and miscellaneous activities. Because the locations and design of these Covered Activities are speculative at this time, the potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically analyzed in this document. Their implementation would be subject to future review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### Operation and Maintenance for New Facilities

O&M activities for new electrical and natural gas transmission facilities would result in various levels of ground disturbance from grading, excavation, and vehicle and foot traffic are commonly associated with routine inspections for aboveground and underground facilities (E1a, E2a, G1a, G1b, G1c, G3, G4); treatment, repair, and replacement of wood poles (E6a, E6b, E6c, E8), overhead and underground electric components (E7, E9a, E9b), underground and aboveground pipelines and components (G5a, G5b, G6), and telecommunication towers and overhead fiber-optic cable (T1, T3). Future O&M activities in the Permit Area have the potential to result in temporary impacts on resident and

migratory wildlife due to increased noise and ground disturbance that could cause wildlife to avoid or move out of an area where O&M activities are occurring. Vegetation trimming or removal within and immediately adjacent to nesting bird or raptor habitat or other wildlife breeding sites could result in the disruption of breeding behavior or loss of a nursery site. O&M activities are not expected to create any additional barriers to wildlife movements. Therefore, impacts on resident and migratory wildlife are anticipated to be minimal. A more detailed description of the types of direct and indirect impacts that are commonly associated with ground disturbance is provided above under *Description of Impacts from Covered Activities and the Conservation Strategy*.

### New Construction

The proposed HCP includes construction of new facilities or expansion of existing facilities within the Permit Area such as substations, telecommunication towers, pipelines, and overhead transmission and distribution lines. Construction of new facilities may also require trenching and boring along existing or new pipelines or subtransmission and distribution line easements and creating temporary access roads. New construction could result in temporary disturbance and permanent loss of habitat for resident and migratory wildlife. These activities would involve ground disturbance outside of existing easements and existing facility footprints and would likely require vegetation removal. Similar to the impacts described above under vegetation management activities, removal of vegetation within new facility footprints could disturb or remove active wildlife nursery sites.

Construction of new facilities and expansion of existing facilities and structures could result in the need for terrestrial wildlife to travel longer distances around these facilities; however, they are not expected to significantly impede movements.

### Vegetation Management for New Facilities

Vegetation management activities for new facilities consist of inspections (V1); future tree, shrub, and ground and vegetation removal, and trimming associated with management of new utility line and gas pipeline easements (V2, V7) and installation of new utility poles (V6); and tree removal projects associated with newly constructed facilities (V4). In addition, proposed HCP implementation would include transplanting and removal of elderberry shrubs (V5b). Similar to impacts described above for ongoing vegetation management, future vegetation management activities have the potential to result in permanent loss and disturbance of vegetated habitat for resident and migratory wildlife, including nesting birds and other breeding wildlife species. It is expected that disturbances from vegetation management would be of short duration (less than 1 day in a particular area) and while these short disturbances could disrupt the normal activity of wildlife in a given area, it would likely not result in long-term effects on wildlife populations in the vicinity of new facilities.

### Miscellaneous Covered Activities

Miscellaneous activities covered under the proposed HCP that would result in a change to baseline conditions include management of the CPP water pipeline (M2a, M2b, M2c).

The 5-mile CPP water pipeline is an existing facility that SMUD currently operates and maintains that will require installation of new components, including installation of cathodic protection test stations, and construction of a new pipeline valve. Activities associated with new construction on the CPP underground water pipeline could temporarily impede wildlife movements within existing easements; however, this impact would be short-term and is not expected to have a substantial impact on wildlife movement. Impacts on resident and migratory wildlife associated with miscellaneous activities would be similar to those described above for O&M activities and new construction. Vegetation removal and trimming associated with miscellaneous activities could also result in the loss of vegetated habitat for resident and migratory wildlife, including nesting birds and breeding monarch butterflies.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. Implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring could result in temporary disturbance of native resident or migratory wildlife species from increased human presence within the enhancement and introduction areas. These activities would be restricted to vernal pools where enhancement activities are proposed. Monitoring would be passive and infrequent. Overall, Direct Actions would have beneficial impacts on vernal pools that provide habitat for resident and migratory wildlife. Enhancement activities would not affect established native resident or migratory wildlife corridors or nursery sites because none have been identified in the vicinity of these activities. Therefore, impacts from Direct Actions on resident and migratory wildlife would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Implementation of Indirect Actions, including O&M of existing and new facilities, vegetation management for existing and new facilities, new construction, and miscellaneous Covered Activities, could also result in the disturbance of native resident or migratory wildlife species and the incidental loss of native wildlife eggs or young. The greatest potential for adverse impacts from Indirect Actions are associated with vegetation removal activities.

As stated above and discussed in Section 3.0, Indirect Actions are the Covered Activities covered by the take authorizations. SMUD's lead agency approval of the proposed Project implements the HCP and proposed take authorizations but does not confer or imply discretionary approval by SMUD of implementation of any specific Indirect Action. Covered Activities would be subject to future review and approval by SMUD, including

environmental review required under CEQA, when an activity is proposed. If needed, project-specific mitigation would be presented in a separate, future CEQA document.

G-AMM2 through G-AMM19, CTS-AMM6, and GGS-AMM3 (described in Table 2-11 and summarized above) would minimize habitat disturbance within HCP modeled habitats for Covered Species and potential impacts on resident and migratory wildlife that utilize these same habitats by conducting annual training for construction crews to review AMMs and their relevance to biological resources (G-AMM1), reducing the disturbance footprint associated with Covered Activities (G-AMM2), requiring the use of pre-existing roads and staging areas, as feasible (G-AMM3), and minimizing vegetation clearing and grading for access in modeled habitat for Covered Species (G-AMM15). In addition to implementation of the AMMs, SMUD would continue implement the APP and comply with the MBTA, CFGC, CESA, and the Bald and Golden Eagle Protection Act to ensure that incidental take of protected migratory birds and raptors is avoided and that Indirect Actions do not violate the CESA, MBTA, Bald and Golden Eagle Protection Act, and CFGC Sections 3503, 3503.5, and 3511.

***Impact 3.4-19: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not conflict with any local policies or ordinances protecting biological resources within the Permit Area. There would be **no impact**.

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The Permit Area overlaps five regional general plan areas including, Sacramento County General Plan (Sacramento County 2011), Yolo County General Plan (Yolo County 2009), Placer County General Plan (Placer County 2013), Amador County General Plan (Amador County 2016), and San Joaquin County General Plan (San Joaquin County 2016). These general plans contain goals and policies related to biological resources within the Permit Area (summarized in Appendix C and inform local ordinances aimed at protecting sensitive resources.

### ***Conclusion***

#### Direct Actions

Implementation of the Conservation Strategy would avoid, minimize, and offset any impacts on sensitive biological resources covered under regional general plans and associated policies and local ordinances. Therefore, Direct and Indirect Actions would not conflict with any local policies or ordinance protecting biological resources. There would be **no impact**.

#### Mitigation Measures

No mitigation is required.

### Indirect Actions

As stated in Section 3.4.1, *Regulatory Setting*, construction of facilities for the production and transmission of electrical energy by a local agency like SMUD is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

#### ***Impact 3.4-20: Conflict with provisions of an adopted habitat conservation plan/natural community conservation plan or other approved local, regional, or state habitat conservation plan***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in any unmitigated impacts on species or land cover types covered by other adopted regional HCPs or HCP/NCCPs within the Permit Area. There would be **no impact**.

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The Permit Area overlaps six other regional HCPs and NCCPs (Figure 1-3). HCPs are developed pursuant to the ESA, and NCCPs are prepared under the California Natural Community Conservation Planning Act. These regional HCPs and NCCPs include: Natomas Basin HCP (Natomas Basin Conservancy 2003), Metro Air Park HCP (Natomas Basin Conservancy 2003), the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP; an HCP), Western Placer HCP/NCCP, South Sacramento HCP (Sacramento County 2018), and the Yolo HCP/NCCP (Yolo Habitat Conservancy 2009) (HCP Figure 1-3).

The Natomas Basin HCP overlaps 39,067 acres in the northwest corner of the Permit Area. Land cover types and several species in the Natomas Basin HCP were selected for inclusion in SMUD's HCP. The Natomas Basin HCP was adopted in November 1997 and revised in 2003.

The Metro Air Park Project is part of the future planned development considered by the Natomas Basin HCP and was established as the Metro Air Park HCP area in 2003. The Metro Air Park HCP area covers a total of 1,538 acres and lies completely within the Permit Area.

The SJMSCP overlaps only 302 acres at the southern boundary of the Permit Area. The SJMSCP was adopted in 2001.

The Western Placer HCP/NCCP overlaps 5,693 acres along the northern boundary of the Permit Area. SMUD selected land cover types and several species addressed in the Western Placer HCP/NCCP for inclusion in SMUD's HCP. The Western Placer HCP/NCCP was adopted in September 2020.

The South Sacramento HCP covers 317,656 acres in Sacramento County, which lies completely within the southern portion of the Permit Area. Land cover types and the federally listed species in the South Sacramento HCP were included in SMUD's HCP. The South Sacramento HCP was finalized in 2019.

The Yolo HCP/NCCP overlaps 4,449 acres along natural gas easements in the western portion of the Permit Area. The final Yolo HCP/NCCP identifies land cover types surrounding SMUD's natural gas pipeline. Some of the land cover types and covered species in the Yolo HCP/NCCP area were selected for inclusion in SMUD's HCP. The Yolo HCP/NCCP was finalized in June 2018.

## ***Conclusion***

### Direct Actions

Issuance of take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions. While the South Sacramento HCP does overlap with the project area, Section 5.3 of the SSHCP says:

#### **Existing or Planned Preserves Not Under SSHCP Management**

Land management and Preserve maintenance activities on existing Preserves inside and outside the UDA, as described in Chapter 3 and shown in Figure 3-40, are not under the jurisdiction of the SSHCP Plan Permittees and cannot be covered by the SSHCP permits.

#### **Mitigation and Conservation Banking Operations**

Permitted mitigation banks and permitted conservation banks are present inside the Plan Area (see Chapter 3 and Figure 3-40). As discussed in Chapter 9, these existing mitigation and conservation banks might be used by the Implementing Entity to meet certain Biological Goals and Measurable Objectives of the SSHCP Conservation Strategy. However, the establishment of new management and operation of existing mitigation and conservation banks is not an SSHCP Covered Activity and is not covered by the SSHCP permits. Mitigation banks and conservation banks will continue to be operated and managed under their own agreements and permits from the Permitting Agencies.

Therefore, implementation of the Direct Actions involving Sacramento Orcutt grass enhancement and slender Orcutt grass introduction including monitoring at the SMUD Bank would not conflict with other adopted HCP or HCP/NCCPs. Therefore, implementation of the Direct Actions would have no impact related to potential conflicts with provisions of adopted HCPs and NCCPs.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Land cover types, habitats, and lists of covered species from these overlapping regional HCPs and NCCPs were evaluated for inclusion in SMUD's HCP. Not all species included in the overlapping HCPs were selected for inclusion in SMUD's HCP. If full mitigation cannot be achieved for a Covered Species at the SMUD Bank or other conservation/mitigation banks, SMUD may collaborate with the implementing entity of another HCP to accomplish the remaining mitigation within the SMUD Plan Area, upon wildlife agency approval. Take would be authorized under the SMUD HCP, not the other HCP. Candidate HCPs include the Western Placer County HCP/ NCCP, Natomas Basin HCP, Yolo HCP/NCCP, and South Sacramento HCP.

**Table 3.4-2. Special-Status Plant Species with Potential to Occur in the Permit Area**

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
lone manzanita <i>Arctostaphylos myrtifolia</i>	FT--/1B.2	Central Sierra Nevada Foothills, Amador and Calaveras Counties	Acidic, lone soil, clay or sandy soils in chaparral and cismontane woodland; 60-580 meters; blooms Nov-Mar	<b>Moderate</b> ; suitable habitat may be present in small areas of chaparral within the mapped blue oak woodland in the Permit Area. A total of 5 CNDDB (2020) occurrences, 2 of which are within 1 mile of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> </ul>
Ferris's milk-vetch <i>Astragalus tener</i> var. <i>ferrisiae</i>	--/1B.1	Historical range included the Central Valley from Butte to Solano County but currently only occurs in Butte, Glenn, Colusa, Sutter, and Yolo Counties	Seasonally wet areas in meadows and seeps, subalkaline flats in valley and foothill grassland; 2-75 meters; blooms Apr-May	<b>High</b> ; suitable habitat within seasonally wet habitats in somewhat alkaline soils in the Permit Area. A total of 5 CNDDB (2020) occurrences, 1 of which is in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	--/1B.2	Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area	Playas, on adobe clay in valley and foothill grassland, vernal pools on alkaline soils; 1-60 meters cismontane woodland; 60-580 meters; blooms Mar-Jun	<b>High</b> ; suitable habitat in seasonally wet habitats on alkaline soils in the Permit Area. A total of 7 CNDDB (2020) occurrences, 1 of which is in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Heartscale <i>Atriplex cordulata</i> var. <i>cordulata</i>	--/1B.2	Western Central Valley and valleys of adjacent foothills	Saline or alkaline area in chenopod scrub, meadows and seeps, sandy soils in valley and foothill grassland; 0-560 meters; blooms Apr-Oct	<b>High</b> ; suitable habitat on alkaline soils in grasslands in the Permit Area. 1 CNDDB (2020) occurrence within the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> </ul>
Brittlescale <i>Atriplex depressa</i>	--/1B.2	Western and eastern Central Valley and adjacent foothills on west side of Central Valley	Alkaline clay soils in chenopod scrub, playas, valley and foothill grasslands; 1-320 meters; blooms Apr-Oct	<b>Moderate</b> ; suitable habitat on alkaline soils in grasslands in the Permit Area. A total of 5 CNDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
Big-scale balsamroot <i>Balsamorhiza macrolepis</i>	—/—/1B.2	Scattered occurrences in the Coast Ranges and Sierra Nevada Foothills	Sometimes on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 45-1555 meters; blooms Mar-Jun	<b>Low</b> ; suitable habitat in Permit Area in oak woodlands and grasslands, but there are no serpentine soils. 1 CNDDB (2020) occurrence located within 1 mile of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Valley Oak Woodland</li> <li>• Blue Oak Woodland</li> <li>• Blue Oak Foothill Pine</li> <li>• Grasses and Forbs</li> </ul>
Watershield <i>Brasenia schreberi</i>	—/—/2B.3	Scattered occurrences in north and central California; widespread across U.S.	Freshwater marshes; 30-2200 meters; blooms Jun-Sep	<b>High</b> ; suitable habitat in freshwater marshes in the Permit Area. 1 CNDDB (2020) occurrence located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>
Stebbins' morning-glory <i>Calystegia stebbinsii</i>	FE/SE/1B.1	Northern Sierra Nevada Foothills with reported occurrences in El Dorado and Nevada Counties	Serpentine or gabbroic soils in chaparral openings, cismontane woodland; 185-1090 meters; blooms Apr-Jul	<b>Low</b> ; Permit Area is outside of species known range. Suitable habitat in oak woodlands, but presence of suitable soils is unlikely in the Permit Area. 1 CNDDB (2020) occurrence located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> <li>• Blue Oak Foothill Pine</li> </ul>
Bristly sedge <i>Carex comosa</i>	—/—/2B.1	Scattered occurrences throughout California; Oregon, Washington, and elsewhere	Coastal prairie, marshes and swamps at lake margins, valley and foothill grassland; 0-625 meters; blooms May-Sep	<b>High</b> ; suitable habitat in grasslands and marshes in the Permit Area. 16 CNDDB (2020) occurrences located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>
Fleshy owl's clover <i>Castilleja campestris</i> var. <i>succulenta</i>	FT/SE/1B.2	Eastern edge of San Joaquin Valley and adjacent foothills, from Stanislaus to Fresno Counties	Vernal pools, often on acidic soils; 50-750 meters; blooms (Mar)Apr-May	<b>Low</b> ; suitable habitat in vernal pools in the Permit Area. Species is not known to occur in the Permit Area. 1 CNDDB (2020) occurrence located within 1 mile of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> </ul>
Pine Hill ceanothus <i>Ceanothus roderickii</i>	FE/SR/1B.1	Endemic to El Dorado County	Serpentine or gabbro soils in chaparral or cismontane woodland; 245-1090 meters; blooms Apr-Jun	<b>Low</b> ; Permit Area is outside of species known range. Suitable habitat in oak woodlands, but there are no suitable soils in the Permit Area. 2 CNDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> <li>• Blue Oak Foothill Pine</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
Pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	-/-/1B.2	North and Central Coast Ranges, the southern Sacramento Valley; occurrences in Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, and Sonoma Counties	Coastal prairie, meadows and seeps, coastal salt marshes and swamps, alkaline soils in vernally mesic valley and foothill grassland; 0-420 meters; blooms May-Nov	<b>Moderate</b> ; suitable habitat in grasslands and seasonally wet habitats on alkaline soils in the Permit Area. 2 CNDDDB (2020) occurrences located within 0.5 mile of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Red Hills soaproot <i>Chlorogalum grandiflorum</i>	-/-/1B.2	North and central Sierra Nevada Foothills: Amador, Butte, Calaveras, El Dorado, Placer, and Tuolumne Counties	Serpentine or gabbro soils in chaparral, lower montane coniferous forest, and cismontane woodland; 245-1690 meters; blooms May-Jun	<b>Low</b> ; Permit Area is outside of species known range. Suitable habitat in oak woodlands, but there are no suitable soils in the Permit Area. 1 CNDDDB (2020) occurrence located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> <li>• Blue Oak Foothill Pine</li> </ul>
Hispid bird's-beak <i>Chloropyron molle</i> ssp. <i>hispidum</i>	-/-/1B.1	Central Valley: Alameda, Fresno, Kern, Merced, Placer, and Solano Counties	Meadow and seeps, valley and foothill grassland, playa, on alkaline soils; 1-155 meters; blooms Jun-Sep	<b>Low</b> ; Permit Area is outside of species known range. Suitable habitat in seasonally wet habitats and grasslands on alkaline soils. 1 CNDDDB (2020) occurrence located within 3 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Other Depressional Wetlands</li> </ul>
Palmate-bracted bird's-beak <i>Chloropyron palmatum</i>	FE/SE/1B.1	Livermore Valley and scattered locations in the Central Valley from Colusa County to Fresno County	Alkaline sites in grassland and chenopod scrub; 5-155 meters; blooms May-Oct	<b>High</b> ; suitable habitat in grasslands on alkaline soils in the Permit Area A total of 2 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 1 of which is located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> </ul>
Bolander's water-hemlock <i>Cicuta maculata</i> var. <i>bolanderi</i>	-/-/2B.1	Contra Costa, Los Angeles*, Marin, Sacramento, Santa Barbara*, San Luis Obispo*, Solano Counties; also Arizona, New Mexico, Washington	Marshes and swamps, coastal, fresh or brackish water; 0-200 meters; blooms Jul-Sep	<b>High</b> ; suitable habitat in freshwater marsh habitats in the Permit Area. 1 CNDDDB (2020) occurrence located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
Peruvian dodder <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	-/-/2B.2	Not seen since 1948; occurrences in Butte, Los Angeles, Merced, Sacramento?, San Bernardino*, and Sonoma Counties; Baja California and elsewhere	Freshwater marshes and swamps; 15-280 meters; blooms Jul-Oct	<b>High</b> ; suitable habitat in freshwater marsh habitats in the Permit Area. 1 CNDDDB (2020) occurrence located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>
Dwarf downingia <i>Downingia pusilla</i>	-/-/2B.2	Central Valley	Vernal pools and mesic valley and foothill grasslands; 15-1110 meters; blooms Jun-Jul (Sep)	<b>High</b> ; suitable habitat in mesic grasslands and seasonally wet habitats throughout the Permit Area. A total of 30 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 12 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
lone buckwheat <i>Eriogonum apricum</i> var. <i>apricum</i>	FE/SE/1B.1	Amador and Sacramento Counties	Openings in chaparral on lone soil; 60-145 meters; blooms Jul-Oct	<b>High</b> ; suitable habitat in small areas of chaparral within the mapped blue oak woodland in the Permit Area. A total of 2 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 1 of which is located at the edge of the Permit Area in Amador County.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> </ul>
Irish Hill buckwheat <i>Eriogonum apricum</i> var. <i>prostratum</i>	FE/SE/1B.1	Amador County	Openings in chaparral on lone soil; 90-120 meters; blooms Jun-Jul	<b>Moderate</b> ; suitable habitat in small areas of chaparral within the mapped blue oak woodland in the Permit Area. A total of 2 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 1 of which is located within 1 mile of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
Jepson's coyote-thistle <i>Eryngium jepsonii</i>	--/1B.2	Alameda, Amador, Calaveras, Contra Costa, Fresno, Napa, San Mateo, Solano, Stanislaus, Tuolumne, and Yolo Counties	Vernal pools and mesic valley and foothill grassland; 3-300 meters; blooms Apr-Aug	<b>Moderate</b> ; suitable habitat in mesic grasslands and seasonally wet habitats throughout the Permit Area. 2 CNDDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Tuolumne button-celery <i>Eryngium pinnatisectum</i>	--/1B.2	Amador, Calaveras, Sacramento, and Tuolumne Counties	Vernal pools and moist areas in cismontane woodland and lower montane coniferous forest; 70-915 meters; blooms May-Aug	<b>High</b> ; suitable habitat in mesic oak woodlands and seasonally wet habitats in the Permit Area. 6 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 1 of which is located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Valley Oak Woodland</li> <li>• Blue Oak Woodland</li> <li>• Blue Oak Foothill Pine</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Stanislaus monkeyflower <i>Erythranthe marmorata</i>	--/1B.1	Amador*, Calaveras, Fresno, Stanislaus*, and Tuolumne* Counties	Hillsides and rocky places in yellow-pine forest; 100-900 meters; blooms Mar-May	<b>Low</b> ; no yellow-pine forest habitat is present in the Permit Area. 1 CNDDDB (2020) occurrence located within 5 miles of the Permit Area.	No	None
San Joaquin spearscale <i>Extriplex joaquinana</i>	--/1B.2	West edge of Central Valley from Glenn County to Tulare County	Alkaline soils, chenopod scrub, meadows and seeps, playas, valley and foothill grassland; 1-835 meters; blooms Apr-Oct	<b>High</b> ; suitable habitat on alkaline soils in grasslands in the Permit Area. 7 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 1 of which is located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> </ul>
El Dorado bedstraw <i>Galium californicum</i> ssp. <i>sierrae</i>	FE/SR/1B.2	Endemic to El Dorado County	On gabbroic soils in chaparral, cismontane woodland, lower montane coniferous forest; 100-585 meters; blooms May-Jun	<b>Low</b> ; Permit Area may be outside of species known range. Suitable habitat in oak woodlands, but presence of suitable soils is unlikely in the Permit Area. 2 CNDDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> <li>• Blue Oak Foothill Pine</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	-/SE/1B.2	Inner North Coast Ranges, Central Sierra Nevada Foothills, Sacramento Valley and Modoc Plateau: Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, Sonoma, and Tehama Counties	Clay soils in areas of shallow water, lake margins of swamps and marshes, vernal pool margins; 10-2375 meters; blooms Apr-Aug	<b>High</b> ; suitable habitat in seasonally wet habitats, ponds, and lakes throughout the Permit Area. A total of 17 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 14 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Open Water/Fringe</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	-/-/1B.2	Scattered locations in central California in the Central and southern Sacramento Valley, deltaic Central Valley, from Butte to San Joaquin County	Freshwater marshes and swamps along rivers and sloughs, often in riprap on sides of levees; 0-120 meters; blooms Jun-Sep	<b>High</b> ; suitable habitat in freshwater marshes, canals, and sloughs in eastern Yolo County and on the western edge of Sacramento and San Joaquin Counties in the Permit Area. A total of 31 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 20 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Riverine</li> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>
Parry's horkelia <i>Horkelia parryi</i>	-/-/1B.2	Amador, Calaveras, El Dorado, and Mariposa Counties	Chaparral, or cismontane woodland openings, especially lone formation, dry slopes; 80-1070 meters; blooms Apr-Sep	<b>Moderate</b> ; suitable habitat in oak woodlands on suitable soils in the Permit Area. 4 CNDDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> </ul>
Northern California Black walnut <i>Juglans hindsii</i>	-/-/1B.1	Last two native stands in Napa and Contra Costa Counties; historically more widespread through southern north inner Coast Range, southern Sacramento Valley, northern San Joaquin Valley, and San Francisco Bay region	Riparian forest, riparian woodland; 0-440 meters; blooms Apr-May	<b>Low</b> ; suitable habitat in riparian habitats in the Permit Area. Large numbers of individual walnut trees occur throughout the Permit Area, but species is protected only as native stands. No CNDDDB (2020) occurrences of native stands are recorded within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Valley Foothill Riparian</li> <li>• Mine Tailing Riparian Woodland</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	--/1B.2	Eastern Sacramento Valley, northeastern San Joaquin Valley with occurrences in Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba Counties	Wet areas in valley and foothill grassland, vernal pool margins; 30-229 meters; blooms Mar-May	<b>High</b> ; suitable habitat in seasonally wet habitats and mesic grasslands throughout the Permit Area. 2 CNDDDB (2020) occurrences located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Red Bluff dwarf rush <i>Juncus leiospermus</i> var. <i>leiospermus</i>	--/1B.1	Northern Sacramento Valley and Cascade Range foothills with occurrences in Butte, Placer, Shasta, and Tehama Counties	Seasonally wet areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; 35-1250 meters; blooms Mar-Jun	<b>Moderate</b> ; suitable habitat in seasonally wet areas in woodland and grassland habitats and vernal pools in the Permit Area. 1 CNDDDB (2020) occurrence located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Valley Oak Woodland</li> <li>• Blue Oak Woodland</li> <li>• Blue Oak Foothill Pine</li> <li>• Grasses and Forbs</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	--/1B.2	San Francisco Bay region, also part of Central Valley in Alameda, Contra Costa, Napa, Santa Clara*, San Joaquin, Solano, and Sonoma Counties	Coastal and estuarine marshes (freshwater and brackish); 0-5 meters; blooms May-Jul (Aug-Sep)	<b>High</b> ; suitable habitat in freshwater marshes in the western edge of Sacramento and San Joaquin Counties in the Permit Area. A total of 9 CNDDDB (2020) occurrences located within 2.5 miles of the Permit Area, 5 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Riverine</li> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>
Legenere <i>Legenere limosa</i>	--/1B.1	Primarily in the lower Sacramento Valley, also from north Coast Ranges, northern San Joaquin Valley and the Santa Cruz Mountains	Deep, seasonally wet habitats such as vernal pools, ditches, marsh edges, and riverbanks; 1-880 meters; blooms Apr-Jun	<b>High</b> ; suitable habitat in seasonally wet habitats throughout the Permit Area. A total of 42 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 35 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Riverine</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
Heckard's pepper-grass <i>Lepidium latipes</i> var. <i>heckardii</i>	-/-/1B.2	Southern Sacramento Valley, in Glenn, Merced, Sacramento, Solano, and Yolo Counties	On margins of alkali scalds in annual grassland; 2-200 meters; blooms Mar-May	<b>High</b> ; suitable habitat in alkaline grasslands in the Permit Area. A total of 7 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 3 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>Grasses and Forbs</li> </ul>
Mason's lilaepsis <i>Lilaepsis masonii</i>	-/SR/1B.1	Southern Sacramento Valley, Sacramento - San Joaquin River Delta, northeast San Francisco Bay area in Alameda, Contra Costa, Marin, Napa, Sacramento, San Joaquin, Solano, and Yolo Counties	Freshwater or brackish marsh, riparian scrub, in tidal zone; 0-10 meters; blooms Apr-Nov	<b>High</b> ; suitable habitat on tidal mudflats in marsh and riparian habitats in the Permit Area. A total of 7 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 3 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>Valley and Foothill Riparian</li> <li>Riverine</li> <li>Open Water/Fringe</li> </ul>
Delta mudwort <i>Limosella australis</i>	-/-/2B.1	Deltaic Central Valley; Contra Costa, Sacramento, San Joaquin, and Solano Counties; Oregon	Muddy or sandy intertidal flats and marshes, streambanks in riparian scrub generally at sea level; 0-3 meters; blooms May-Aug	<b>High</b> ; suitable habitat on tidal mudflats in marsh and riparian habitats in the Permit Area. A total of 7 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 2 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>Valley and Foothill Riparian</li> <li>Riverine</li> <li>Open Water/Fringe</li> </ul>
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	-/-/1B.1	Inner North Coast Range and western Sacramento Valley: Colusa, Glenn, Lake, Lassen, Mendocino, Marin, Napa, Solano, Sonoma, Tehama, and Yolo Counties	Vernal pools and swales in woodland, lower montane coniferous forest, mesic meadows, and grassland; 5-1740 meters; blooms Apr-Jul	<b>Moderate</b> ; suitable habitat in seasonally wet areas in woodland and grassland habitats and vernal pools in the Permit Area. 3 CNDDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>Valley Oak Woodland</li> <li>Blue Oak Woodland</li> <li>Blue Oak Foothill Pine</li> <li>Grasses and Forbs</li> <li>Vernal Pool, Seasonal Wetland, and Swale</li> <li>Other Depressional Wetlands</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
Pincushion navarretia <i>Navarretia myersii</i> ssp. <i>myersii</i>	--/1B.1	Central Valley in Amador, Calaveras, Merced, Placer, and Sacramento Counties	Edges of vernal pools; 20-330 meters; blooms Apr-May	<b>High</b> ; suitable habitat in vernal pools in the Permit Area. A total of 8 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 6 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> </ul>
Colusa grass <i>Neostapfia colusana</i>	FT/SE/1B.1	Central Valley: Colusa*, Glenn, Merced, Solano, Stanislaus, and Yolo Counties	Adobe soils of vernal pools; 5-200 meters; blooms May-Aug	<b>Low</b> ; Suitable habitat in vernal pools, but presence of suitable soils is unlikely in the Permit Area. 2 CNDDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> </ul>
Slender Orcutt grass <i>Orcuttia tenuis</i> Critical Habitat	FT/SE/1B.1	Sierra Nevada and Cascade Range foothills from Siskiyou to Sacramento Counties	Vernal pools; 35-1760 meters; blooms May-Sep	<b>High</b> ; suitable habitat in vernal pools in the Permit Area. 3 CNDDDB (2020) occurrences located in the Permit Area. Critical habitat within the Permit Area.	Yes	<ul style="list-style-type: none"> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> </ul>
Sacramento Orcutt grass <i>Orcuttia viscida</i> Critical Habitat	FE/SE/1B.1	Endemic to Sacramento County	Vernal pools; 30-100 meters; blooms Apr-July	<b>High</b> ; suitable habitat in vernal pools in the Permit Area. 12 CNDDDB (2020) occurrences located in the Permit Area. Critical habitat within the Permit Area.	Yes	<ul style="list-style-type: none"> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> </ul>
Layne's ragwort <i>Packera layneae</i> (Also called <i>Senecio layneae</i> )	FT/SR/1B.2	Northern Sierra Nevada Foothills, Butte, El Dorado, Placer, Tuolumne, and Yuba Counties	Rocky serpentinite or gabbro soils in chaparral and foothill woodland; 200-1085 meters; blooms Apr-Aug	<b>Low</b> ; Permit Area may be outside of species known range. Suitable habitat in oak woodlands, but presence of suitable soils is unlikely in the Permit Area. 5 CNDDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> <li>• Blue Oak Foothill Pine</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
California alkali grass <i>Puccinellia simplex</i>	-/-/1B.2	Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kings*, Kern, Lake, Los Angeles, Madera, Merced, Napa, San Bernardino, Santa Clara, Santa Cruz, San Luis Obispo, Solano, Stanislaus, Tulare, Yolo Counties; Utah.	Alkaline soils, vernal mesic sinks, flats, lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools; 2-930 meters; blooms Mar-May	<b>High</b> ; suitable habitat in mesic alkaline grasslands and margins of lakes and ponds in the Permit Area. A total of 9 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 2 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Open Water/Fringe</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Sanford's arrowhead <i>Sagittaria sanfordii</i>	-/-/1B.2	Scattered locations in Central Valley and Coast Ranges	Freshwater marshes, sloughs, canals, and other slow-moving water habitats; 0-650 meters; blooms May-Oct (Nov)	<b>High</b> ; suitable habitat in freshwater marshes, sloughs, and canals in the Permit Area. A total of 63 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 57 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Riverine</li> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>
Marsh skullcap <i>Scutellaria galericulata</i>	-/-/2B.2	Northern high Sierra Nevada and Modoc Plateau: El Dorado, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, San Joaquin, and Siskiyou Counties; Oregon and elsewhere	Marshes, mesic meadows, seeps, lower montane coniferous forest; 0-2100 meters; blooms Jun-Sep	<b>High</b> ; suitable habitat in marshes and mesic grasslands in the Permit Area. 2 CNDDDB (2020) occurrences located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>
Side-flowering skullcap <i>Scutellaria lateriflora</i>	-/-/2B.2	Known in CA from only three occurrences in Northern San Joaquin Valley and east of the Sierra Nevada in Inyo, Sacramento, and San Joaquin Counties; New Mexico, Oregon, and elsewhere	Mesic meadows, marshes and swamps; 0-500 meters; blooms Jul-Sep	<b>High</b> ; suitable habitat in mesic grasslands and marshes in the Permit Area. A total of 10 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 8 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
Keck's checkermallow <i>Sidalcea keckii</i>	FE--/1B.1	Known from only three occurrences in Fresno, Merced, and Tulare Counties; plants from inner North Coast Ranges in Colusa, Napa, Solano, and Yolo Counties may be <i>Sidalcea diploscypha</i> , needs study	Serpentine clay soils in cismontane woodland, valley and foothill grassland; 75-650 meters; blooms Apr-May (Jun)	<b>Low</b> ; suitable habitat in oak woodlands and grasslands, but there are no suitable soils in the Permit Area. 4 CNDDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> <li>• Blue Oak Foothill Pine</li> <li>• Grasses and Forbs</li> </ul>
Suisun Marsh aster <i>Symphotrichum lentum</i>	--/1B.2	Sacramento - San Joaquin Delta, Suisun Marsh, Suisun Bay: Contra Costa, Napa, Sacramento, San Joaquin, and Solano Counties	Brackish and freshwater marshes and swamps; 0-3 meters; blooms (Apr) May-Nov	<b>High</b> ; suitable habitat in marshes in the western edge of Sacramento and San Joaquin Counties in the Permit Area. A total of 10 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 2 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Riverine</li> <li>• Open Water/Fringe</li> <li>• Other Depressional Wetlands</li> </ul>
Saline clover <i>Trifolium hydrophilum</i>	--/1B.2	Sacramento Valley, central western California	Salt marsh, mesic alkaline areas in valley and foothill grasslands, vernal pools, marshes and swamps; 0-300 meters; blooms Apr-Jun	<b>High</b> ; suitable habitat in mesic, alkaline grasslands, seasonally wet areas, and marshes in the Permit Area. A total of 7 CNDDDB (2020) occurrences located within 5 miles of the Permit Area, 5 of which are located in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> <li>• Other Depressional Wetlands</li> </ul>
Solano grass <i>Tuctoria mucronata</i>	FE/SE/1B.1	Southwestern Sacramento Valley: Solano and Yolo Counties	Vernal pools, mesic grassland; 5-10 meters; blooms Apr-Aug	<b>Moderate</b> ; suitable habitat in mesic grassland and vernal pools in the Permit Area. 1 CNDDDB (2020) occurrence located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and Forbs</li> <li>• Vernal Pool, Seasonal Wetland, and Swale</li> </ul>

Species	Status <sup>a</sup>	Distribution	Habitat Requirements and Blooming Period	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP-Covered Species (Yes/No)	Suitable Land Cover Types within Permit Area
	Fed/State/CNPS					
El Dorado County mule ears <i>Wyethia reticulata</i>	—/—/1B.2	El Dorado and Yuba Counties	On clay or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest; 85-630 meters; blooms Apr-Aug	<b>Low</b> ; suitable habitat in small areas of chaparral within the mapped blue oak woodland in the Permit Area. 7 CNDDDB (2020) occurrences located within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Blue Oak Woodland</li> </ul>

Sources: California Department of Fish and Wildlife (CNDDDB) (2020), California Native Plant Society (CNPS) (2020), California Consortium of Herbaria (CCH) (2020), SMUD (2010).

\* = Extirpated from County

? = Uncertainty about distribution or identity

<sup>a</sup> Status explanations:

**Federal**

E = Listed as endangered under the federal Endangered Species Act.

T = Listed as threatened under the federal Endangered Species Act.

— = No listing.

**State**

E = Listed as endangered under the California Endangered Species Act.

R = Listed as rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.

— = No listing.

**CNPS California Rare Plant Rank (CRPR)**

1B = CRPR 1B species: rare, threatened, or endangered in California and elsewhere.

2B = CRPR 2B species: rare, threatened, or endangered in California but more common elsewhere.

3 = CRPR 3 species: plants about which more information is needed to determine their status.

4 = CRPR 4 species: plants of limited distribution.

— = No listing.

0.1-Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

0.2-Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)

0.3-Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

<sup>b</sup> Likelihood for Occurrence in Permit Area:

Low: The Permit Area is outside of the species' range; or, if within species' range, suitable habitat for the species might or might not occur in the Permit Area and species was not recorded in the Permit Area.

**Moderate:** The Permit Area is within the species' range, and suitable habitat for the species is present in the Permit Area, but records for the species are either outside of the Permit Area or are only historic or uncertain.

**High:** The Permit Area is within the species' range, suitable habitat for the species is present in the Permit Area, and there are one or more recent records of the species in the Permit Area.

**Table 3.4-3. Special-Status Wildlife Species with Potential to Occur in the Permit Area**

Common Name <i>Scientific Name</i>	Legal Status <sup>a</sup> Federal/State	Habitat and Distribution	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP- Covered Species (yes/no)	Suitable Land Cover Types within Permit Area
<b>Invertebrates</b>					
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE/--	Disjunct occurrences in Solano, Merced, Tehama, Ventura, Butte, Placer, and Glenn Counties; Central Valley. Typically occurs in large, deep vernal pools in annual grasslands.	Low to none; not expected to occur within the Permit Area. One CNDDDB (2020) occurrences within 5 miles of the Permit Area.	No	Not expected to occupy habitats in the Permit Area.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>  Critical Habitat	FE/--	Occupies a variety of vernal pool habitats Central Valley of California and San Francisco Bay Area.	High; suitable vernal pool habitat is present throughout the Permit Area. Known to occur at the SMUD Mitigation Bank and 104 CNDDDB (2020) occurrences within the Permit Area. Critical Habitat present in the Permit Area.	Yes	<ul style="list-style-type: none"> <li>• Vernal pool, seasonal wetland, and swale</li> </ul>
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>  Critical Habitat	FT	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County. Common in vernal pools and swales; also found in sandstone rock outcrop pools.	High; suitable vernal pools and swales are present throughout the Permit Area. Known to occur at the SMUD Mitigation Bank and 136 CNDDDB (2020) occurrences within the Permit Area. Critical Habitat present in the Permit Area.	Yes	<ul style="list-style-type: none"> <li>• Vernal pool, seasonal wetland, and swale</li> </ul>
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i> Critical Habitat	FT/--	Elderberry shrubs, typically in riparian habitats. Central Valley, including the Permit Area, below approximately 500 feet elevation.	High; elderberry shrubs (host plant) are present throughout the Permit Area. 39 CNDDDB (2020) occurrences within the Permit Area. Critical Habitat present in the Permit Area.	Yes	<ul style="list-style-type: none"> <li>• Valley foothill riparian</li> <li>• Mine tailing riparian woodland</li> <li>• Valley oak woodland</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> </ul>
Crotch bumble bee <i>Bombus crotchii</i>	--/CE	Pacific Coast, Western Desert, Great Valley, and adjacent foothills throughout most of southwestern California. Open grassland and scrub; nests underground. Food plants include <i>Asclepias</i> , <i>Chaenactis</i> , <i>Lupinus</i> , <i>Medicago</i> , <i>Phacelia</i> , and <i>Salvia</i> .	Moderate; suitable habitat is present within grasslands throughout the Permit Area. One CNDDDB (2020) occurrences within 3 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and forbs</li> <li>• Valley oak woodland</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> <li>• Vernal pool, seasonal wetland, and swale</li> </ul>

Common Name <i>Scientific Name</i>	Legal Status <sup>a</sup> Federal/State	Habitat and Distribution	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP- Covered Species (yes/no)	Suitable Land Cover Types within Permit Area
Western bumble bee <i>Bombus occidentalis</i>	--/CE	Historically occurred throughout much of northern California but currently appears to be absent from much of this area. Current known locations are high-elevation sites in northern California and a few sites on the northern California coast. Nests underground in squirrel burrows, in mouse nests, and in open west-southwest facing slopes bordered by trees. Visits a wide variety of wildflowers. Plant genera it is most commonly associated with are <i>Cirsium</i> , <i>Erigonum</i> , <i>Solidago</i> , "Aster", <i>Ceanothus</i> , <i>Centaurea</i> , and <i>Penstemon</i> .	Moderate; suitable habitat is present within grasslands throughout the Permit Area. One CNDDDB (2020) occurrence within 2.5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and forbs</li> <li>• Valley oak woodland</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> <li>• Vernal pool, seasonal wetland, and swale</li> </ul>
Monarch Butterfly	FC/--	Within California, hundreds of overwintering sites are located within eucalyptus, Monterey pine, sycamore, and oak groves along the coast from Mendocino County south to Baja California. Breeds throughout lowlands of California where milkweed ( <i>Asclepias</i> sp.) plants are present and forages on nectar-producing plants during migration.	High; Suitable breeding habitat (milkweed plants) is present throughout the Permit Area and monarch breeding has been reported at numerous locations in the central and southern portions of the Permit Area (Western Monarch Milk Weed Mapper 2020).	No	<ul style="list-style-type: none"> <li>• Grasses and forbs</li> <li>• Valley oak woodland</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> <li>• Urban (landscaped)</li> </ul>
<b>Amphibians</b>					
California red-legged frog <i>Rana draytonii</i>	FT/SSC	Foothill ponds and streams with emergent vegetation and open areas for basking, minimum 11–20 weeks of water for larval development, and upland refugia for aestivation. Occurs primarily in the foothills of the central Coast Ranges, with isolated populations in the Sierra Nevada.	Low to None; Permit Area is within the historic range and suitable habitat is present; however, species is presumed to be extirpated from the valley floor and is not known to occur in the Permit Area. Two CNDDDB (2020) occurrence within 4 miles of the Permit Area.	No	Not expected to occupy habitats in the Permit Area.

Common Name Scientific Name	Legal Status <sup>a</sup> Federal/State	Habitat and Distribution	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP- Covered Species (yes/no)	Suitable Land Cover Types within Permit Area
California tiger salamander <i>Ambystoma californiense</i>  Critical Habitat	FT/ST	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County. Small ponds, lakes, or vernal pools in grasslands and oak woodlands for reproduction and larval development; rodent burrows, rock crevices, or fallen logs for cover for adults and juveniles for summer dormancy.	High; seasonal ponds in the southern and eastern portions of the Permit Area represent suitable habitat. 20 CNDDDB (2020) occurrences within the Permit Area. Known to occur at the SMUD Mitigation Bank. Critical Habitat present in the Permit Area.	Yes	<ul style="list-style-type: none"> <li>• Open water/fringe</li> <li>• Other depressional wetlands</li> <li>• Vernal pool, seasonal wetland, and swale</li> <li>• Blue oak woodland</li> <li>• Valley oak woodland</li> <li>• Pasture</li> <li>• Grasses and forbs</li> </ul>
Foothill yellow-legged frog <i>Rana boylei</i>	--/ST	Associated with rocky streams in valley foothill woodlands, riparian, mixed conifer, chaparral and wet meadow habitat. Require permanent water or at least streams where pools persist through the dry season. In California, occurs in the Cascade Mountains, the Coast Ranges, and the Sierra Nevada foothills.	Low to None; suitable habitat (rocky foothill streams) is not present within the Permit Area. Two CNDDDB (2020) occurrences within 2 miles of the Permit Area.	No	Not expected to occupy habitats in the Permit Area.
Western spadefoot <i>Spea hammondi</i>	--/SSC	In winter, breeds in vernal pools and seasonal wetlands with a minimum 3-week inundation period; in summer, aestivates in grassland habitat, in soil crevices and rodent burrows. Range includes the Central Valley, South Coast Ranges, and foothills.	High; vernal pools and seasonal wetlands throughout the Permit Area represent potential habitat. Known to occur at the SMUD Mitigation Bank and there are 21 CNDDDB (2020) occurrences within the Permit Area.	No	<ul style="list-style-type: none"> <li>• Open water/fringe</li> <li>• Other depressional wetlands</li> <li>• Vernal pool, seasonal wetland, and swale</li> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Blue oak woodland</li> <li>• Valley oak woodland</li> </ul>

Common Name <i>Scientific Name</i>	Legal Status <sup>a</sup> Federal/State	Habitat and Distribution	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP- Covered Species (yes/no)	Suitable Land Cover Types within Permit Area
Reptiles					
Giant garter snake <i>Thamnophis gigas</i>	FT/ST	Forages in slow-moving streams, sloughs, ponds, marshes, inundated floodplains, rice fields, and irrigation/drainage ditches; also requires upland refugia not subject to flooding during the snake's inactive season. Range spans the southern Sacramento and northern San Joaquin Valleys.	High; westernmost portion of the Permit Area dominated by rice field agriculture represents suitable habitat. 61 CNDDDB (2020) occurrences within the Permit Area.	Yes	<ul style="list-style-type: none"> <li>• Riverine</li> <li>• Open water/fringe</li> <li>• Rice</li> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Valley foothill riparian</li> <li>• Blue oak woodland</li> <li>• Valley oak woodland</li> </ul>
Western pond turtle <i>Emys marmorata</i>	--/SSC	Forages in ponds, marshes, slow-moving streams, sloughs, and irrigation/drainage ditches; nests in nearby uplands with low, sparse vegetation. Range spans across California west of the Sierra-Cascade crest, below 5,000 feet in elevation.	High; suitable habitat is present in perennial ponds, wetlands, and drainages throughout the Permit Area. Known to occur at the SMUD Mitigation Bank. 25 CNDDDB (2020) occurrences within the Permit Area.	No	<ul style="list-style-type: none"> <li>• Riverine</li> <li>• Open water/fringe</li> <li>• Other depressional wetlands</li> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Valley foothill riparian</li> <li>• Blue oak woodland</li> <li>• Valley oak woodland</li> </ul>
Blainville's (Coast) horned lizard <i>Phrynosoma blainvillii</i>	--/SSC	Occupies grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil below 4,000 feet; known from Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County.	Low; Permit Area is within the historic range and suitable habitat is present; however, the species has not been previously documented in the Permit Area. 1 CNDDDB (2020) occurrences within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Grasses and forbs</li> <li>• Valley oak woodland</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> </ul>

Common Name <i>Scientific Name</i>	Legal Status <sup>a</sup> Federal/State	Habitat and Distribution	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP- Covered Species (yes/no)	Suitable Land Cover Types within Permit Area
Birds					
American peregrine falcon <i>Falco peregrinus anatum</i>	--/SD, FP (nesting)	Nests on high cliffs, banks, dunes, or mounds in a scrape on a depression or ledge in an open site. Will occasionally use manmade structures and tree or snag cavities or old nests of other raptors. Forages in a wide variety of habitats, but is most common near water, where shorebirds and waterfowl are abundant. Year-round range includes the Sierra Nevada, Cascade Range, northeastern California, Coast Ranges, and coast; winter range expands to include the Central Valley, Delta, and portions of eastern and southern California.	High; limited nesting habitat in the Permit Area but may forage within the Permit Area during breeding and non-breeding season. Known to nest on the roof of the UC Davis Medical Center in downtown Sacramento. Two CNDDDB (2020) occurrences within 5 miles of the Permit Area. Numerous eBird (2020) sightings throughout the Permit Area.	No	Could forage throughout the Permit Area in the vicinity of known nests.
Bald eagle <i>Haliaeetus leucocephalus</i>	SE/FP	Nests in large trees with open branchwork. Often chooses large tree in a stand to build a platform nest. Forages primarily in large inland fish-bearing waters with adjacent large trees or snags, and occasionally in uplands with abundant rabbits, other small mammals, or carrion. Breeding range includes the Sierra Nevada, Cascade Range, and portions of the Coast Ranges; winter range expands to include most of the state except southeastern California (although the species occurs along the Colorado River).	High; uncommon migrant and non-breeding visitor to most large lakes, reservoirs, and rivers in the Permit Area. Species known to nest at Rancho Seco Lake adjacent to the SMUD Mitigation Bank. One CNDDDB (2020) occurrences within the Permit Area and 3 occurrences within 5 miles of the Permit. Numerous eBird (2020) sightings throughout the Permit Area.	No	<ul style="list-style-type: none"> <li>• Riverine</li> <li>• Open water/fringe</li> <li>• Valley foothill riparian</li> </ul>

Common Name Scientific Name	Legal Status <sup>a</sup> Federal/State	Habitat and Distribution	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP- Covered Species (yes/no)	Suitable Land Cover Types within Permit Area
Bank swallow <i>Riparia riparia</i>	--/ST	Nests in vertical banks or bluffs, typically adjacent to water, devoid of vegetation, and with friable, eroding soils; forages in a wide variety of habitats. Breeds in much of lowland and riparian California, with 75% nesting colonies along the Sacramento and Feather Rivers and their tributaries; additional breeding locations are scattered throughout the northern and central portions of the state; migrates south of California in fall/winter.	Low; known to historically occur along the American River and Cosumnes River in the Permit Area; however, much of these areas are highly disturbed and are not expected to support bank swallow colonies. Six CNDDDB (2020) records for the Permit Area.	No	<ul style="list-style-type: none"> <li>• Riverine</li> </ul>
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST/FP	Nests and forages in saline, freshwater, or brackish emergent marshes with gently grading slopes and upland refugia with vegetative cover beyond the high-water line. Year-round range includes Suisun Marsh, San Pablo Bay, Morro Bay, a few patches in the Sierra Nevada foothills, and portions of southern California; winter range expands to include San Francisco Bay and the Marin County coast.	Moderate; limited nesting habitat is present within freshwater marsh throughout the Permit Area. One CNDDDB (2020) occurrence within the Permit Area located at a pond between the Sacramento Deep Water Ship Channel and Southport Parkway; three additional CNDDDB occurrences within 5 miles of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Open water/fringe</li> </ul>
Golden eagle <i>Aquila chrysaetos</i>	--/FP	Nests and forages in a variety of open habitats, including grassland, shrubland, and cropland; most common in foothill habitats; rare foothill breeder; nests in cliffs, rock outcrops, and large trees. Winter range spans most of California; breeding range excludes the Central Valley floor.	High; expanse grasslands with suitable nest trees or structures (i.e., electrical towers) within the Permit Area provide suitable habitat. Two CNDDDB (2020) nesting occurrences within the Permit Area. Numerous eBird (2020) sightings throughout the Permit Area.	No	<ul style="list-style-type: none"> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Valley oak woodland</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> </ul>

Common Name Scientific Name	Legal Status <sup>a</sup> Federal/State	Habitat and Distribution	Likelihood for Occurrence in the Permit Area <sup>b</sup>	HCP- Covered Species (yes/no)	Suitable Land Cover Types within Permit Area
Grasshopper sparrow <i>Ammodramus savannarum</i>	--/SSC (nesting)	Nests and forages in dense grasslands; favors a mix of native grasses, forbs, and scattered shrubs. Breeding range spans much of the Central Valley and California coast, but populations are typically localized and disjunct; most individuals migrate, although some may be present year-round.	High; grasslands represent suitable nesting habitat within the Permit Area. Two CNDDDB (2020) occurrences within the Permit Area. Numerous eBird (2020) sightings throughout the Permit Area.	No	<ul style="list-style-type: none"> <li>• Pasture</li> <li>• Grasses and forbs</li> </ul>
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE/SE	Small populations remain in southern Inyo, southern San Bernardino, Riverside, San Diego, Orange, Los Angeles, Ventura, and Santa Barbara Counties. Found at the San Joaquin River National Wildlife Refuge (San Joaquin and Stanislaus Counties) in 2005. Riparian thickets/dense willows with a well-developed understory either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons.	Low to none; Limited nesting habitat within the Permit Area. one CNDDDB (2020) occurrence (museum record from 1877) within the Permit Area and one nesting occurrence (last documented in 2013) 1.5 miles west of the Permit Area.	No	Nests in dense riparian areas but not expected to occupy habitats in the Permit Area.
Loggerhead shrike <i>Lanius ludovicianus</i>	--/SSC (nesting)	Scrublands, coastal sage scrub, woodlands, and grasslands; basic requirements are open habitat with scattered shrubs and trees, suitable perches, bare ground, and low or sparse herbaceous cover.	High; open grasslands and sparse woodlands within the Permit Area represent suitable habitat. Numerous eBird (2020) sightings throughout the valley portion of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Valley oak woodland</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> </ul>
Mountain plover <i>Charadrius montanus</i>	--/SSC	Does not breed in California; in winter, found in the Central Valley south of Yuba County. Occupies open plains or rolling hills with short grasses or very sparse vegetation; nearby bodies of water are not needed; may use newly plowed or sprouting grainfields.	Low to none; potential winter migrant but not expected to breed in the Permit Area. One CNDDDB (2020) occurrence within 5 miles of the Permit Area.	No	Not expected to occupy habitats in the Permit Area.

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Northern harrier <i>Circus cyaneus</i>	--/SSC (nesting)	Nests on the ground among herbaceous vegetation, such as grasses or cattails; forages in grasslands, agricultural fields, and marshes. Breeding range encompasses much of lowland California; winter range expands to include the remaining lowland areas.	High; open grasslands and marshlands throughout the Permit Area represent suitable habitat. One CNDDDB (2020) occurrence within 1 mile of the Permit Area. Numerous eBird (2020) sightings throughout the Permit Area.	No	<ul style="list-style-type: none"> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Open water/fringe</li> </ul>
Purple martin <i>Progne subis</i>	--/SSC (nesting)	Nests in tree cavities, bridges, utility poles, lava tubes, and buildings; forages in foothill and low montane oak and riparian habitats, and less frequently in coniferous forests and open or developed habitats. Breeding range includes the Sierra Nevada, Cascade Range, portions of the Coast Ranges and coast, and parts of southern California; extirpated from the Delta, and nesting in the Central Valley has been reduced to transportation structures in and around the city of Sacramento.	High; within the Sacramento area the species is historically known to nest in weep holes within large bridges/overpasses, utilizing approximately 10 sites within the Permit Area over the last several years.	No	Within Sacramento County the species is only known to nest in bridges and overpasses but could utilize existing utility poles.
Song sparrow ("Modesto" population) <i>Melospiza melodia</i>	--/SSC (nesting)	Nests and forages primarily in emergent marsh, riparian scrub, and early successional riparian forest habitats, and infrequently in mature riparian forest and sparsely vegetated ditches and levees. Year-round range includes the Delta east of Suisun Marsh, the Sacramento Valley, and the northern San Joaquin Valley.	High; common marsh and riparian resident along rivers and creeks in the Permit Area. Numerous eBird (2020) sightings throughout the Permit Area and 17 CNDDDB (2020) occurrences within the Permit Area.	No	<ul style="list-style-type: none"> <li>• Open water/fringe</li> <li>• Valley foothill riparian</li> </ul>

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Swainson's hawk <i>Buteo swainsoni</i>	--/ST	Nests in isolated trees, open woodlands, and woodland margins; forages in grasslands and agricultural fields. Breeding range spans the Central Valley and Delta west of Suisun Marsh, northeastern California, and a few additional scattered sites; most of the population migrates south of California in fall/winter, although a small number winters in the Delta.	High; species is known to nest throughout the western and southern portions of the Permit Area, particularly along riparian corridors. 288 CNDDDB (2020) occurrences within the Permit Area.	Yes	<ul style="list-style-type: none"> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> <li>• Valley oak woodland</li> <li>• Valley foothill riparian</li> <li>• Mine tailing riparian woodland</li> <li>• Eucalyptus woodland</li> </ul>
Tricolored blackbird <i>Agelaius tricolor</i>	--/ST	Nests colonially in large, dense stands of freshwater marsh, riparian scrub, and other shrubs and herbs; forages in grasslands and agricultural fields. Year-round resident throughout the Central Valley and the central and southern coasts, with additional scattered locations throughout California.	High; nests in dense vegetated wetland and riparian areas, and occasionally fallow agricultural fields. 112 CNDDDB (2020) occurrences within the Permit Area.	No	<ul style="list-style-type: none"> <li>• Open water/fringe</li> <li>• Valley foothill riparian</li> </ul>
Western burrowing owl <i>Athene cunicularia hypogea</i>	/--SSC	Lowlands throughout south, central, and east California, including the Central Valley, northeastern plateau, southeastern deserts, and some coastal areas. Rare along the south coast. Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows; also found in coastal terrace prairies and sagebrush habitats.	High; open grasslands throughout the Permit Area represent suitable breeding and non-breeding habitat. 74 CNDDDB (2020) occurrences within the Permit Area.	No	<ul style="list-style-type: none"> <li>• Pasture</li> <li>• Grasses and forbs</li> </ul>
Western snowy plover (interior population) <i>Charadrius alexandrinus nivosus</i>	FT/SSC	Nests at inland lakes throughout northeastern, central, and southern California, including Mono Lake. Inland, they require barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs, ponds and riverine sand bars; also along sewage, salt-evaporation, and agricultural waste-water ponds.	Low; limited nesting habitat is present within the Permit Area. One CNDDDB (2020) occurrence within the Permit Area and one occurrence within 5 miles of the Permit Area.	No	Not expected to occupy habitats in the Permit Area.

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Western yellow-bill cuckoo <i>Coccyzus americanus occidentalis</i>	FT/SE	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers. Requires wide, dense riparian forests/woodlands with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant; utilizes orchards adjacent to streams.	Low; riparian habitat along the Sacramento River along the northwest boundary of the Permit Area represents potential habitat; however, these area support only a narrow band of riparian that provide limited nesting opportunities; two historic CNDDDB (2020) occurrences within the Permit Area and three within 5 miles of the Permit Area.	No	Not expected to occupy habitats in the Permit Area.
White-tailed kite <i>Elanus leucurus</i>	--/FP	Forages in ponds, marshes, slow-moving streams, sloughs, and irrigation/drainage ditches; nests in nearby uplands in valley/foothill riparian or other trees associated with compatible foraging habitat. Year-round range spans the Central Valley, Coast Ranges and coast, Sierra Nevada foothills, and Colorado River.	High; species is known to nest throughout the western and southern portions of the Permit Area, particularly along riparian corridors. 34 CNDDDB (2020) occurrences within the Permit Area.	No	<ul style="list-style-type: none"> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> <li>• Valley oak woodland</li> <li>• Valley foothill riparian</li> <li>• Mine tailing riparian woodland</li> <li>• Eucalyptus woodland</li> </ul>
Yellow-breasted chat <i>Icteria virens</i>	--/SSC (nesting)	Nests and forages in riparian thickets of willow and other brushy tangles near water and thick understory in riparian habitat. Breeding range includes the northern Sacramento Valley, Cascade Range, Sierra Nevada foothills, northwestern California, most of the Coast Ranges, the Colorado River, and other scattered sites; migrates south of California in fall/winter.	High; common to uncommon breeder in riparian habitats in the Permit Area. One CNDDDB (2020) occurrence within 5 miles of the Permit Area and several eBird (2020) records in the eastern portion of the Permit Area.	No	<ul style="list-style-type: none"> <li>• Valley foothill riparian</li> <li>• Mine tailing riparian woodland</li> <li>•</li> </ul>

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Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	--/SSC	Breeds east of the Cascade Range and Sierra Nevada, in the Imperial and Colorado River valleys, and in the Central Valley. Occurs primarily as a migrant and summer resident; small numbers winter primarily in the southern Central Valley. Nests in fresh emergent wetland with dense vegetation and relatively deep water, frequently along the borders of lakes and ponds. Forages in emergent marshes/wetland and moist, open areas, especially croplands and muddy shores of lakes.	Moderate; 1 CNDDDB (2020) occurrence within the Permit Area. Dense stands of freshwater marsh in the Permit Area represents suitable breeding habitat.	No	<ul style="list-style-type: none"> <li>Open water/fringe</li> </ul>
Yellow warbler <i>Setophaga petechia</i>	--/SSC (nesting)	Nests and forages in early successional riparian habitats. Range includes coastal and northern California and the Sierra Nevada below approximately 7,000 feet; mostly extirpated from the southern Sacramento and San Joaquin Valleys.	High; 1 CNDDDB (2020) occurrence within 5 miles of the Permit Area. Numerous eBird (2020) records throughout the Permit Area. Dense riparian habitat in the Permit Area represents suitable breeding habitat.	No	<ul style="list-style-type: none"> <li>Valley foothill riparian</li> <li>Mine tailing riparian woodland</li> </ul>
<b>Mammals</b>					
American badger <i>Taxidea taxus</i>	--/SSC	Found in drier, open shrub, forest, and herbaceous habitats with friable soils. Year-round range spans all of California except the Humboldt and Del Norte coasts.	High; 5 CNDDDB (2020) occurrences within the permit area. Open grasslands areas throughout the Permit Area represent suitable habitat.	No	<ul style="list-style-type: none"> <li>Grasses and forbs</li> </ul>
Riparian brush rabbit <i>Sylvilagus bachmani riparius</i>	FE/SE	Limited to San Joaquin County at Caswell State Park near the confluence of the Stanislaus and San Joaquin Rivers and Paradise Cut area on Union Pacific right-of-way lands. Native valley riparian habitats with large clumps of dense shrubs, low-growing vines, and some tall shrubs and trees.	None; 1 CNDDDB (2020) occurrences within 5 miles of the Permit Area; however, this record is from a captive breeding program and does not represent an extant population. While suitable riparian habitat is present in the Permit Area, the Permit Area is generally outside the accepted range of this species and is not likely to occur in the Permit Area.	No	Not expected to occupy habitats in the Permit Area.

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Pallid Bat <i>Antrozous pallidus</i>	--/SSC	Deserts, grasslands, shrublands, woodlands, and forests; most common in open, dry habitats; typically roosts in rock crevices, also in tree hollows, bridges, and buildings, in colonies ranging from 1 to more than 200 individuals. Year-round range spans nearly all of California.	High; 1 CNDDDB (2020) occurrence within the permit Area and 3 within 5 miles of the Permit Area. Suitable roosting and foraging habitat is present in the Permit Area.	No	<ul style="list-style-type: none"> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> <li>• Valley oak woodland</li> <li>• Valley foothill riparian</li> <li>• Mine tailing riparian woodland</li> <li>• Urban</li> </ul>
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	--/SSC	This species may use several alternate roost sites (Woodruff and Ferguson 2005). Typically roosts in colonies of fewer than 100 individuals in caves or mines; occasionally roosts in buildings or bridges, and rarely, hollow trees; forages in all habitats except alpine and subalpine, although most commonly in mesic forests and woodlands. Year-round range spans most of California except the highest elevations of the Sierra Nevada south of Lake Tahoe.	Low; 2 CNDDDB (2020) occurrences within 10 miles of the Permit Area. Very limited roosting habitat is present in the Permit Area and the species is not expected to occur on the valley floor.	No	Not expected to occupy habitats in the Permit Area.

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Western red bat <i>Lasiurus blossevillii</i>	--/SSC	Mature riparian broadleaf forest in the Central Valley is primary summer breeding habitat for the species in California (females and pups). Riverside orchards may also be used as maternity roosts. Roosts alone or in small family groups in tree foliage, occasionally shrubs; prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging, including grasslands, shrublands, and open woodlands. Unsubstantiated records of hibernation in leaf litter during the winter. Year-round range spans the Central Valley, Sierra Nevada foothills, Coast Ranges, and coast except Humboldt and Del Norte Counties.	High; 2 CNDDDB (2020) occurrences within 2 miles of the Permit Area. Suitable roosting and foraging habitat is present throughout the Permit Area.	No	<ul style="list-style-type: none"> <li>• Pasture</li> <li>• Grasses and forbs</li> <li>• Blue oak woodland</li> <li>• Blue oak foothill pine</li> <li>• Valley oak woodland</li> <li>• Valley foothill riparian</li> <li>• Mine tailing riparian woodland</li> </ul>
Fish					
Central Valley fall-/late fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	SC/SSC	Occurs in Sacramento and San Joaquin Rivers and their major tributaries. Large perennial rivers and creeks with cold water flows and suitable spawning gravel.	High; present in the Sacramento, American, Mokelumne, and Cosumnes Rivers and may occur in perennial streams throughout the Permit Area.	No	<ul style="list-style-type: none"> <li>• Riverine</li> </ul>
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i> <u>Critical Habitat</u>	FT/ST	Occurs in Sacramento and San Joaquin Rivers and their major tributaries. Large perennial rivers and creeks with cold water flows and suitable spawning gravel.	High; present in the Sacramento River in the Permit Area. Permit Area overlaps with Critical Habitat.	No	<ul style="list-style-type: none"> <li>• Riverine</li> </ul>
Central Valley winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i> <u>Critical Habitat</u>	FE/SE	Occurs in Sacramento River and tributaries outside of Permit Area. Large perennial rivers and creeks with cold water flows and suitable spawning gravel.	High; present in the Sacramento River in the Permit Area. Permit Area overlaps with Critical Habitat.	No	<ul style="list-style-type: none"> <li>• Riverine</li> </ul>

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Central Valley steelhead <i>Oncorhynchus mykiss irideus</i>	FT	Occurs in Sacramento and San Joaquin Rivers and their major tributaries. Small to large perennial rivers and creeks with cold water flows and suitable spawning gravel.	High; present in the Sacramento, American, Mokelumne, and Cosumnes Rivers and may occur in perennial streams throughout the Permit Area.	No	• Riverine
Green sturgeon <i>Acipenser medirostris</i> <u>Critical Habitat</u>	FT	Occurs in Sacramento River. Spawn in large river systems with well-oxygenated water, with temperatures from 8.0 to 14°C.	High; present in the Sacramento River in the Permit Area. Permit Area overlaps with Critical Habitat.	No	• Riverine
Delta smelt <i>Hypomesus transpacificus</i> <u>Critical Habitat</u>	FT/SE	Primarily in the Sacramento–San Joaquin Estuary but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay. Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand. (Moyle 2002)	Low ; may be found in the Sacramento River, but is considered rare within the Permit Area. Permit Area overlaps with Critical Habitat.	No	• Riverine – Sacramento River only
Longfin smelt <i>Spirinchus thaleichthys</i>	FC/ST	Within California, mostly in the Sacramento River–San Joaquin River Delta, but also in Humboldt Bay, Eel River estuary, and Klamath River estuary. Also found in South San Francisco Bay and sloughs in Coyote Creek, Alviso Slough, and nearby salt ponds (Rosenfield and Baxter 2011). Salt or brackish estuary waters with freshwater inputs for spawning.	Low; only 1 record in the Sacramento River, which is considered a rare occurrence.	No	• Riverine – Sacramento River only
River lamprey <i>Lampetra ayresi</i>	--/SSC	Sacramento, San Joaquin, and Napa Rivers; tributaries of San Francisco Bay (Moyle 2002; Moyle et al. 2015). Adults live in the ocean and migrate into fresh water to spawn.	High; present in the Sacramento, American, Mokelumne, and Cosumnes Rivers and may occur in perennial streams throughout the Permit Area.	No	• Riverine

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Pacific lamprey <i>Entosphenus tridentatus</i>	--/SSC	Sacramento, San Joaquin, and tributaries of San Francisco Bay, Delta (Moyle 2002; Moyle et al. 2015). Ammocoetes live in freshwater for 5-7 years and then move towards the ocean. Feed on fish including salmon and flatfish. Adults return to freshwater to spawn and then die. (California Fish Website 2018)	High; present in the Sacramento, American, Mokelumne, and Cosumnes Rivers and may occur in perennial streams throughout the Permit Area.	No	
Hardhead <i>Mylopharodon conocephalus</i>	-/SSC	Tributary streams in the San Joaquin drainage; large tributary streams in the Sacramento River and the main stem. Reside in low to mid-elevation streams and prefer clear, deep pools and runs with slow velocities. (Moyle 2002)	High; present in the Sacramento, American, Mokelumne, and Cosumnes Rivers in the Permit Area.	No	
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	-/SSC	Occurs throughout the year in low-salinity waters and freshwater areas of the Sacramento–San Joaquin Delta, Yolo Bypass, Suisun Marsh, Napa River, and Petaluma River (Moyle 2002). Spawning takes place among submerged and flooded vegetation in sloughs and the lower reaches of rivers.	High; present in the Sacramento, American, Mokelumne, and Cosumnes Rivers in the Permit Area (CDFW 2020).		

Sources: California Department of Fish and Wildlife (CNDDDB) 2020

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<sup>a</sup> Status

**Federal Listing Categories:**

- FE = Listed as endangered under the federal Endangered Species Act (ESA).  
FT = Listed as threatened under the ESA.  
FC = Candidate for listing under the ESA.

**State Listing Categories:**

- SE = Listed as endangered under the California Endangered Species Act (CESA).  
ST = Listed as threatened under CESA.  
SC = Candidate for protection under CESA.  
FP = Fully protected under the California Fish and Game Code.  
SSC = California species of special concern.

<sup>b</sup> Likelihood for Occurrence in Permit Area

- Low:** The Permit Area is within the species range, and suitable habitat for the species may or may not occur in the Permit Area, but species was not recorded in the Permit Area.
- Moderate:** The Permit Area is within the species range, and suitable habitat for the species is present in the Permit Area, but records for the species in the Permit Area are only historic, uncertain, or not recorded in the CNDDDB.
- High:** The Permit Area is within the species range and suitable habitat for the species is present in the Permit Area, and there are one or more recent records of the species in the Permit Area.

### 3.5 Cultural Resources

This section summarizes regulations applicable to cultural resources, describes the environmental and regulatory setting for cultural resources within the Permit Area, and provides an assessment of potential changes to those conditions that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP). The analysis considers the potential impacts on cultural resources in the Permit Area from implementation of the proposed Operations, Maintenance, and New Construction Habitat Conservation Plan (HCP).

Cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. They include early Native American resources and historic-period resources. Archaeological resources are locations where human activity has measurably altered the earth or left deposits of early Native American or historic-period physical remains (e.g., stone tools, bottles, former roads, house foundations). Historical (or built-environment) resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges, roads, districts), or landscapes. A cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

No questions or concerns related to cultural resources were raised in the responses to the Notice of Preparation.

#### 3.5.1 *Regulatory Setting*

##### **Federal**

##### ***Section 106 of the National Historic Preservation Act***

Section 106 of the National Historic Preservation Act requires federal agencies, or those they fund or permit, to consider the effects of their actions on cultural resources that may be eligible for listing or that are listed in the National Register of Historic Places (NRHP). Such resources are referred to as historic properties.

To determine whether an undertaking could affect historic properties, cultural resources (i.e., archaeological, historical, and architectural properties) must be identified and evaluated to determine if they are eligible for listing in the NRHP. The NRHP eligibility criteria are presented in this section under National Historic Preservation Act Eligibility Criteria.

Although compliance with Section 106 is the responsibility of the lead federal agency, the work necessary to comply may be undertaken by others.

The Section 106 process entails six basic steps.

- Initiate consultation and public involvement.
- Identify and evaluate historic properties.
- Assess effects of the project on historic properties.
- Consult with the State Historic Preservation Officer (SHPO) regarding adverse effects on historic properties, resulting in a memorandum of agreement.
- Submit the memorandum of agreement to the Advisory Council on Historic Preservation.
- Proceed in accordance with the memorandum of agreement.

### ***National Historic Preservation Act Eligibility Criteria***

The NRHP is the nation's master inventory of known historic properties. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

The formal criteria (36 Code of Federal Regulations 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
3. It possesses at least one of the following characteristics:

Criterion A. Are associated with events that have made a significant contribution to the broad patterns of our history; or

Criterion B. Are associated with the lives of persons significant in our past; or

Criterion C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

Criterion D. Have yielded, or may be likely to yield, information important in prehistory or history.

Eligibility for listing in the NRHP requires that a resource not only meet one of these four significance criteria, but also that it possesses integrity. Integrity is the ability of a property to convey its significance. The evaluation of a resource's integrity must be grounded in an understanding of that resource's physical characteristics and how those characteristics relate to its significance.

Listing in the NRHP does not entail specific protection or assistance for a property but it does guarantee consideration in planning for federal or federally assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. Additionally, project effects on properties listed in the NRHP must be evaluated under the California Environmental Quality Act (CEQA).

## **State**

### ***California Environmental Quality Act***

Actions that require funding, approval, or permits from a state agency are subject to CEQA. The CEQA statutes and State CEQA Guidelines require that agencies responsible for funding, permitting, or approving projects assess the potential impacts of the project on the environment, including historical resources. Under CEQA, a historical resource is defined as a resource listed in, or determined eligible for listing in, the California Register of Historical Resources (CRHR) or in a local register or survey pursuant to Sections 5020.1(k) and 5024.1(g) of the Public Resources Code (PRC).

Under the State CEQA Guidelines, an impact on a cultural resource is considered significant if a project would result in an effect that may change the significance of the resource (PRC 21084.1). Demolition, replacement, substantial alteration, and relocation of historic properties are actions that would change the significance of a historic resource (14 California Code of Regulations [CCR] 15064.5). The following steps are normally taken in a cultural resources investigation to comply with CEQA.

- Identify cultural resources.
- Evaluate the significance of the cultural resources to determine if they meet the CEQA definition of a historical resource.
- Evaluate the effects of a project on all historical resources.
- Develop and implement measures to mitigate the effects of the project on historical resources.

### ***California Register of Historical Resources***

All properties in California that are listed in or formally determined eligible for listing in the NRHP are also listed in the CRHR. The CRHR is a listing of State of California resources that are significant in the context of California's history. It is a statewide program with a

scope and with criteria for inclusion similar to those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

An historical resource must be significant at the local, state, or national level under one or more of the criteria defined in the CCR Title 15, Chapter 11.5, Section 4850 to be included in the CRHR. The CRHR criteria are tied to CEQA because any resource that meets the criteria below is considered a significant historical resource under CEQA. All resources listed in or formally determined eligible for listing in the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria:

- Criterion 1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- Criterion 2. Is associated with the lives of persons important to local, California, or national history.
- Criterion 3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values.
- Criterion 4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, an historical resource must meet one of the above criteria and retain integrity to be listed in the CRHR. The CRHR uses the same seven aspects of integrity used by the NRHP.

### ***Unique Archaeological Resources***

CEQA also requires lead agencies to consider whether projects will affect unique archaeological resources. PRC Section 21083.2(g) states that a “unique archaeological resource” means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria.

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric (i.e., early Native American) or historic event or person.

***California Health and Safety Code***

Under Section 8100 of the California Health and Safety Code, six or more human burials at one location constitute a cemetery. Disturbance of Native American cemeteries is a felony (California Health and Safety Code 7052).

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must then contact the Native American Heritage Commission (NAHC), which has jurisdiction pursuant to PRC Section 5097.

***Discovery of Human Remains***

With respect to the potential discovery of human remains, Section 7050.5 of the California Health and Safety Code states the following.

- a. Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the PRC. The provisions of this subdivision shall not apply to any person carrying out an agreement developed pursuant to subdivision (l) of Section 5097.94 of the PRC or to any person authorized to implement Section 5097.98 of the PRC.
- b. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the PRC. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.
- c. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission [NAHC]. (California Health and Safety Code 7050.5)

Of particular note to historical resources is subsection (c), requiring the coroner to contact the NAHC within 24 hours if discovered human remains are thought potentially to be of

Native American origin. After notification, NAHC will follow the procedures outlined in PRC Section 5097.98, which include notification of most likely descendants, if possible, and recommendations for treatment of the remains. Also, knowing or willful possession of Native American human remains or artifacts taken from a grave or cairn is a felony under California law (PRC 5097.99).

### ***Public Resources Code Section 5097.9***

PRC Section 5097.9 states that no public agency or private party on public property shall “interfere with the free expression or exercise of Native American Religion.” The code further states that:

No such agency or party [shall] cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine ... except on a clear and convincing showing that the public interest and necessity so require. County and city lands are exempt from this provision, except for parklands larger than 100 acres.

### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

This section presents local cultural resources–related policies that could affect or be affected by the proposed HCP. Municipal general plans include goals and policies that may guide or govern the management of cultural resources in those communities. In general, the sections pertaining to archaeological and historical properties are put in place to afford the cultural resources a measure of local protection. The policies outlined in the individual general plans should be consulted prior to any undertaking or project.

### ***Sacramento County General Plan***

The *Sacramento County General Plan* (Sacramento County 2017) Conservation Element (Section VIII) contains policies related to cultural resources. The goal of these policies is to “promote the inventory, protection and interpretation of the cultural heritage of Sacramento County, including historical and archaeological settings, sites, buildings,

features, artifacts and/or areas of ethnic historical, religious or socioeconomical importance.”

These include policies for archaeological site protection during development (Policies CO-150 through CO-163), preservation of historic structures (Policies CO-164 through CO-168), destruction of cultural resources sites (Policies CO-169 through CO-171), and public awareness of cultural resources (CO-172 through CO-175).

### ***Yolo County General Plan***

The *Yolo County 2030 Countywide General Plan* (Yolo County 2009) Conservation and Open Space Element contains policies with the goal of preserving and protecting cultural resources within the county (Policies CO-4.1 through CO-4.14).

### ***Placer County General Plan***

The *Placer County Countywide General Plan* (Placer County 2013) Recreation and Cultural Resources Element contain policies related to the goal of identifying, protecting, and enhancing Placer County’s important historical, archaeological, paleontological, and cultural sites and their contributing environment. These include Policies 5.D.1 through 5.D.12.

### ***Amador County General Plan***

The *Amador County General Plan* (Amador County 2016) includes a Historical and Cultural Resources section. The section states that cultural resources are important to Amador County because they are reminders and remnants of the rich history of the area and offer physical evidence of the prehistoric and historic occupation and exploitation of the county with the goal of preserving the county’s cultural resources. Policies for the protection of cultural resources include Policies C-8.1 through C-8-4.

### ***San Joaquin County General Plan***

The *San Joaquin County General Plan* (San Joaquin County 2016) Natural and Cultural Resources Element contains the goal of protecting San Joaquin County's valuable architectural, historical, archeological, and cultural resources through Policies NCR-6.1 through NCR-6.9.

### ***City General Plans***

In addition to county general plans, the cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, Folsom, and Roseville all have general plan policies related to cultural resources. Similar to the county general plans, these policies are related to the identification, preservation, and protection of the city’s cultural resources. These policies are applicable to residential, commercial, and industrial development, not to implementation of the Conservation Strategy and Covered Activities.

### 3.5.2 *Environmental Setting*

The environmental setting for cultural resources characterizes the historical development of the Permit Area and provides an overview of the types of archaeological and historical resources located within its boundaries.

#### **Archaeological Setting**

The Central Valley is home to some of the earliest intensive archaeological investigation and research in California. The earliest archaeological investigations in the Central Valley were conducted at sites in the Sacramento-San Joaquin Delta region (Schenck 1926; Schenck and Dawson 1929). These early reports were primarily descriptive and were followed by more systematic investigations in the 1930s and 1940s by archaeologists from Sacramento Junior College and the University of California, Berkeley. This work provided the developmental foundation of chronological frameworks for central California's indigenous history.

This earlier research and subsequent research from the 1930s and 1940s identified distinct temporal periods in central California indigenous history and provided the basis for a chronological sequence of archaeological cultures for the region (Lillard and Purves 1936; Lillard et al. 1939). Beardsley (1948, 1954) refined the cultural succession model for Central California and produced what became known as the Central California Taxonomic System. The Central California Taxonomic System was divided into categories called horizons, that are temporally and geographically discrete, broad cultural units. Three horizons, Early, Middle, and Late, were identified for the archaeological cultures in Central California.

Rosenthal et al. (2007) refined the cultural sequence for the Central Valley and provides an updated framework for the interpretation of the Central Valley record. Rosenthal et al. (2007) divided the regional archaeological chronology into three basic periods: Paleo-Indian (13,550 to 10,550 years before present [BP]), Archaic (10,550 to 900 BP), and Emergent (900 to 300 BP). The Archaic period is subdivided into three sub-periods: Lower Archaic (10,550 to 7550 BP), Middle Archaic (7550 to 2550 BP), and Upper Archaic (2550 to 900 BP). This scheme uses economic and technological types, socio-politics, trade networks, and variations of artifact types to differentiate between cultural periods. The following summary of the region's indigenous history is principally derived from Rosenthal et al. (2007) and Moratto (1984), tempered with calibrated radiocarbon dates established by Groza (2002) using accelerator mass spectrometry dating of *Olivella* shell beads (see Hughes and Milliken 2007:265, Figure 17.2 Scheme D).

#### ***Paleo-Indian (13,550 to 10,550 BP)***

During this time period, the archaeological record displays artifacts such as wide-stemmed point types that are typified by the relatively well-represented Borax Lake Wide Stem. After the initial Paleo-Indian period, milling implements such as handstones and milling slabs become more prevalent, signifying the increased use of, and reliance on,

plant resources. Small, far-ranging groups represented a mobile forager settlement pattern (Fredrickson 1989). Later in the Paleo-Indian period, activities become more visible in the archaeological record as social systems appear to develop and become more elaborate.

The earliest Bay Area date of a Milling Stone Horizon component is 7920 calibrated (cal) Before Present (BP), obtained in the mid-1990s from a discrete charcoal concentration beneath an inverted milling slab at CA-CCO-696 at Los Vaqueros Reservoir in the hills east of Mount Diablo, in Contra Costa County (Meyer and Rosenthal 1998). The earliest documented grave in west-central California was also recovered from Contra Costa County, within a few hundred meters of CA-CCO-696 at CA-CCO-637. A single radiocarbon date of 6570 cal BP was returned from a loosely flexed burial (Meyer and Rosenthal 1998).

### ***Lower Archaic (10,550 to 7,550 BP)***

During the Lower Archaic Period, beginning approximately 10,550 BP, a shift to a more specialized subsistence strategy began, focused on ways of increasing the amount of food that could be produced from smaller portions of land. This change can be at least partially explained by the increasing numbers of people living in the Central Valley, which is indicated by a much more abundant archaeological record and dietary stress, as indicated by dental pathologies (Moratto 1984:203–204). As the population slowly increased, it became more difficult for people to obtain seasonally available resources across large areas of land.

Using a wider range of smaller resources meant people needed access to larger areas of land to hunt and collect the food and other resources they required. Small groups of people probably moved through the Central Valley, foothills, and Sierra Nevada range to take advantage of seasonally available resources and resources limited to particular ecozones. This mobile foraging strategy was essential to a diet consisting of a diversity of plants and animals. More specialized tools were necessary to procure and process the wider range of plants and animals that were being used.

### ***Middle Archaic (7,550 to 2,550 BP)***

Resource intensification continued during the Middle Archaic, as exemplified in the Windmill Pattern (4500–2800 BP), which was first identified at the Windmill site (CA-SAC-107). Windmill Pattern origins are believed to be linked to the arrival from outside California of Utian peoples (ancestors to the Maidu), who were adapted to riverine and wetland environments (Moratto 1984). Windmill sites are concentrated on low rises or knolls within the floodplains of major creeks or rivers, with habitation sites in the valley occupied during the winter and population movements into the foothills during the summer (Moratto 1984).

Regional settlement and subsistence changes during this period resulted in the development of the Berkeley Pattern (3500–2500 BP), which co-occurred with the

Windmill Pattern (Fredrickson 1973). Windmill Pattern sites seem to occur with more frequency in or near the Sacramento–San Joaquin Delta, while Berkeley Pattern sites tend to be more prevalent farther north. Berkeley Pattern sites are more numerous and more widely distributed than Windmill sites; they are characterized by deep midden deposits, suggesting intensified occupation and a broadened subsistence base. The Berkeley Pattern also has a greater emphasis on the exploitation of the acorn as a staple. Although gathered resources gained importance during this period, the continued presence of projectile points and atlatls (spear-throwers) in the archaeological record indicates that hunting was still an important activity (Fredrickson 1973).

Restriction of territory, coupled with a more specialized resource base, led people to develop more complicated trade relationships with other groups. Although resources and commodities were being exchanged throughout the region before this period, more extensive and more frequently used economic networks developed during this time. Transported resources likely included foods—trans-Sierra acorn movement is known from later periods (d’Azevedo 1986)—and commodities that remain more visible in the archaeological record, such as shell and lithic materials (Rosenthal et al. 2007:155).

### ***Upper Archaic (2,550 BP to AD 1100) and Emergent (AD 1100 to Historic Period)***

The trends toward increased specialization, exchange, and spatial circumscription that characterized prior periods continued in the Late Horizon. Population continued to increase, and group territories continued to become smaller and more defined. Patterns in activities, social relationships, belief systems, and material culture continued to develop during this period and took forms similar to those described by the first Europeans that entered the area.

A generalized subsistence pattern with a higher degree of technological specialization, termed the Augustine Pattern (1200 BP to Historic Period), is first evident during the Upper Archaic (Fredrickson 1973). Development of the Augustine Pattern was apparently stimulated by the southward expansion of Wintuan populations into the Sacramento Valley (Moratto 1984). The Augustine Pattern reflects a change in subsistence and land use patterns to those of the ethnographically known people of the historic era. This pattern exhibits a great elaboration of ceremonial and social organization, including the development of social stratification. Exchange became well developed, and an even more intensive emphasis was placed on the use of the acorn, as evidenced by the presence of shaped mortars and pestles and numerous hopper mortars in the archaeological record.

### **Ethnographic Setting**

The Permit Area is located within the lands occupied and used by the Nisenan (or Southern Maidu), the Patwin, and eastern Miwok. The ethnographic setting for the Permit Area is provided in Section 3.18.2, *Tribal Cultural Resources*.

## **Post-Contact Historic Setting**

### ***Early American Settlements***

The pace of physical change to the landscape and the construction of adobes and other structures widened as the missions were disbanded in the 1830s and Mexican settlers took title to the land. Agriculture, grazing, and mining activities led the establishment of permanent settlements and urban centers. The natural environment began to change rapidly as cattle and other domesticated animals grazed the land, as woodlands were cut for fuel and lumber, and as native vegetation gave way to imported grasses and plants spread by the settlers and their livestock.

### ***Gold Rush***

In January 1848, gold was discovered by James Marshall on the South Fork of the American River near present-day Coloma. Subsequent gold discoveries were made not long after that, such as the discovery made by Jonas Spect on the Yuba River in the vicinity of Marysville in June 1848. The onset of the Gold Rush brought large numbers of people into California; miners poured into the Sierra Nevada foothills in search of placer deposits along the rivers and creeks of Sacramento, Sutter, Yolo, Yuba, El Dorado, and Placer Counties. When the placer deposits were depleted, the miners turned to other methods to reach gold-bearing strata. One of the most common methods of mining, hydraulic mining, introduced huge quantities of rock, sand, and mud into and adjacent to the mountain waterways. Later, mining companies deployed dredges to reach gold deposits along the rivers. Some of the tailings associated with this type of gold mining—particularly in and around the city of Folsom—have contributed to the city’s historic significance. The Gold Rush dramatically altered the landscape of California, particularly the Sacramento Valley and the counties and regions that are part of and surround it (Hoover et al. 1990:27, 290, 540).

### ***Subregional Setting***

The following is a brief overview of the history of Sacramento County which encompasses the majority of the Permit Area. Also included in this subregional setting is a brief history of Yolo and Placer Counties, which make up a smaller portion of the Permit Area.

### ***Sacramento County***

Sacramento County is one of the original 27 counties established by the California Legislature in 1850, and the city of Sacramento has been the county seat since it was created. Spanish explorers first visited the Sacramento County region as early as the 1700s in their search for suitable inland mission sites. The first European American to travel through the Sacramento area was explorer and trapper Jedediah Strong Smith, who established the Sacramento Trail during the 1820s. Other explorers followed Smith’s general path in the 1830s (Hoover et al. 1990:285–286).

European-American settlement of the Sacramento area did not begin until the late 1830s and early 1840s, when individuals such as John Sutter obtained land grants from the Mexican government. Mexican citizens generally received these grants in exchange for an agreement to protect Mexican interests in these remote interior regions. Sutter's settlement at New Helvetia (Sutter's Fort) is probably the best known of these early operations.

At its inception, Sacramento County was largely supported by commerce related to the Gold Rush and river shipping. The county and particularly the city of Sacramento continued to grow; after the conclusion of the Gold Rush, agriculture in the Sacramento Valley became an important part of the economy. Wheat was a staple product early on, but by the 20th century, a variety of fruits, including citrus fruits and nuts, displaced it in importance. The county also experienced tremendous growth as a result of the construction of railroads in the Sacramento area. In 1856, the Sacramento Valley Railroad constructed an alignment from Sacramento to Folsom; in 1869, the transcontinental railroad was completed, linking the Sacramento region directly with markets in the east. By the mid-20th century, two military bases had been constructed in the county and a major freeway, Interstate 5, ran through the heart of the old city of Sacramento. While the military bases closed in the late 20th century, the county continued to grow in economic wealth and population. As of the year 2010, Sacramento County boasted a population of 1,418,788 (Phillips and Miller 1915:17, 23, 83; Hoover et al. 1990:293–294; U.S. Census Bureau 2020).

### ***Yolo County***

Yolo County is located in the northern part of California's Central Valley and is bounded on the west by Lake and Napa Counties, on the south by Solano County, on the north by Colusa County, and on the east by Sutter and Sacramento Counties. The Sacramento River spans the entire length of its eastern border. The county is one of the original 27 counties created by the California State Legislature in 1850. Initially, the county's territory was nearly twice as large as it is now and included a large portion of present-day Colusa County. By 1923, the boundaries were redrawn to their current configuration. The city of Woodland became the county seat in 1862 and remains so to this day (Daily Alta California 1850:2; Coy 1973:296; Hoover et al. 1990:532–533).

As early as 1808 the Spanish explored Yolo County. European-American hunters and trappers such as Jedediah Strong Smith, Ewing Young, and a group of Hudson's Bay Company trappers also visited the region in the early 1800s (Hoover et al. 1990:533).

The California Gold Rush of the 1850s transformed Yolo County from an isolated farming community into a booming agricultural region as disenchanting miners realized they could make greater fortunes through farming and ranching. In the 1840s and 1850s, residents of the county based their livelihood on raising livestock; however, as floods and droughts decimated their herds, farmers increasingly turned to crop farming. Barley and wheat became the dominant crops in Yolo County starting in the 1860s. Alfalfa, used to feed

livestock and enrich the soil, was the major irrigated crop in the 1870s. Irrigation improvements in the 20th century allowed the introduction of new crops, such as rice, into the area. In 1906, the University of California established a College of Agriculture in Yolo County. This evolved into the University of California, Davis, and its agricultural school continues to enjoy global renown for agricultural research and education (Olney 1902:171–172; De Pue & Company 1879:41; Larkey and Walters 1987:37, 73).

In the last half of the 20th century, Yolo County enjoyed a dramatic increase in population growth due to its climate, the rural atmosphere, and nearby educational opportunities. Today, agriculture remains Yolo County's primary source of commercial activity (Hart 1978:489–490).

### ***Placer County***

Placer County was established on April 25, 1851, from portions of Sutter and Yuba Counties. The American and Bear Rivers form the county's northern and southern boundaries. The county seat is the city of Auburn, located at the confluence of the North Fork and Middle Fork of the American River. Auburn was founded 12 miles northwest of the town of Coloma, which is located on the South Fork of the American River and is the site of the January 1848 gold discovery that initiated the California Gold Rush (Thompson and West 1882:66–68).

Placer County lies on a rich ore vein that extends through several counties in the western Sierra Nevada foothills, and for many years during and after the Gold Rush, gold mining was the dominant industry. Following late-19th-century mandates restricting mining operations, the county's farming, livestock ranching, timber harvest and water management industries eclipsed mining. Water conveyance systems that originated to support mining throughout the county were rapidly converted for agricultural and community development purposes and, by the early 20th century, had been adapted for hydroelectric power generation. The Drum Spaulding system connects numerous 19th- and 20th-century canals and reservoirs along the Yuba, Bear, and American Rivers to supply water and electricity (Thompson and West 1882:150–152).

Early roadways through the region connected mining communities with commercial hubs such as Sacramento, Marysville, and Folsom, and stage stops along these routes provided amenities and lodging for travelers. The First Transcontinental Railroad was built through Placer County in 1864, and lower foothill towns such as Auburn, Rocklin, and Roseville quickly adapted rail transport for marketing its agricultural and mineral resources. In contrast, the county's Sierran adaptation focused on timber harvest and livestock ranching (Thompson and West 1882:150–152).

### **Cultural Resource Types and Sensitivity**

The following section presents a broad overview of cultural resource types and descriptions (archaeological and architectural built environment) that could be found in the Permit Area.

### ***Architectural Built Environment Resources***

Historic architectural (built environment) resources that may be present in the Permit Area are associated with mining, transportation, agriculture, and municipalities. Built environment resources are expected adjacent to transportation corridors (historic highways, railroads, and navigable waterways); on rural ranch lands (irrigation and water conveyance structures such as ditches, flumes and canals); in areas of natural resources extraction (rock, soil, mineral, and timber); and within historic neighborhoods and business districts. The characterization provided at the end of this section of the types of historic built environment resources in the county is based on a review of the California Historic Resources Inventory (HRI).

The HRI is maintained by the California Office of Historic Preservation (OHP), and identifies properties that have been surveyed, as well as properties that appear eligible, have been determined eligible for listing, or are listed in the NRHP or CRHR. In general, listing a property in the NRHP involves submission of a formal nomination form that requires concurrence from SHPO, the State Historical Resources Commission, and the Keeper of the National Register. Properties that are evaluated and found, with SHPO concurrence, to be eligible for listing under one or more of the NRHP criteria but are never nominated are afforded the same protections for federally funded projects as listed properties. Properties listed or found eligible for listing in the NRHP are also automatically eligible for the CRHR. The HRI also includes buildings that have been identified as historically significant by local government agencies. The property types listed in the HRI are typically non-archaeological in nature (for confidentiality reasons) and encompass numerous architectural and engineering features associated with such themes.

Of the resources listed in the HRI in Sacramento County, there are 3,466 built properties and of those, 104 resources have been listed on the NRHP (OHP 2012). The property types listed generally include the following.

- **Ranching and agriculture:** roads, fences/rock walls, farmhouses, barns, ancillary buildings, irrigation ditches, ponds, windmills, tankhouses, and silos.
- **Mining:** mine shafts, quarries, adits, tailings, water conveyance ditches, reservoirs, mining equipment, and building ruins.
- **Hydroelectric power:** dams, reservoirs, canals, pumps, transmission lines, siphons, and roads.
- **Early transportation:** roads, railroads, trails, tunnels, and bridges.
- **Rural and urban development:** residential structures, shops, churches, community buildings, cemeteries, and schools.

### ***Archaeological Resources***

Archeological resources generally present in the Permit Area include the material remains of past societies that are used to by archaeologist in an attempt to reconstruct human behavior of past societies. These resources document early European settlement and its effects on Native American peoples, as well as the subsequent spread of the frontier and later urbanization and industrialization. Types of archaeological resources generally present in the Permit Area include Native American sites, traditional cultural properties, and historic-era archaeological sites.

Recorded early Native American site types may include habitation (long-term occupation) sites, limited occupation sites, hunting/processing camps, lithic reduction stations, quarries, rock art sites, bedrock milling features, and burial locations. Sites may be classified as more than one type. For example, habitation sites may be associated with rock art. The most common early Native American sites found in the region are temporary occupation sites. Ethnographic site types mirror early Native American site types but display artifacts or features that indicate contact and interaction with Euroamerican populations. Historic-period archaeological site types and features include the remains of mining camps, farmsteads, ranches, railroad features, structures, and linear features (e.g., roads and trails), camps, privies, and refuse scatters.

Archaeological sensitivity for early Native American sites are generally considered high in areas near water sources or on terraces along watercourses. Major watersheds in the Sierra Nevada foothills possess river and stream terraces that are rich in archaeological resources. In the Sacramento Valley, land along the margins of the American, Sacramento, Mokelumne, and Cosumnes Rivers and other major waterways are rich in early Native American archaeological resources, although such resources are usually found on natural rises that would have protected the inhabitants from frequent floods. Additional early Native American cultural deposits may be buried in similar locations—in natural buried contexts such as under alluvial deposits and in cultural buried contexts such as below or within constructed levees.

The locations of historic-period archaeological sites are more difficult to predict because historical populations had greater ease of transportation and were not dependent on proximity to water and vegetal resources as early Native American populations. Nevertheless, historic-period sites are likely to be located near areas that were used for farming, ranching, mining, settlement, or transportation corridors. In Sacramento County, 129 archaeological sites have been listed on the OHP's Archaeological Determinations of Eligibility.

#### ***3.5.3 Environmental Impacts and Mitigation Measures***

### **Methodology and Assumptions**

No fieldwork or in-depth cultural resources studies were conducted for this environmental impact report (EIR), although two separate cultural resources surveys conducted for the

SMUD Bank in 1993 and 2007 were reviewed for this EIR. The HRI and the Archaeological Determinations of Eligibility (as described in Section 3.5.2, *Environmental Setting*) are the primary sources used to gather information on known significant archaeological and architectural/built environment properties in the Permit Area. In general, this data was gathered at the county and city level. The exact locations of significant cultural resources in or near SMUD's facilities or other areas related to the Covered Activities are not known at this time. Consequently, impacts below have been assessed generally and take into consideration possible impacts on known and unknown cultural resources in the Permit Area.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this EIR consists of:

- Issuance of incidental take permits take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Impacts associated with SMUD's Nature Preserve Mitigation Bank (SMUD Bank) Oak Tree Planting (C1) and SMUD Bank Management (C2) were analyzed in the 2010 Initial Study and Mitigated Negative Declaration (IS/MND) document for the SMUD Bank (SMUD 2010; SCH #2008022151). Two separate cultural resources surveys were conducted for the SMUD Bank in 1993 and 2007. As a result of the surveys, no NRHP- or CRHR-eligible properties were identified. The IS/MND provided mitigation measures which are incorporated in the following Impact Analysis section.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-9 for details.

Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, implementation of the proposed HCP would result in a potentially significant impact on cultural resources if it would result in the following.

- Substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.
- Substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5.
- Disturbance of any human remains, including those interred outside of formal cemeteries.

### **Impact Analysis**

#### ***Impact 3.5-1: Have a substantial adverse change in the significance of a historical resource***

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Implementation of Direct Actions would not result in physical environmental effects with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. As a result of previous cultural resources studies, no historical resources were identified in the SMUD Bank; therefore, implementation of the Direct Action would have **no impact** on historical resources.

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As described in Section 3.5.2, there are several historical resources in the Permit Area listed in the HRI; however, the exact locations of these historical resources have not been verified and a complete cultural resources inventory has not been conducted for the entire Permit Area. Covered Activities not part of baseline as described in Table 2-9 and Sections 2.3.3 and 2.3.4 that involve ground disturbance such as replacing or relocation of electrical and natural gas facilities, and expansion or construction of new electrical substations, have potential to destroy known and unknown unique historical resources and could have an adverse change in the significance of a unique historical resource.

#### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Orcutt grass enhancement and introduction at the SMUD Bank involves physical actions that would affect the environment. Specifically, enhancing Sacramento Orcutt grass habitat would

involve invasive plant management, which could involve minor ground-disturbing activities such as removal of underground plant root roots. Because no historical resources were identified in the SMUD Bank, there would be **no impact** on historical resources.

### ***Indirect Actions***

#### Operation and Maintenance

Operation and maintenance (O&M) Covered Activities that would constitute a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-9 and Sections 2.3.3 and 2.3.4. Some O&M activities involve ground disturbance. O&M Covered Activities that could involve ground disturbance consists of up to 40 pole replacements per year (E8) and cable replacement in underground conduit (E9a). Depending on the location and nature of ground disturbance, such ground disturbance and construction activities could result in damage, physical demolition, destruction, relocation, or alteration of buildings or structures, or other known or unknown historical resources, which could result in a substantial adverse change to the significance of the historical resources. However, it is unlikely that ground disturbance related to pole or cable replacement would affect historical resources because these areas have been previously disturbed. Replacing poles typically involves replacing an old pole with a new one in the original pole hole. Cable replacement involves pulling the damaged cable out through the existing vault or pull box. The new segment of cable is then pulled in through the conduit. Little to no ground disturbance would result. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

To ensure ground-disturbing activities do not affect historical resources, standard measures to protect cultural resources such as worker environmental awareness training (specific to cultural resources), minimizing the work area footprint, preconstruction subsurface investigations, construction monitoring, and stopping work if cultural resources are inadvertently uncovered, could be required. If warranted, implementing one or a combination of these measures would reduce adverse effects on historical resources. Thus, if ground-disturbing activities would result in damaging historic resources resulting in a substantial adverse change to the significance of a historical resources, appropriate mitigation would reduce impacts.

#### New Construction

The following new construction activities would constitute a change from baseline conditions.

New telecommunication tower facilities (T2) would be constructed. Construction would occur within the footprint of one of the 18 existing SMUD electrical transmission substations, or in a new transmission substation when it is constructed. As a result,

ground disturbance at these locations would be in previously disturbed areas and the potential to disturb historical resources low.

Construction of new overhead subtransmission and distribution lines (E13) would require some ground disturbance primarily in the form of auguring new pole holes. Pole holes are typically 24 inches in diameter with depths ranging from 5 to 14 feet. Vegetation removal would be conducted by hand. Due to the limited nature of ground disturbance for these activities, the potential to disturb or uncover historical resources is low.

Construction of new facilities may also require trenching and boring along existing or new gas pipelines or gas transmission corridors and creating temporary access roads (E14). Almost all new underground construction would be done in urban settings (i.e., previously disturbed areas). Additionally, these projects would have previously completed environmental review, ensuring no significant impacts on historical resources would occur.

Construction of new facilities includes new substations (E16) and expansion of existing substations (E15). Most new distribution substation sites have undergone previous environmental analysis and permitting completed by the developer of the project to be served by the substation. However, SMUD expects to construct four new transmission substations and two new distribution substations over the 30-year Permit Term. Transmission substation construction would disturb approximately 11 acres per new substation. Distribution substation construction would disturb approximately 0.5-acre per new substation. The expansion of six existing substations would involve increasing each substation by approximately 0.3 acre to include a work area of 100 feet by 100 feet. The expansion site would be graded, and then excavated. Although in some cases, ground disturbance would be in previously disturbed areas, the size and intensity of ground disturbance has a greater potential to affect buried historical resources.

Other new construction activities include gas pipeline realignment (G10). SMUD estimates that one pipeline segment no more than 3,000 feet long and 5 feet wide may need to be realigned approximately every 5 years. Of the three potential construction methods (i.e., trenching, horizontal directional drilling [HDD], directional boring), trenching would cause the most ground disturbance. Trenches would be approximately 5 feet wide and up to 15 feet deep. SMUD anticipates trenching for realignment of six pipeline segments.

New construction activities described above would involve grading, excavation, and/or other ground-disturbing activities. Such ground disturbance and construction activities could result in damage, physical demolition, destruction, relocation, or alteration of buildings or structures, which could result in a substantial adverse change to significant historical resources. Measures similar to those described above for O&M Covered Activities would minimize adverse effects on historical resources. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA,

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions include routine vegetation management actions within newly constructed overhead subtransmission and distribution line easements (V2), tree removals near newly constructed subtransmission and distribution facilities (V4), transplanting and removing elderberry shrubs (V5b), vegetation clearing for newly constructed poles (V6), and vegetation maintenance of the newly constructed realigned pipelines (V7). Vegetation removal would occur at to-be constructed SMUD facilities throughout the Permit Area. Vegetation removal and vegetation planting and transplanting would involve ground disturbance as a result of removing underground plant roots and digging holes to plant or replant. Routine vegetation management would mostly involve tree trimming and vegetation removal. Stump profiles of cleared trees would be kept as low as possible, but stumps and tree roots would not be removed from the ground (no ground disturbance would occur). Other vegetation removal involves trimming, which would not include ground disturbance, although vehicles and equipment used during vegetation management activities could cause some minor ground disturbance. The scope and volume of potential ground disturbance during vegetation management activities would be low. Although unlikely, there is the potential to uncover buried historic resources during ground-disturbing activities such as elderberry tree transplanting or removal. To ensure ground-disturbing activities do not affect historical resources, standard measures similar to those described above in O&M Covered Activities would minimize effects on historical resources. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include replacement of two sections of an existing water pipeline at the Cosumnes Power Plant (CPP) (M2c). Installation of the test stations and new valve would require some ground disturbance and earth movement, stockpiling, and the construction of a temporary access road. Replacement of these pipelines could occur at known or unknown historical resources and could have an adverse change in the significance of those historical resources. However, because these activities would occur in previously disturbed areas, the potential to affect known or unknown historical resources is considered low.

### ***Conclusion***

#### Direct Actions

No historical resources were identified in the SMUD Bank; therefore, the Direct Actions would have **no impact** on historical resources.

#### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, new construction of facilities, vegetation management for new facilities, and miscellaneous Covered Activities throughout the Permit Area could result in damage or destruction of and could have an adverse change in the significance of historical resources. Standard measures generally implemented by SMUD as described above would minimize these effects.

While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Impact 3.5-2: Have a substantial adverse change in the significance of a unique archaeological resource***

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Implementation of Direct Actions would not result in physical environmental effects, with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity, which could involve ground-disturbing activities. Although no unique archaeological resources were identified during previous cultural resources studies, ground disturbance from these activities could lead to the destruction or adverse change in the significance of a buried unique archaeological resource. Continued implementation of mitigation measures identified in the SMUD Nature Preserve Mitigation Bank IS/MND, here presented as Mitigation Measures CUL-1, CUL-2, and CUL-3, would reduce this impact to a **less-than-significant** level.

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Covered Activities that involve ground disturbance such as replacing or relocation of electrical and natural gas facilities, and expansion or construction of new electrical substations, have potential to destroy known and unknown unique archaeological resources and could have an adverse change in the significance of a unique archaeological resource.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Enhancement of Sacramento Orcutt grass habitat at the SMUD Bank involves physical actions that would affect the environment. Specifically, enhancing Sacramento Orcutt grass habitat would involve invasive plant management, which could involve ground-disturbing activities such as removal of underground plant roots that could have an adverse change in the significance of a known or unknown unique archaeological resource.

Continued implementation of mitigation measures identified in the SMUD Nature Preserve Mitigation Bank IS/MND, here presented as Mitigation Measures CUL-1, CUL-2, and CUL-3 (listed below), would reduce this impact to a **less-than-significant** level.

### ***Indirect Actions***

#### Operation and Maintenance

O&M Covered Activities that would constitute a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-9 and Sections 2.3.3 and 2.3.4. Some O&M activities involve ground disturbance. O&M Covered Activities that could involve ground disturbance consists of up to 40 pole replacements per year (E8) and cable replacement in underground conduit (E9a). Depending on the location and nature of ground disturbance, such ground disturbance and construction activities could remove or destroy known or unknown archaeological resources, which would result in a substantial adverse change to significant unique archaeological resources.

However, it is unlikely that ground disturbance related to pole or cable replacement would affect archaeological resources. These areas have been previously disturbed. Replacing poles typically involves replacing an old pole with a new one in the original pole hole. Cable replacement involves pulling the damaged cable out through the existing vault or pull box. The new segment of cable is then pulled in through the conduit. Little to no ground disturbance would result. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

To ensure ground-disturbing activities do not affect archaeological resources, standard measures to protect cultural resources such as worker environmental awareness training (specific to cultural resources), minimizing the work area footprint, preconstruction subsurface investigations, construction monitoring, and stopping work if cultural resources are inadvertently uncovered, could be required. Depending on the anticipated level of ground disturbance, as well as the potential to encounter undisturbed soils, one or a combination of these measures could be required to reduce adverse effects on archaeological resources. Thus, if ground-disturbing activities would result in damaging archaeological resources resulting in a substantial adverse change to the significance of archaeological resources, appropriate mitigation would minimize impacts.

#### New Construction

The new construction activities that would constitute a change from baseline conditions are described below.

New telecommunication tower facilities (T2) would be constructed. Construction would occur within the footprint of one of the 18 existing SMUD electrical transmission substations, or in a new transmission substation when it is constructed. As a result,

ground disturbance at these locations would be in previously disturbed areas and the potential to disturb archaeological resources would be low.

Construction of new overhead subtransmission and distribution lines (E13) would require some ground disturbance primarily in the form of auguring new pole holes. Pole holes are typically 24 inches in diameter with depths ranging from 5 to 14 feet. Vegetation removal would be conducted by hand. Due to the limited nature of ground disturbance for these activities, the potential to disturb or uncover archaeological resources is low.

Construction of new facilities may also require trenching and boring along existing or new gas pipelines or gas transmission corridors and creating temporary access roads (E14). Almost all new underground construction would be done in urban settings (i.e., previously disturbed areas). Additionally, these projects would have previously completed environmental review ensuring no significant impacts on archaeological resources would occur.

Construction of new facilities include new substations (E16) and expansion of existing substations (E15). Most new distribution substation sites have undergone previous environmental analysis and permitting completed by the developer of the project to be served by the substation. However, SMUD expects to construct four new transmission substations and two new distribution substations over the 30-year Permit Term. Transmission substation construction would disturb approximately 11 acres per new substation. The expansion of six existing substations would involve increasing each substation by approximately 0.3 acre to include a work area of 100 feet by 100 feet. The expansion site would be graded, and then excavated. Although in some cases ground disturbance would be in previously disturbed areas, the size and intensity of ground disturbance has a greater potential to affect buried archaeological resources.

Other new construction activities include gas pipeline realignment (G10). SMUD estimates that one pipeline segment no more than 3,000 feet long and 5 feet wide may need to be realigned approximately every 5 years. Of the three potential construction methods (i.e., trenching, HDD, directional boring), trenching would cause the most ground disturbance. Trenches would be approximately 5 feet wide and up to 15 feet deep. SMUD anticipates trenching for realignment of six pipeline segments.

New construction activities mentioned above would involve grading, excavation, and/or other ground-disturbing activities. Such ground disturbance and construction activities could result in damage or destruction of archaeological resources, which could result in a substantial adverse change to unique archaeological resources. Measures similar to those described above in O&M Covered Activities would minimize adverse effects on archaeological resources. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA,

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions include routine vegetation management actions within newly constructed overhead subtransmission and distribution line easements (V2), tree removals near newly constructed subtransmission and distribution facilities (V4), transplanting and removing elderberry shrubs (V5b), vegetation clearing for newly constructed poles (V6), and vegetation maintenance of the newly constructed realigned pipelines (V7). Vegetation removal would occur at to-be constructed SMUD facilities throughout the Permit Area. Vegetation removal and vegetation planting and transplanting would involve ground disturbance as a result of removing underground plant roots and digging holes to plant or replant.

Routine vegetation management mostly involves tree trimming and vegetation removal. Stump profiles of cleared trees would be kept as low as possible, but stumps and tree roots would not be removed from the ground (no ground disturbance would occur). Other vegetation removal involves trimming which would not include ground disturbance although vehicles and equipment used during vegetation management activities could cause some minor ground disturbance. The scope and volume of potential ground disturbance during vegetation management activities is considered low. Although unlikely, there is the potential to uncover buried archaeological resources during ground-disturbing activities such as elderberry tree transplanting or removal. To ensure ground-disturbing activities do not affect archaeological resources, standard measures similar to those described above in O&M Covered Activities could reduce adverse effects on archaeological resources. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA,

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include replacement of two sections of an existing water pipeline at the CPP (M2c). These activities would involve ground disturbance. Installation of the test stations and new valve would require some ground disturbance and earth movement, stockpiling, and the construction of a temporary access road. Replacement of these pipelines could occur at known or unknown unique archaeological resources and could have an adverse change in the significance of those unique archaeological resources. However, because these activities would occur in previously disturbed areas, the potential to affect known or unknown historical resources is considered low.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the

Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. These activities, if constructed on or near unique archaeological resources, could result in damage or destruction of and could have an adverse change in the significance of those unique archaeological resources. Implementation of mitigation measures identified in the SMUD Nature Preserve Mitigation Bank IS/MND, here presented as Mitigation Measures CUL-1, CUL-2, and CUL-3, would reduce this impact to a **less-than-significant** level.

### Mitigation Measures

#### ***Mitigation Measure CUL-1: Avoidance and Archaeological Monitoring***

The northern portion of the SMUD Bank holds the most potential for uncovering early Native American cultural resources. If possible, soil disturbance in this area should be avoided. If avoidance is not possible, a qualified archaeologist must be present during any ground disturbance or excavation. This area includes that portion of the SMUD Bank north of latitude 38° 20' 37.00" N or UTM 424560N (Zone 10). This east-west line would occur approximately just north of the reservoir that exists roughly 1,000 feet northwest of the lake and approximately 2,000 feet southeast of the ranch buildings adjacent to the northwest portion of the SMUD Bank.

#### ***Mitigation Measure CUL-2: Environmental Awareness Training***

Prior to working onsite, individuals who are involved in soil moving and handling must attend environmental awareness training provided by a qualified professional archaeologist. This training would provide information on the types and extent of cultural resources that may be located onsite. Individuals conducting any excavation or other substantial subsurface disturbance activities onsite shall also attend the environmental awareness training.

#### ***Mitigation Measure CUL-3: Stop Work if Archaeological Resources are Encountered***

Should any evidence of early Native American or historic cultural resources be discovered during excavation or other substantial subsurface disturbance activities, all work should immediately cease, and a qualified archaeologist must be consulted to assess the significance of the cultural materials.

### Significance after Mitigation

Implementation of Mitigation Measure CUL-1: Avoidance and Archaeological Monitoring, would either avoid or require a qualified archaeologist to be present during ground disturbance in areas sensitive for buried early Native American resources. Implementation of Mitigation Measure CUL-2: Environmental Awareness Training, would provide construction personnel knowledge of possible cultural resources that could be encountered during ground-disturbing activities, thus reducing potential damage to unique archaeological resources. Implementation of Mitigation Measure CUL-3: Stop

Work if Archaeological Resources are Encountered, would require work to stop once a possible archaeological resource is identified. By stopping all work at the find and consulting an archaeologist to assess the discovery, the potential damage to unique archaeological resources would be reduced. With implementation of these measures, the impact on unique archaeological resources for the Conservation Strategy would be less than significant.

### Indirect Actions

O&M, new construction of facilities, vegetation management for new facilities, and miscellaneous Covered Activities throughout the Permit Area could result in damage or destruction of and could have an adverse change in the significance of unique archaeological resources. Standard measures generally implemented by SMUD as described above would minimize these effects.

While the detailed potential environmental effects of these indirect actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Impact 3.5-3: Disturbance of any human remains including those interred outside of formal cemeteries***

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Implementation of the Direct Actions would not result in physical environmental effects with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Although no human remains were found during previous cultural resources investigations, these activities could involve ground-disturbing activities that could have the potential to disturb human remains, including those interred outside of formal cemeteries. Continued implementation of the mitigation measure identified in the SMUD Nature Preserve Mitigation Bank IS/MND, here presented as Mitigation Measure CUL-4, would reduce this impact to a **less-than-significant** level.

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As described in Section 3.5.2, there are known cultural resources in the Permit Area; however, the exact locations of these resources have not been verified and the potential for these resources to include human remains is not known. Covered Activities not part of baseline as described in Table 2-9 and Sections 2.3.3 and 2.3.4 that involve ground disturbance such as replacing or relocation of electrical and natural gas facilities, and expansion or construction of new electrical substations, have potential to disturb undiscovered or unrecorded human remains.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the

Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Specifically, enhancing Sacramento Orcutt grass habitat would involve invasive plant management, which could involve minor ground-disturbing activities such as removal of underground plant roots that could potentially disturb human remains.

Continued implementation of a mitigation measure identified in the SMUD Nature Preserve Mitigation Bank IS/MND, here presented as Mitigation Measure CUL-4 (listed below), would reduce this impact to a **less-than-significant** level.

### ***Indirect Actions***

#### Operation and Maintenance

O&M Covered Activities that would constitute a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-9 and Sections 2.3.3 and 2.3.4. Some O&M activities involve ground disturbance. O&M Covered Activities that could involve ground disturbance consists of up to 40 pole replacements per year (E8) and cable replacement in underground conduit (E9a).

Depending on the location and nature of ground disturbance, construction activities could result in disturbing undiscovered or unrecorded human remains. However, it is unlikely that ground disturbance related to pole or cable replacement would affect human remains. These areas have been previously disturbed. Replacing poles typically involves replacing an old pole with a new one in the original pole hole. Cable replacement involves pulling the damaged cable out through the existing vault or pull box. The new segment of cable is then pulled in through the conduit. Little to no ground disturbance would result. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

To ensure ground-disturbing activities do not affect human remains, standard measures to protect cultural resources such as worker environmental awareness training (specific to cultural resources), minimizing the work area footprint, preconstruction subsurface investigations, construction monitoring, and stopping potentially damaging ground-disturbing activities within 100 feet of the remains, could be required. Depending on the anticipated level of ground disturbance, as well as the potential to encounter undisturbed soils, one or a combination of these measures could be required to reduce adverse effects on undiscovered or unrecorded human remains. Thus, if ground-disturbing activities would result in disturbing undiscovered or unrecorded human remains, appropriate mitigation would reduce impacts.

#### New Construction

The following new construction activities would constitute a change from baseline conditions.

New telecommunication tower facilities (T2) would be constructed. Construction would occur within the footprint of one of the 18 existing SMUD electrical transmission substations, or in a new transmission substation when it is constructed. As a result, ground disturbance at these locations would be in previously disturbed areas and the potential to disturb undiscovered or unrecorded human remains resources would be low.

Construction of new overhead subtransmission and distribution lines (E13) would require some ground disturbance, primarily in the form of auguring new pole holes. Pole holes are typically 24 inches in diameter with depths ranging from 5 to 14 feet. Vegetation removal would be conducted by hand. Due to the limited nature of ground disturbance for these activities, the potential to disturb or uncover human remains resources is low.

Construction of new facilities may also require trenching and boring along existing or new gas pipelines or gas transmission corridors and creating temporary access roads (E14). Almost all new underground construction would be done in urban settings (i.e., previously disturbed areas). Additionally, these projects would have completed environmental review, ensuring no significant impacts on cultural resources would occur.

Construction of new facilities include new substations (E16) and expansion of existing substations (E15). Most new distribution substation sites have undergone previous environmental analysis and permitting completed by the developer of the project to be served by the substation. However, SMUD expects to construct four new transmission substations and two new distribution substations over the 30-year Permit Term. Transmission substation construction would disturb approximately 11 acres per new substation. The expansion of six existing substations would involve increasing each substation by approximately 0.3 acre to include a work area of 100 feet by 100 feet. The expansion site would be graded, and then excavated. Although in some cases, ground disturbance would be in previously disturbed areas, the size and intensity of ground disturbance has a greater potential to affect undiscovered or unrecorded human remains.

Other new construction activities include gas pipeline realignment (G10). SMUD estimates that one pipeline segment no more than 3,000 feet long and 5 feet wide may need to be realigned approximately every 5 years. Of the three potential construction methods (i.e., trenching, HDD, directional boring), trenching would cause the most ground disturbance. Trenches would be approximately 5 feet wide and up to 15 feet deep. SMUD anticipates trenching for realignment of six pipeline segments.

New construction activities mentioned above would involve grading, excavation, and/or other ground-disturbing activities. Such ground disturbance and construction activities could result in disturbance of unknown or unrecorded human remains. Measures like those described above in O&M Covered Activities could reduce adverse effects on undiscovered or unrecorded human remains. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions include routine vegetation management actions within newly constructed overhead subtransmission and distribution line easements (V2), tree removals near newly constructed subtransmission and distribution facilities (V4), transplanting and removing elderberry shrubs (V5b), vegetation clearing for newly constructed poles (V6), and vegetation maintenance of the newly constructed realigned pipelines (V7). Vegetation removal would occur at to-be constructed SMUD facilities throughout the Permit Area. Vegetation removal and vegetation planting and transplanting would involve ground disturbance as a result of removing underground plant roots and digging holes to plant or replant.

Routine vegetation management mostly involves tree trimming and vegetation removal. Stump profiles of cleared trees would be kept as low as possible, but stumps and tree roots would not be removed from the ground (no ground disturbance would occur). Other vegetation removal involves trimming, which would not include ground disturbance although vehicles and equipment used during vegetation management activities could cause some minor ground disturbance. The scope and volume of potential ground disturbance during vegetation management activities is considered low. Although unlikely, there is the potential to uncover undiscovered or unrecorded human remains during ground-disturbing activities such as elderberry tree transplanting or removal. Measures similar to those described above in O&M Covered Activities would minimize adverse effects on human remains. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include replacement of two sections of an existing water pipeline at the CPP (M2c). Installation of the test stations and new valve would require some ground disturbance and earth movement, stockpiling, and the construction of a temporary access road. Replacement of these pipelines could disturb undiscovered or unrecorded human remains. However, because these activities would occur in previously disturbed areas, the potential to affect undiscovered or unrecorded human remains is considered low.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. These activities could

potentially result in disturbance of human remains. Implementation of Mitigation Measure CUL-4 would reduce this impact to a **less-than-significant** level.

#### Mitigation Measures

##### ***Mitigation Measure CUL-4: Stop Work if Human Remains Are Discovered during Ground-Disturbing Activities***

If human remains are discovered during excavation or other substantial subsurface disturbance activities, all work must immediately cease and the local coroner must be contacted. Should the remains prove to be of cultural significance, the NAHC in Sacramento, California, must be contacted with additional notification going to the most likely descendants.

#### Significance after Mitigation

Implementation of Mitigation Measure CUL-4: Stop Work if Human Remains Are Discovered during Ground-Disturbing Activities, would require construction to stop if human remains are uncovered during ground-disturbing activities and to follow local and state laws. With implementation of this measure, the impact on the discovery of human remains for the Direct Actions would be **less than significant**.

#### Indirect Actions

O&M, new construction of facilities, vegetation management for new facilities, and miscellaneous Covered Activities throughout the Permit Area that constitute a change to baseline as identified in Table 2-9 and Sections 2.3.3 and 2.3.4 could result in the disturbance of human remains. Standard measures generally implemented by SMUD as described above would minimize these effects.

While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

## 3.6 Energy

Federal and state agencies regulate energy consumption through various policies, standards, and programs. At the local level, individual cities and counties establish policies in their general plans and climate action plans related to the energy efficiency of new development and land use permitting and to the use of renewable energy sources.

This section summarizes regulations applicable to energy, describes the existing energy resources within the Permit Area, and provides an assessment of potential changes to those conditions that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP). Effects of the proposed Project on energy are generally defined in terms of the proposed Project's physical characteristics, the potential for wasteful or inefficient consumption of energy resources during proposed Project construction and operation, and the proposed Project's compatibility with state or local energy plans.

No questions or concerns related to energy were raised in the responses to the Notice of Preparation.

### 3.6.1 *Regulatory Setting*

#### **Federal**

##### ***Energy Policy Act of 1992***

The Energy Policy Act of 1992 was enacted to reduce the country's dependence on foreign petroleum and improve air quality, and to increase clean energy use and energy efficiency. This law includes several parts intended to build an inventory of alternative-fuel vehicles in large, centrally fueled fleets in metropolitan areas. Titles III–V require certain federal, state, and local government fleets and private fleets to purchase a percentage of light-duty vehicles capable of running on alternative fuels each year. The Energy Policy Act of 1992 also includes financial incentives. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of alternative-fuel vehicles. States are also required to consider a variety of incentive programs to help promote alternative-fuel vehicles.

##### ***Energy Policy Act of 2005***

The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

### ***Energy Independence and Security Act of 2007***

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting climate change. This law increases the supply of alternative-fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels; and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon in 2020 for all passenger cars and light trucks—an increase in fuel economy standards of 40 percent.

By addressing renewable fuels and corporate average fuel economy standards, the Energy Independence and Security Act of 2007 will build on progress made by the Energy Policy Act of 2005 in setting out a comprehensive national energy strategy for the 21st century.

### **State**

#### ***State of California Energy Plan***

The California Energy Commission (CEC) is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 1997 California Energy Plan. The plan calls for the State of California to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban design that reduces vehicle miles traveled and accommodates pedestrian and bicycle access.

#### ***Clean Energy and Pollution Reduction Act of 2015***

Senate Bill (SB) 350 (De Leon, also known as the “Clean Energy and Pollution Reduction Act of 2015”) was approved by the California Legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) a Renewables Portfolio Standard (RPS) of 50 percent and (2) a doubling of efficiency for existing buildings.

#### ***California Energy Code***

Title 24, Part 6 of the California Code of Regulations describes California’s energy efficiency standards for residential and nonresidential buildings. These standards were established in 1978 in response to a legislative mandate to reduce California’s energy consumption and have been updated periodically to include new energy efficiency technologies and methods. The California Energy Code requires compliance with energy

efficiency standards for all new construction, including new buildings, additions, alterations, and in nonresidential buildings, repairs.

### ***California Renewable Resources Act and the Clean Energy and Pollution Reduction Act of 2015***

SB X1-2 (also known as the California Renewable Resources Act) was signed by Governor Brown in April 2011 and revised California's RPS to a goal of 33 percent by 2020. As noted, SB 350 increased the renewable procurement to goal to 50 percent by 2030 and also requires the state to double energy efficiency savings. SB 100 (discussed under *The 100 Percent Clean Energy Act of 2018*) increased the RPS goal to 60 percent by 2030 and includes a 100 percent zero-carbon goal by 2045.

### ***Climate Change Scoping Plan of 2017***

Executive Order B-30-15 and SB 32 extended the goals of Assembly Bill (AB) 32 and set a 2030 goal of reducing emissions 40 percent from 2020 levels. The 2017 Scoping Plan established a proposed framework to implement programs to meet the 2030 greenhouse gas (GHG) reduction goal, focusing on zero and near-zero technologies for moving freight; continuing investment in renewables; overseeing further efforts to create walkable communities with expanded mass transit and other alternatives to traveling by car. These measures are provided in the Scoping Plan with the expressed intention of reducing carbon emissions; however, there would be a co-benefit of reduced energy use as well.

### ***The 100 Percent Clean Energy Act of 2018***

SB 100 builds on SB 350 by increasing the renewable procurement target set in SB 350 to 60 percent by 2030 and requires 100 percent zero-carbon energy production and consumption by 2045.

### ***Integrated Energy Policy Report***

SB 1389 (Chapter 568, Statutes of 2002) required CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. CEC is to use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety (Public Resources Code 25301(a)).

This work culminated in the Integrated Energy Policy Report. CEC adopts this report every 2 years and an update every other year. The 2018 Integrated Energy Policy Report Update, the most recent version, was adopted August 1, 2018. The 2018 Integrated Energy Policy Report summarizes priority energy issues currently facing the state, outlining strategies and recommendations to further the state's goal of ensuring reliable, affordable, and environmentally responsible energy sources. Energy topics covered in the report include the following.

- Actions to address climate change and improve air quality.
- Increases in renewable energy, both large-scale and distributed renewable energy resources.
- Advancements in energy efficiency.
- Developments in clean technology innovation.
- Advancements in clean transportation, transportation electrification, and the development of the infrastructure needed to support zero-emission transportation.
- Efforts to improve energy equity in California.

### ***Energy Action Plan***

The first Energy Action Plan emerged in 2003 from a crisis atmosphere in California's energy markets. The state's three major energy policy agencies (CEC, the California Public Utilities Commission, and the Consumer Power and Conservation Financing Authority [established under deregulation and now defunct]) came together to develop one high-level, coherent approach to meeting California's electricity and natural gas needs. It was the first time that energy policy agencies formally collaborated to define a common vision and set of strategies to address California's future energy needs and emphasize the importance of the impacts of energy policy on California's environment.

In the October 2005 Energy Action Plan II, CEC and the California Public Utilities Commission updated their energy policy vision by adding some important dimensions to the policy areas included in the original Energy Action Plan, such as the emerging importance of climate change, transportation-related energy issues, and research and development activities. CEC adopted an update to Energy Action Plan II in February 2008 that supplemented the earlier energy action plans and examined the state's ongoing actions in the context of global climate change.

### ***Assembly Bill 1007: State Alternative Fuels Plan***

AB 1007 (Chapter 371, Statutes of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan in partnership with the California Air Resources Board (CARB) and in consultation with other federal, state, and local agencies. The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative nonpetroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase use of alternative fuels, reduce GHG emissions, and increase in-state production of biofuels without causing a substantial degradation of public health and environmental quality.

## **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts (kV), a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### ***Sacramento County General Plan***

The *Sacramento County General Plan* (Sacramento County 2017) Energy Element contains policies related to energy use and resources. These include policies to reduce energy consumption (Policies EN-1, EN-8, EN-12, EN-13), reduce reliance on nonrenewable energy resources (Policy EN-19), and reduce peak electrical energy demand (Policies EN-22, EN-23).

### ***Yolo County General Plan***

The *Yolo County 2030 Countywide General Plan* (Yolo County 2009) Land Use and Community Character, and Conservation and Open Space Elements contains policies related to energy use and resources. These include policies to reduce dependence on fossil fuels (Policies CC-4.1, CC-4.4, CC-4.5, CC-4.9, CC-4.12), and energy conservation (Policies CO-7.1, CO-7.3).

### ***Placer County General Plan***

The *Placer County Countywide General Plan* (Placer County 2013) Land Use and Housing Elements contain policies related to energy use and resources. These include policies to increase energy efficiency (Policies 1.A.1, 1.A.4, G-2, G-4).

### ***Amador County General Plan***

The *Amador County General Plan* (Amador County 2016) Conservation Element contains policies related to reducing energy use and promoting renewable sources of energy (Policies C-6.4, C-6.5, C-9.4).

### ***San Joaquin County General Plan***

The *San Joaquin County General Plan* (San Joaquin County 2016) Land Use, Community Development, Public facilities and Services, and Natural and Cultural Resources Elements contain policies related to energy use and resources. These include policies to

promote energy efficiency (Policies LU-2.2, LU-6.8, IS-1.6, IS-3.5, NCR-5.1), use of renewable energy resources (Policies ED-2.1, ED-2.4, IS-3.6, NCR-5.2), and energy conservation (Policies TM-1.7, NC-5.5).

### ***City General Plans and Climate Action Plans***

In addition to county general plans, the cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova,<sup>1</sup> Folsom, and Roseville all have general plans and climate action plans,<sup>2</sup> with policies related to energy. Similar to the county general plans, these policies are related to energy efficiency, reducing energy consumption, and incorporating and promoting the use of renewable energy resources. These policies are applicable to residential, commercial, and industrial development, not to implementation of the Conservation Strategy and Covered Activities.

### ***SMUD Resource Planning Report***

SMUD adopted the *Resource Planning Report* (SMUD 2019a) in April 2019, to provide guidance for serving the needs of residents and businesses within its service area while fulfilling regulatory requirements. The report, or Integrated Resources Report, contains the following objectives that are relevant to the proposed HCP.

- SMUD's goal is to achieve Energy Efficiency equal to 1.5 percent of retail load over the next 10-year period. On an annual basis, SMUD will achieve energy efficiency savings of 1.5 percent of the average annual retail energy sales over the 3-year period ending with the current year.
- Provide dependable renewable resources to meet 33 percent of SMUD's retail sales by 2020, 44 percent by 2024, 52 percent by 2027, and 60 percent of its retail sales by 2030 and thereafter, excluding additional renewable energy acquiring for certain customer programs.
- In meeting GHG reduction goals, SMUD shall emphasize local and regional environmental benefits.
- SMUD will continue exploring additional opportunities to accelerate and reduce carbon in our region beyond the GHG goals in this policy.
- Promote cost-effective, clean distributed generation through SMUD programs.

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<sup>1</sup> The City of Rancho Cordova does not have a climate action plan or similar GHG emissions reduction plan.

<sup>2</sup> The City of Citrus Heights has a Greenhouse Gas Reduction Plan, the City of Folsom has a Sustainability Action Plan, and the City of Roseville has a Communitywide Sustainability Action Plan. Although not specifically titled as climate action plans, each of the cities' plans outline actions and initiatives similar to a climate action plan, to increase energy efficiency, conserve energy, and promote the use of renewable energy resources.

### ***SMUD 2030 Zero Carbon Plan***

For decades, SMUD has been a leader in clean energy and carbon reduction. Now SMUD has a new bold vision to make Sacramento a cleaner and healthier region. The 2030 Zero Carbon Plan is SMUD's strategy to achieve that goal. SMUD's goal to eliminate carbon emissions from their power supply by 2030 is more ambitious than already aggressive state mandates and is ahead of virtually all other utilities in the United States. SMUD's 2030 Zero Carbon Plan is a flexible road map to achieve the zero carbon goal while ensuring all customers and communities SMUD serves reap the benefits of decarbonization. To achieve zero carbon, SMUD is focused on four main areas: repurposing existing natural gas generation power plants to eliminate GHG emissions; using proven clean technologies including solar, wind and geothermal energy and battery storage; testing pilot projects and programs to test and prove new and emerging technologies; and identifying savings and pursuing partnerships and grants that support the Zero Carbon Plan.

#### ***3.6.2 Environmental Setting***

Energy resources include electricity, natural gas, and other fuels. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and other resources into energy. Energy production and energy use both result in the depletion of nonrenewable resources, such as oil, natural gas, and coal, and the emission of pollutants.

#### ***State Energy Resources and Use***

California's diverse portfolio of energy resources produced 2,408.2 trillion British thermal units (BTUs)<sup>3</sup> in 2018 (U.S. Energy Information Administration [U.S. EIA] 2020a). Excluding offshore areas, the state ranked seventh in the nation in crude oil production in 2018 (the most recent year for which data are available), producing the equivalent of 965.3 trillion BTUs (U.S. EIA 2020b). Other energy sources in the state include natural gas (228.9 trillion BTUs), nuclear (190.4 trillion BTUs), and biofuel (35.5 trillion BTUs) (U.S. EIA 2020a, 2020b).<sup>4</sup> In addition, because of the mild Mediterranean climate and strict conservation requirements for energy efficiency, California has lower energy consumption rates than most parts of the United States. According to the U.S. EIA, California consumed approximately 7,966.6 trillion BTUs of energy in 2018 (U.S. EIA 2020c). California's per capita energy consumption of 201.9 million BTUs is one of the lowest in the country and ranked 48<sup>th</sup> in the nation as of 2018 (U.S. EIA 2020d).

In 2018, natural gas accounted for the majority of energy consumption in California (2,207.4 trillion BTUs, or 28 percent), followed by gasoline (1,716.3 trillion BTUs or 21 percent); renewable energy, including nuclear electric power, hydroelectric power, biomass, and

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<sup>3</sup> One BTU is the amount of energy required to heat 1 pound of water by 1°F at sea level. BTU is a standard unit of energy that is used in the United States and is on the English system of units (foot-pound-second system).

<sup>4</sup> No coal production occurs in California.

other renewables (1,344.9 trillion BTUs, or 17 percent); distillates and jet fuel (1,260.5 trillion BTUs, or 16 percent); and interstate electricity (865.7 trillion BTUs, or 11 percent), with the remaining 7 percent coming from a variety of other sources (U.S. EIA 2020e). Of the natural gas consumed, industrial uses consumed approximately 36 percent, followed by residential uses (20 percent) and commercial uses (12 percent), among many other uses (U.S. EIA 2020f).

The transportation sector consumed the greatest quantity of energy (3,170.0 trillion BTUs, or 40 percent), followed by the industrial (1,848.2 trillion BTUs, or 23 percent), commercial (1,509.2 trillion BTUs, or 19 percent), and residential (1,439.2 trillion BTUs, or 18 percent) sectors (U.S. EIA 2020c).

Per capita energy consumption, in general, is declining due to improvements in energy efficiency and design. However, despite this reduction in per capita energy use, the state's total overall energy consumption (i.e., non-per-capita energy consumption) is expected to increase over the next several decades due to growth in population, jobs, and vehicle travel.

### ***Regional Energy Resources and Use***

SMUD provides electricity services to the larger Sacramento area, including the Permit Area. SMUD's service area encompasses approximately 900 square miles, including most of Sacramento County, and small portions of Placer and Yolo Counties. SMUD obtains power from various sources, including hydropower, natural-gas-fired generators, renewable energy resources (i.e., solar, wind, hydroelectric, and biomass), and power purchased through other utility companies. SMUD's biggest single source of energy is the natural gas Cosumnes Power Plant (CPP), which generates up to approximately 600 megawatts of energy, or enough electricity to power approximately 450,000 single-family homes (SMUD 2020a). SMUD has three options in addition to its base plan, which gives customers the option to purchase energy from only renewable energy resources. The Greenergy Partner and SolarShares options provides 100 percent of customer's energy from solar resources, while the other option, Greenergy PartnerPlus, provides 100 percent of customer's energy from a mix of biomass, wind, and solar resources.

As described in Chapter 2, *Project Description*, SMUD provides energy service to three counties, including all of Sacramento County (except for the area south of U.S. Highway 160 and Walnut Grove), and portions of Yolo and Placer Counties. Electricity usage for different land uses varies substantially by the type of uses in a building, the types of construction materials used, and the efficiency of the electricity-consuming devices.

Table 3.6-1 outlines SMUD's power mix in 2019, compared to the power mix for the state.

**Table 3.6-1 SMUD and the State of California Power Mix in 2019**

Energy Resources	SMUD General Mix	SMUD Greenergy Partner	SMUD Greenergy PartnerPlus	SMUD SolarShares	California Power Mix 2019
Eligible Renewable:	27.8%	0.0%	19.0%	100.0%	31.7%
<i>Biomass and Waste</i>	6.7%	0.0%	0.0%	0.0%	2.4%
<i>Geothermal</i>	2.8%	0.0%	0.0%	0.0%	4.8%
<i>Eligible Hydroelectric</i>	1.3%	0.0%	0.0%	0.0%	2.0%
<i>Solar</i>	1.2%	0.0%	2.0%	100.0%	12.3%
<i>Wind</i>	15.8%	0.0%	17.1%	0.0%	10.2%
Coal	0.0%	0.0%	0.0%	0.0%	3.0%
Large Hydroelectric	44.3%	0.0%	0.0%	0.0%	14.6%
Natural Gas	26.6%	100%	81.0%	0.0%	34.2%
Nuclear	0.9%	0.0%	0.0%	0.0%	9.0%
Other	0.0%	0.0%	0.0%	0.0%	0.2%
Unspecified <sup>1</sup>	0.4%	0.0%	0.0%	0.0%	7.3%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: SMUD 2020b

<sup>1</sup> Electricity from transactions that are not traceable to specific generation sources are defined as “unspecified” sources of power.

### ***Permit Area Energy Resources and Use***

The Permit Area encompasses SMUD’s service territory, and contains both electrical and natural gas facilities owned and operated by SMUD. SMUD’s electrical facilities within the Permit Area consist of approximately 17,420 miles of overhead and underground transmission line, power lines, or cables. The electrical system consists of approximately 158 miles of transmission line easements and 8,792 miles of subtransmission and distribution line easements (i.e., power lines or cables). The 230kV transmission conductors transport electricity from electrical generation plants to transmission substations that transform electricity down to 115kV or 69kV. From the transmission substations, 115kV transmission conductors or 69kV subtransmission conductors transport electricity to distribution substations, which transform the electricity from 115kV or 69kV to 21kV, 12kV, or 4kV for the distribution system.

The distribution conductors then carry the lower voltage power to industries, businesses and homes. Conductors are installed either underground (referred to as cables) or on overhead poles, which are typically located along roadways or other linear facilities. SMUD’s overhead and underground electrical facilities are generally constructed within dedicated easements, public utility easements, or pursuant to a statutory right, within a city or county’s roadway easement.

SMUD’s natural gas transmission facilities consist of underground natural gas transmission pipelines, and underground and aboveground valve stations and ancillary components. There are 76 miles of natural gas pipeline in the Permit Area delivering approximately 190

million cubic feet of gas per day from Winters in Yolo County to four gas-fired cogeneration power plants in Sacramento County. The pipelines consist of 20- to 24-inch-diameter pipelines.

Table 3.6-2 outlines energy consumption in 2019 for SMUD’s service area.

**Table 3.6-2 Energy Consumption in the SMUD Service Area in 2019**

<b>Energy Uses</b>	<b>Gigawatt Hours</b>
Agriculture and Water Pump	216.49
Commercial	4,110.29
Other Commercial	440.36
Industry	771.58
Mining and Construction	141.99
Residential	4,475.96
Streetlight	57.67
<b>Total</b>	<b>10,214.38</b>

Source: CEC 2020.

Pacific Gas and Electric Company (PG&E) also provides electric power to portions of the Permit Area not served by SMUD. In addition, PG&E provides natural gas service to SMUD’s service territory, described above. According to its website, PG&E provides natural gas and electric service to approximately 16 million people throughout a 70,000-square-mile service area in Northern and Central California (PG&E 2021). PG&E’s energy is generated through natural-gas-fired power plants, hydroelectric powerhouses, geothermal generators, and solar and wind energy facilities. PG&E also buys power from independent power producers and other utilities. PG&E’s services are provided in accordance with California Public Utilities Commission rules and regulations.

### 3.6.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

Energy impacts associated with implementation of the proposed HCP were assessed qualitatively, as the construction and operational activities associated with each Covered Activity within the Permit Area are not known. Covered Activities associated with implementation of the proposed HCP would occur over the Permit Term, and would likely be dependent upon local economic conditions, market demand, and other financing considerations. A summary of the methodology for calculating the proposed Project’s energy use is provided in the paragraphs below.

Implementation of the proposed HCP could result in energy use from construction activities including off-road equipment use, and employee and haul truck vehicle travel, among other equipment used during construction from Direct Actions and Indirect Actions (Covered Activities). However, the specific size, location, and the type of construction equipment that would be utilized for each Covered Activity occurring under proposed HCP

implementation is not currently known. With the Permit Term lasting 30 years, Covered Activities associated with implementation of the proposed HCP would occur over an extended period and would depend on factors such as economic conditions, utility demand, and other considerations. Without specific project-level details it is not possible to develop an accurate and comprehensive energy assessment for construction activities associated with the buildout of the proposed HCP implementation.<sup>5</sup> Consequently, the determination of construction energy impacts for each Covered Activity, or a combination of these activities, would require SMUD to speculate regarding such potential future project-level environmental impacts. Thus, in the absence of the necessary information the evaluation of potential construction-related energy impacts resulting from implementation of the Direct and Indirect Actions is qualitative.

Operational activities under the Direct and Indirect Actions would likely result in energy use from mobile, off-road equipment, natural gas, electricity, water, and waste sources. Mobile sources are vehicle trips to and from the Covered Activity locations. However, similar to construction activities that would occur with the Covered Activities, the specific size, location, and equipment that would be utilized for operational activities for each Covered Activity occurring under implementation of the proposed HCP is not currently known, would occur over the 30-year Permit Term, and would ultimately depend upon factors such as economic conditions, utility demand, and other considerations. Therefore, with the absence of necessary operational information needed to provide an informative and meaningful analysis, the evaluation of potential operation-related energy impacts is qualitative.

Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

Appendix F of the California Environmental Quality Act (CEQA) Guidelines provides guidance on determining whether a project would result in wasteful, inefficient, or unnecessary consumption of energy resources. As stated in Appendix F, the goal of conserving energy implies the wise and efficient use of energy, and the means of achieving this goal includes the following.

- Decreasing overall per capita energy consumption.
- Decreasing reliance on fossil fuels such as coal, natural gas and oil.
- Increasing reliance on renewable energy sources.

Based on Appendix F, environmental considerations in the assessment of energy consumption impacts may include the following.

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<sup>5</sup> Specific project-level information includes details such as the size and scale of the project to be constructed, construction schedule, equipment fleet, construction worker crew estimates, and demolition and grading quantities.

- The project's energy requirements and its energy efficiencies by amount and fuel type for each stage of the project, including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak- and base-period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but it does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Impacts associated with SMUD's Nature Preserve Mitigation Bank (SMUD Bank) Oak Tree Planting (C1) and SMUD Bank Management (C2) were analyzed in the 2010 Initial Study and Mitigated Negative Declaration document for the Bank (SMUD 2010; SCH #2008022151), and will not be discussed in this document.

Section 3.0, *Introduction to the Analysis*, further describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section

2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, implementation of the proposed HCP would result in a potentially significant impact on energy if it would result in any of the conditions listed below.

- Wasteful, inefficient, or unnecessary consumption of energy resources during proposed Project construction or operations.
- Conflict with or obstruction of a state or local plan for renewable energy or energy efficiency.

### **Impact Analysis**

#### ***Impact 3.6-1: Wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in energy from gasoline and diesel fuel used for transportation of employees and equipment to and from the SMUD Bank. However, vehicle travel would be limited, short term, and periodic in nature. In addition, all activities associated with the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would use hand tools requiring no energy use. Therefore, any energy usage required for these activities would not be substantial, and it would be short term and periodic. This impact would be **less than significant**.

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Generally, Covered Activities could result in short-term, temporary increases in energy use during minor ground disturbance and removal of vegetation. Some Covered Activities, specifically those entailing new construction, could result in short-term increases in energy consumption for the construction of a new facility or infrastructure within the Permit Area.

#### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would result in short-term, limited energy consumption from the use of some equipment and vehicles for activities such as planting, and monitoring. Equipment use and vehicle travel would be limited and short term. All activities associated with this Direct Action would use hand tools requiring no energy use. Therefore, any energy use resulting from

these short-term activities would not be substantial or wasteful, and would be short term in nature. This impact would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

Operation and maintenance (O&M) Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities. O&M activities could result in short-term, periodic changes in energy use, in the form of electricity, gasoline, or diesel consumption, resulting from minor ground disturbance and the use of equipment, personnel, and supplies for new facilities. Those activities that could result in short-term changes in energy consumption include O&M of new substations, new gas pipelines, new telecommunications towers, repair of new gas pipelines, repair and replacement of transformers, and trussing wooden poles (E6, E16, G10, T2, G5, and E9a/b). Although O&M activities may temporarily increase energy use within the Permit Area, these activities are not expected to substantially increase overall energy consumption within the Permit Area because the maintenance of the aforementioned new facilities would be similar to the existing baseline O&M activities occurring throughout the Permit Area and would not involve long-term changes that would result in inefficient, wasteful, or unnecessary use of energy resources. Implementation of AMMs in the HCP listed below and similar measures would further minimize potential adverse effects related to the wasteful, inefficient, or unnecessary consumption of energy resources resulting from O&M Covered Activities. In addition, SMUD utilizes a Jobsite Energy Management system which reduces the need to idle, and uses stored electrical energy to power aerial devices, tools, and exportable power, and cuts emissions while working. Lastly, as of 2018 12% of SMUD's fleet is electric which includes all vehicles and construction equipment..

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access).

The installation of new facilities is addressed under New Construction, below.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations and expansion of existing substations, new telecommunication towers, gas pipeline realignment, and construction of new overhead subtransmission and distribution lines (E16, E15, T2, G9, G10, E13, and E14). Construction of new facilities may also require trenching and boring along existing or new gas pipelines or subtransmission and distribution line easements and creating temporary access roads. Construction of these facilities would involve heavy equipment use and

vehicle use, and could potentially involve extensive grading, all of which could result in energy consumption. Short-term activities related to construction of these facilities could result in temporary changes in energy use similar to those described above for O&M activities. However, new construction would not result in long-term changes that would result in inefficient, wasteful, or unnecessary use of energy resources from the installation of new facilities, such as new telecommunication towers or new substations, because these activities would expand, improve, and maintain SMUD's infrastructure and facilities to serve existing or expected customers, rather than to increase energy consumption to serve future customers.

Implementation of AMMs in the HCP listed below and standard measures would further minimize potential adverse effects related to the wasteful, inefficient, or unnecessary consumption of energy resources resulting from new construction activities. In addition, SMUD utilizes a Jobsite Energy Management system which reduces the need to idle, and uses stored electrical energy to power aerial devices, tools, and exportable power, and cuts emissions while working.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, within pipeline easements, and around poles, as well as trimming, transplanting, and removing elderberry shrubs (V1, V2, V4, V6, V7, and V5). Vegetation removal would occur at SMUD facilities throughout the Permit Area, which could temporarily increase energy consumption. Energy use would occur from the use of motorized equipment from activities such as grubbing, as well as from vehicles used to access sites where vegetation management is needed. However, all of these activities would require small and temporary amounts of energy, which would not be considered wasteful or inefficient. Implementation of AMMs in the HCP listed below and similar measures would further minimize potential adverse effects related to the wasteful, inefficient, or unnecessary consumption of energy resources resulting from vegetation management. In addition, SMUD utilizes a Jobsite Energy Management system which reduces the need to idle, and uses stored electrical energy to power aerial devices, tools, and exportable power, and cuts emissions while working.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)

- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the CPP water pipeline. This activity would include installation of cathodic protection test stations, installation of a new pipeline valve, and replacement of pipeline segments (M2a, M2b, and M2c). Installation of these elements would involve construction activities similar to those described above for New Construction, as there would be construction crews' vehicle use, and equipment associated with the activities for the underground pipeline replacement. In addition, installation of the new valve would require grading for a temporary access road. Also, O&M of these facilities would result in minimal and similar energy consumption in comparison to existing O&M activities, and therefore are not expected to result in the wasteful, inefficient, or unnecessary consumption of energy resources. Implementation of AMMs in the HCP listed below and similar measures would further minimize potential adverse effects related to the wasteful, inefficient, or unnecessary consumption of energy resources resulting from miscellaneous Covered Activities. In addition, SMUD utilizes a Jobsite Energy Management system which reduces the need to idle, and uses stored electrical energy to power aerial devices, tools, and exportable power, and cuts emissions while working.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any short-term, minimal increases in energy consumption resulting from this activity would not be considered wasteful, inefficient, or unnecessary. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term, temporary increases in energy consumption. Measures similar to those identified above, as refined as part of project-specific CEQA review, could reduce impacts by minimizing the amount of energy consumed during construction and operation activities. For these reasons it is unlikely that adverse energy impacts would occur in the form of wasteful, inefficient, or unnecessary consumption of energy resources. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

#### ***Impact 3.6-2: Conflict with or obstruction of a state or local plan for renewable energy or energy efficiency***

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As described above in Impact 3.6-1, the only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would involve activities that could result in energy consumption from gasoline and diesel fuel consumption for transportation of employees and equipment to and from the SMUD Bank. However, these activities would result in short-term, limited use of energy as vehicle travel and equipment use would be limited, short-term, and periodic in nature, and would not involve any actions or activities that would conflict with, or obstruct, any state or local plans for renewable energy and energy efficiency. Therefore, implementation of Direct Actions would not involve actions or activities that would obstruct or conflict with state or local plans for energy efficiency or renewable energy. This impact would be **less than significant**.

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The federal government, the state, and local jurisdictions including SMUD in the Permit Area have policies, regulations, and plans related to energy that would apply to construction of new facilities and O&M of existing facilities. These regulations governing energy are typically related to energy efficiency and use of renewable energy resources. Generally, Covered Activities could result in short-term, temporary increases in energy use resulting from minor ground disturbance, removal of vegetation, and the use of equipment.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would result in short-term, limited energy usage from the use of some equipment and vehicles for activities such as planting and monitoring. However, all Direct Action activities would

use hand tools requiring no energy use. Therefore, the Direct Actions would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency due to its limited and short-term nature. This impact would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

As discussed under Impact 3.6-1, above, O&M of new facilities would constitute a change from baseline conditions (E6, E16, G10, T2, G5, and E9a/b). These O&M activities could result in short-term, temporary changes in energy use related to maintenance of newly constructed or relocated facilities. However, O&M activities would be short term, would primarily occur at existing facilities, and would not involve any actions or activities which would conflict with, or obstruct the implementation of, a state or local plan for renewable energy or energy efficiency. Further, SMUD would comply with all applicable laws, plans, policies, and regulations, as discussed in Section 3.6.1, *Regulatory Setting*, including those related to reduced energy consumption. Implementation of AMMs in the HCP listed below and standard measures would further minimize any potential conflicts with existing state or local renewable energy or energy efficiency policies during O&M activities.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

The installation of new facilities is addressed under New Construction, below.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include new transmission substations, distribution substations, expansion of existing substations, new telecommunication towers, realignment of gas pipelines, new overhead subtransmission and distribution lines (E16, E15, T2, G9, G10, E13, and E14). As described under Impact 3.6-1, new construction activities that would consume energy may include new or expanded facilities that would involve heavy equipment use and vehicle use, and could potentially involve extensive grading. These new facilities would be required to adhere to all state and local regulations and policies regarding energy efficiency, and therefore, these activities would not conflict with or obstruct implementation of state or local energy efficiency or renewable energy plan, such as California Code of Regulations Title 24 energy efficiency standards, and SMUD's Resource Planning Report. Furthermore, new construction activities associated with the new facilities (e.g., substations) would increase the electrical system capacity to meet expected customer electrical load growth as a result of future land development in SMUD's service territory.

As described above for O&M Covered Activities, SMUD would comply with all applicable laws and regulations, as discussed in Section 3.6.1. Implementation of AMMs in the HCP listed below and standard measures would further minimize any potential conflicts with existing state or local renewable energy or energy efficiency policies resulting from new construction.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- Incorporate energy-efficient design (e.g., LED lighting, passive heating) into new structures, as feasible

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, within pipeline easements, and around poles, as well as trimming, transplanting, and removing elderberry shrubs (V1, V2, V4, V6, V7, and V5). Vegetation removal at SMUD facilities would occur throughout the Permit Area, and would involve small and temporary amounts of energy usage. However, all activities associated with vegetation management would not involve any actions or activities which would conflict with, or obstruct the implementation of, a state or local plan for renewable energy or energy efficiency. Further, SMUD would comply with all applicable laws, plans, policies, and regulations, as discussed in Section 3.6.1. Implementation of AMMs listed below and standard measures would further minimize any potential conflicts with existing state or local renewable energy or energy efficiency policies resulting from vegetation management activities.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline. This activity would include installation of cathodic protection test stations, installation of a new pipeline valve, and replacement of pipeline segments (M2a, M2b, and M2c). Installation of these elements would involve construction and operation activities similar to those described above for New Construction, and Operation and Maintenance, respectively. Therefore, these activities would not conflict

with or obstruct a state or local plan for renewable energy or energy efficiency. SMUD would comply with all applicable plans and regulations as discussed in Section 3.6.1. Implementation of AMMs in the HCP listed below and standard measures would further minimize any potential conflicts with existing state or local renewable energy or energy efficiency policies resulting from miscellaneous Covered Activities.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any short-term, minimal uses requiring energy resulting from this activity would not be substantial, and would not involve any activities or actions that would conflict with or obstruct a state or local renewable energy plan or energy efficiency plan. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term, temporary increases of energy use. New construction activities, specifically the installation of new telecommunication towers and substations and tree removal could result in short-term increases in energy use. However, as mentioned above, Covered Activities would expand, improve, and maintain SMUD's infrastructure and facilities to serve existing or expected customers, rather than to increase energy consumption, consistent with many of the regulations listed in Section 3.6.1. For these reasons it is unlikely that adverse energy impacts or conflicts with existing state and local regulations pertaining to renewable energy or energy efficiency would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### 3.7 Geology, Soils, and Paleontological Resources

This section summarizes regulations applicable to geology, soils, seismicity, paleontological resources, and mineral resources; describes the existing geologic conditions of the Permit Area; and analyzes potential impacts that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP). Regulations and guidelines established by federal, state, and local jurisdictions provide the regulatory background that guides the assessment of potential environmental effects on these resources. The potential environmental effects of soil erosion on water quality and other stormwater issues are addressed in Section 3.10, *Hydrology and Water Quality*.

No questions or concerns related to geology, soils, and paleontological resources were raised in the responses to the Notice of Preparation.

#### 3.7.1 Regulatory Setting

##### **Federal**

##### ***Earthquake Hazard Reduction Act of 1977***

Federal laws codified in United States Code Title 42, Chapter 86, were enacted to reduce risks to life and property from earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. Implementation of these requirements are regulated, monitored, and enforced at the state and local levels. Key regulations and standards applicable to the proposed Project (i.e., implementation of the proposed HCP) are summarized below.

##### ***National Pollutant Discharge Elimination System***

Under Section 402 of the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) controls water pollution by regulating point sources of pollution to waters of the United States. The State Water Resources Control Board administers the NPDES permit program in California. Projects that disturb 1 acre or more of soil must obtain coverage under the state's NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. The entity implementing any such project must develop and implement a stormwater pollution prevention plan (SWPPP) that provides specific construction-related best management practices (BMP) to prevent soil erosion and loss of topsoil. Regulations regarding water pollution caused by erosion are discussed further in Section 3.10.

##### ***Paleontological Resources***

No federal plans, policies, regulations, or laws pertaining to paleontological resources are applicable.

**State*****Alquist-Priolo Earthquake Fault Zoning Act of 1972***

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (Alquist-Priolo Act) (Public Resources Code 2621 et seq.) is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location and construction of most types of structures intended for human occupancy over active fault traces and strictly regulates construction in the corridors along active faults. The state geologist has established regulatory zones along active faults, called “Earthquake Fault Zones,” and published maps which identify areas where surface traces of active faults are present.

***Seismic Hazards Mapping Act***

The Seismic Hazards Mapping Act of 1990 (Public Resources Code 2690–2699.6) directs the California Geological Survey to identify and map areas prone to the liquefaction and landslides resulting from seismic events. The Act mandates that project sponsors have a site-specific geotechnical investigation performed in order to identify potential seismic hazards and formulate mitigation measures prior to the permitting of most developments within specific zoned areas.

***California Building Standards Code***

The California Building Standards Code, or state building code, is codified in Title 24 of the California Code of Regulations. The state building code provides standards that must be met to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within the state. The state building code generally applies to all occupancies in California, with modifications adopted in some instances by state agencies or local governing bodies. The current state building code incorporates, by adoption, the 2018 edition of the International Building Code of the International Code Council, with the California amendments. These amendments include building design and construction criteria that have been tailored for California earthquake conditions.

Chapter 16 of the state building code deals with structural design requirements governing seismically resistant construction (Section 1604), including, but not limited to, factors and coefficients used to establish a seismic site class and seismic occupancy category appropriate for the soil/rock at the building location and the proposed building design (Sections 1613.5 through 1613.7). Chapter 18 includes, but is not limited to, the requirements for foundation and soil investigations (Section 1803); excavation, grading, and fill (Section 1804); allowable load-bearing values of soils (Section 1806); foundation and retaining walls (Section 1807); and foundation support systems (Sections 1808 through 1810). Chapter 33 includes, but is not limited to, requirements for safeguards at work sites to ensure stable excavations and cut-and-fill slopes (Section 3304) as well as the protection of adjacent properties, including requirements for noticing (Section 3307).

Appendix J of the state building code includes, but is not limited to, grading requirements for the design of excavation and fill (Sections J106 and J107), specifying maximum limits on the slope of cut-and-fill surfaces and other criteria, required setbacks and slope protection for cut-and-fill slopes (Section J108), and erosion control through the provision of drainage facilities and terracing (Sections J109 and J110).

### ***California Division of Occupational Safety and Health Regulations***

Construction activities are subject to occupational safety standards for excavation, shoring, and trenching, as specified in California Division of Occupational Safety and Health regulations (Title 8).

### ***Paleontological Resources***

Paleontological resources are fossilized remains of plants and animals, and associated deposits. Appendix G of the State California Environmental Quality Act (CEQA) Guidelines requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### ***Sacramento County General Plan***

The Sacramento County General Plan Safety Element (Sacramento County 2017) contains a goal and policies related to seismic and geologic hazards. These include policies that require geotechnical reports for new development (SA-1) and prohibit new development on steep ground surfaces (SA-4).

The Sacramento County General Plan Conservation Element (Sacramento County 2017) contains policies related to paleontological resources. These include policies to require mitigation to reduce potential impacts on paleontological resources (CO-161), require monitoring at construction sites known to be sensitive for paleontological resources (CO-162), and require that a certified geologist or paleontologist determine protection measures when resources are discovered during land altering activities (CO-163).

***Yolo County General Plan***

The Yolo County 2030 Countywide General Plan Health and Safety Element (Yolo County 2009) contains a goal and policies related to seismic and geologic hazards. These include policies that require all development and construction proposals to be reviewed by the County (HS-1.2) and require CEQA environmental documents to address seismic safety issues and provide adequate mitigation for existing and potential seismic hazards (HS-1.3).

The Open Space and Conservation Element (Yolo County 2009) considers paleontological resources a type of cultural resource. While there are no policies that specifically address paleontological resources, implementation actions do. The related policy includes identifying and safeguarding cultural resources (CO-4.1). Actions include requiring cultural resources inventories and mitigation plans for all new development projects and work cessation in case paleontological resources are encountered during site preparation and construction (CO-A65).

***Placer County General Plan***

The Placer County General Plan Health and Safety Element (Placer County 2013) contains a goal and policies related to seismic and geologic hazards, including soils hazards. These include policies that require preparation of a soils and geologic-seismic analysis prior to permitting development in areas prone to such hazards (8.A.1 and 8.A.2), restrict construction in areas of slope instability and landslide hazard (8.A.4, 8.A.5, and 8.A.11), require the preparation of drainage plans (8.A.6), and require that location and/or design of new facilities in areas subject to seismic activity minimize exposure to seismic hazards (8.A.9).

The Placer County General Plan Recreation and Cultural Resources Element (Placer County 2013) contains policies related to paleontological resources. These include policies to encourage owners of paleontological resources to treat them as assets and encourage their protection (5.D.1), coordinate with cities and municipal advisory boards to preserve and maintain Placer County's paleontological resources (5.D.4), require discretionary projects to identify and protect paleontological resources (5.D.6), and require discretionary projects to avoid paleontological resources, and if avoidance is not possible, require such projects to mitigate by capturing all recoverable data (5.D.7).

***Amador County General Plan***

The Amador County General Plan Safety Element (Amador County 2016) contains goals and policies related to seismic and geologic hazards, including soils hazards. These include policies that require enforcement of site-specific seismic design category requirements per California Building Code (S-4.1), discourage new construction in or near a seismic risk or geologic hazard area unless the project meets design standards (S-4.3), use the development review process to limit potential for erosion and landslide (S-5.1), and limit develop in areas with landslide, mudslide, or avalanche susceptibility (S-5.2).

The Conservation Element (Amador County 2016) does not contain goals or policies related to paleontological resources.

### ***San Joaquin County General Plan***

The San Joaquin County General Plan (San Joaquin County 2016) Public Health and Safety Element contains policies related to seismic and geologic hazards, including soils hazards. These include policies that restrict the construction of certain types of facilities, including major utility lines and facilities within 1/8 mile of any active fault or on soil that is susceptible to liquefaction (PHS-3.2 and PHS-3.5); require erosion control (PHS-3.7), and require soil conservation and restoration efforts (PS-3.8).

The San Joaquin County General Plan (San Joaquin County 2016) Natural and Cultural Resources Element contains one policy related to paleontological resources: to update the Development Title of the county municipal code to include paleontological resources, specifying procedures to follow in the event that significant paleontological resources are discovered during the development process (NCR-N).

### ***City General Plans***

In addition to county general plans, the cities of Citrus Heights, Galt, Rancho Cordova, Roseville, Sacramento, West Sacramento, Elk Grove, and Folsom all have general plan policies related to geologic and seismic hazards. Similar to the county general plans, these policies are related to setting out requirements for construction in hazardous areas, limiting construction in hazardous areas, and requiring erosion control.

In addition to county general plans, the cities of Citrus Heights, Galt, Rancho Cordova, and Roseville all have general plan policies related to paleontological resources. Similar to the county general plans, these policies are related to preserving paleontological resources and describing mitigation approaches. Cities of Sacramento, West Sacramento, Elk Grove, and Folsom do not have general plan policies related to paleontological resources.

### ***3.7.2 Environmental Setting***

#### **Geology, Soils, and Seismicity**

##### ***Physiography and Topography***

The Permit Area is situated within two physiographic regions: the Sierra Nevada foothills and the lower Sacramento Valley (U.S. Department of Agriculture Soil Conservation Service [USDA SCS] 1993), encompassing a diversity of existing land cover types, including urban landcovers, grasses and forbs, cropland, woodlands, and different aquatic features. The Permit Area ranges in elevation from just below sea level near the Delta region to over 800 feet above sea level in the foothills of the Sierra Nevada in the northeastern part of the Permit Area (USDA SCS 1993). The Sierra Nevada foothills are

undulating to hilly, from 140 to 830 feet in elevation. This region is located along the northeast edge of the Permit Area.

The remainder of the Permit Area consists of the lower Sacramento Valley and is nearly level to gently rolling, with some areas in the eastern part rolling to hilly. Elevation ranges from sea level in the southwestern part to about 400 feet above sea level in the eastern part. The lower Sacramento Valley contains the Sacramento, American, and Cosumnes Rivers and tributaries and their associated, nearly level floodplains. North of the American River and east of the Sacramento River, there are basin and terrace remnant landforms in the American Basin, which historically contained intermittent lakes before the area was protected by levees. A low stream terrace occurs along the upstream areas of the American River and along some of the small creeks in the east. The most extensive area is the main valley floor, which consists of primarily level, low terraces, basin rims, and local basins. There are also gently rolling to hilly areas where dissection of the high terraces is so complete that the original surface of the terrace no longer exists.

In addition, the lower Sacramento Valley and Sierra Nevada foothills contain vernal pools in some areas of nearly level to gently sloping topography (USDA SCS 1993). The Permit Area also includes SMUD's Nature Preserve Mitigation Bank (SMUD Bank), which is a 1,132-acre property located in southeastern Sacramento County. The SMUD Bank also provides hiking and wildlife viewing opportunities along the Howard Ranch Trail that passes through the northeastern area of the SMUD Bank.

### ***Subsurface Conditions***

The Permit Area encompasses portions of five counties (Sacramento, Placer, Yolo, Amador, and San Joaquin Counties) located within the Sierra Nevada and Great Valley Geomorphic Provinces. The Great Valley Geomorphic Province is underlain with sedimentary deposits, composed of material eroded from the Sierra Nevada and carried westward by a system of rivers (California Department of Conservation 2006). The Sierra Nevada geologic province is underlain with Mesozoic-age, metamorphosed marine sedimentary and volcanic rocks as well as plutonic (dominantly quartz monzonite and granodiorite) rocks also of Mesozoic age, otherwise known as the Sierra Nevada batholith (High Sierra Resource Conservation and Development Council 2005; City of Auburn General Plan Citizens Advisory Committee 1993).

### ***Seismicity and Seismic Hazards***

#### **Primary Seismic Hazards**

##### ***Surface Fault Rupture***

The Permit Area lies in a seismically active area. However, as shown in Figure 3.7-1, no known faults traverse the Permit Area, and known Quaternary faults are located outside the Permit Area. As shown on the figure, the most recent fault movement occurred in Solano and Yolo Counties to the west, and in Amador County to the east. In a seismically active area, the potential of future faulting occurring in areas where faults have not been

mapped exists; however, as surface ruptures have not occurred within the historical period, the risk of surface fault rupture within the Permit Area is considered low.

### *Seismic Ground Shaking*

Ground shaking is the most widespread hazardous phenomenon associated with seismic activity, and all of California is generally considered to be seismically active. However, the Permit Area is considered low risk for seismic ground shaking. The northeastern portion of the Permit Area near the city of Folsom is considered to be in a low category for seismic shaking potential (City of Folsom 2018). Likewise, the central portion of the Permit Area near Sacramento also presents a low risk of strong ground shaking (City of Sacramento 2015). The southern portion of the Permit Area does not commonly experience strong ground shaking resulting from earthquakes along known active faults (City of Galt 2015). While the California Earthquake Authority forecasts that there is a 76 percent probability of one or more magnitude 7.0 earthquakes striking Northern California over the next 30 years (California Earthquake Authority 2020), the risk of strong seismic ground shaking within the Permit Area is expected to be low due to its distance from active fault lines.

### Secondary Seismic Hazards

#### *Liquefaction*

Liquefaction occurs when saturated soils lose cohesion, strength, and stiffness with applied shaking, such as that from an earthquake. The lack of cohesion causes solid soil to behave like a liquid, resulting in ground failure. When a load such as a structure is placed on ground that is subject to liquefaction, seismic-related ground failure can result in the structure sinking and soil being displaced. Seismic-related ground failure can take on many forms, including flow failures, lateral spreading, lowering of the ground surface, ground settlement, loss of bearing strength, ground fissures, and sand boils. Liquefaction within subsurface layers, which can occur during ground shaking associated with an earthquake, can also result in ground settlement.

The majority of the Permit Area has not been evaluated for liquefaction by the California Geological Survey (California Geological Survey 2020). The potential for liquefaction depends on several factors, including soil type, water table level, and the intensity and type of shaking. These factors vary throughout the Permit Area. Soils in the northeast portion of the Permit Area, near the City of Folsom, are generally not prone to liquefaction (City of Folsom 2018), while liquefiable soils have been found within the city of Sacramento, particularly within the Central City, Pocket, and North and South Natomas Community Plan areas (City of Sacramento 2015). Soils in the southern portion of the Permit Area, in the city of Galt, are generally stiff and dense, with a low likelihood of liquefaction (City of Galt 2015).

As shown on Figure 3.7-2, groundwater is generally close to the ground surface in parts of the Permit Area, ranging between 0 and 20 inches below ground surface. While the risk of liquefaction depends on several factors, including unconsolidated soils, the

presence of high ground water is a key factor. Therefore, it can be assumed that there may be a higher risk of liquefaction in the Permit Area within areas with higher groundwater, particularly in the southeastern portion of the Permit Area north of Walnut Grove and the northeastern portion of the Permit Area near the junction of Interstate 5 and State Route (SR) 99.

### *Lateral Spreading*

Lateral spreading is a phenomenon in which a surficial soil displaces along a shear zone that formed within an underlying liquefied layer. The surficial blocks are transported downslope or in the direction of a free face, such as a streambank, by earthquake and gravitational forces. When lateral spreading occurs, it is generally wider spread than other liquefaction-related seismic ground failure phenomena and has the potential to inflict the greatest amount of damage over a wider area during a seismic event (McCulloch and Bonilla 1970).

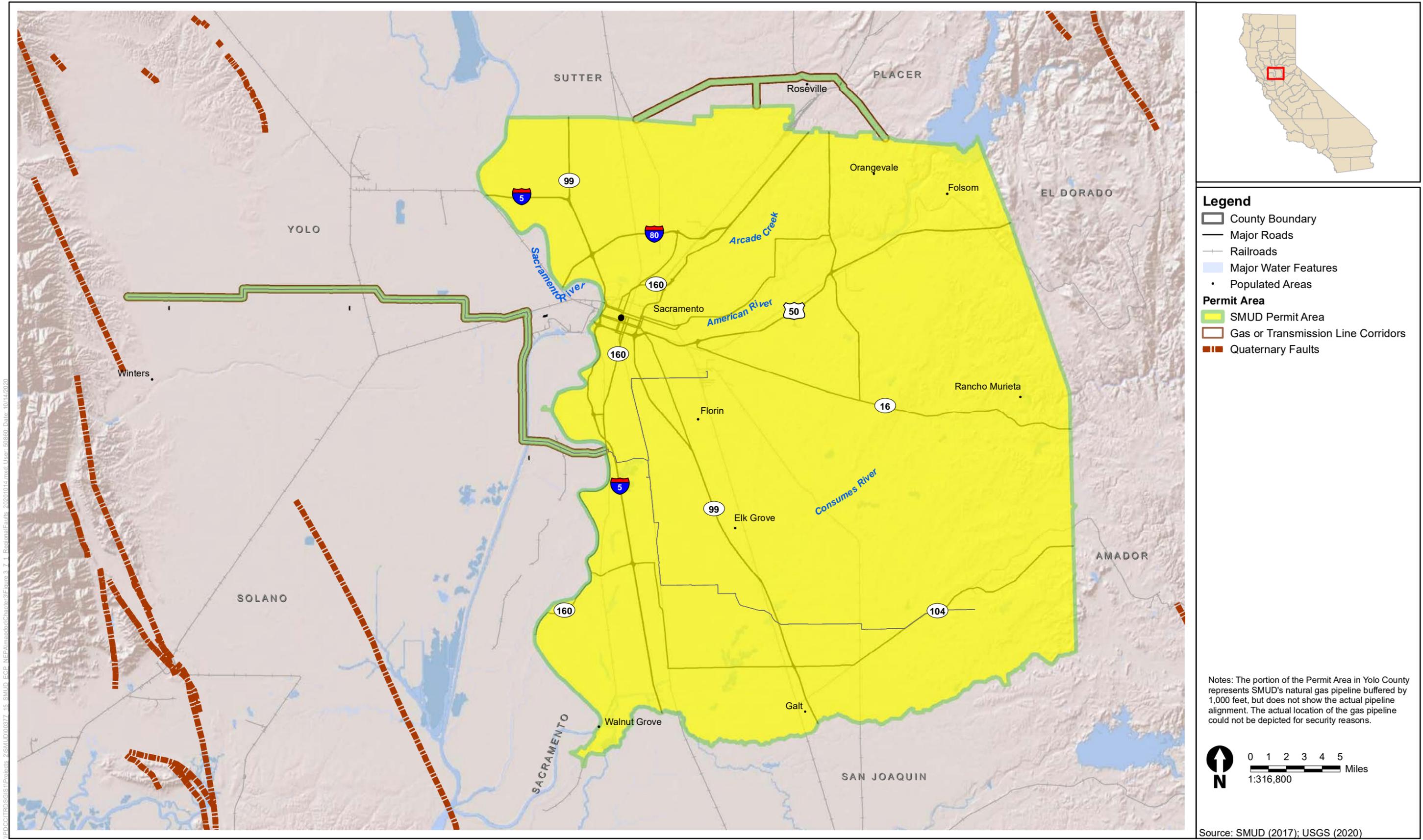
In general, for lateral spreading to occur, soils must consist of saturated, cohesionless sandy sediments in an area where there is a high groundwater table and an open face such as a cliff or streambank. As soil type, geography, and groundwater level vary across the Permit Area, the potential for lateral spreading also varies across the Permit Area, but is greatest in areas near a cliff, river bank, or other open face.

### ***Expansive Soils***

Soils that contain a high clay content may shrink or expand under varying moisture conditions, resulting in structural damage to roads, foundations, and infrastructure. As shown in Figure 3.7-3, soils within the Permit Area are generally considered to have a “Low” shrink/swell potential, with areas of “Moderate” shrink/swell potential occurring in various places throughout the Permit Area. An area of “High” shrink/swell potential exists in the southern portion of the Permit Area, east and west of the city of Walnut Grove and in an area north of SR 104. The Permit Area traverses areas of “Very High” shrink/swell potential in Yolo County. Therefore, the highest risk of impacts resulting from expansive soils are expected to be along the Permit Area extending east through Yolo County, though other areas may be affected as well.

### ***Erodible Soils***

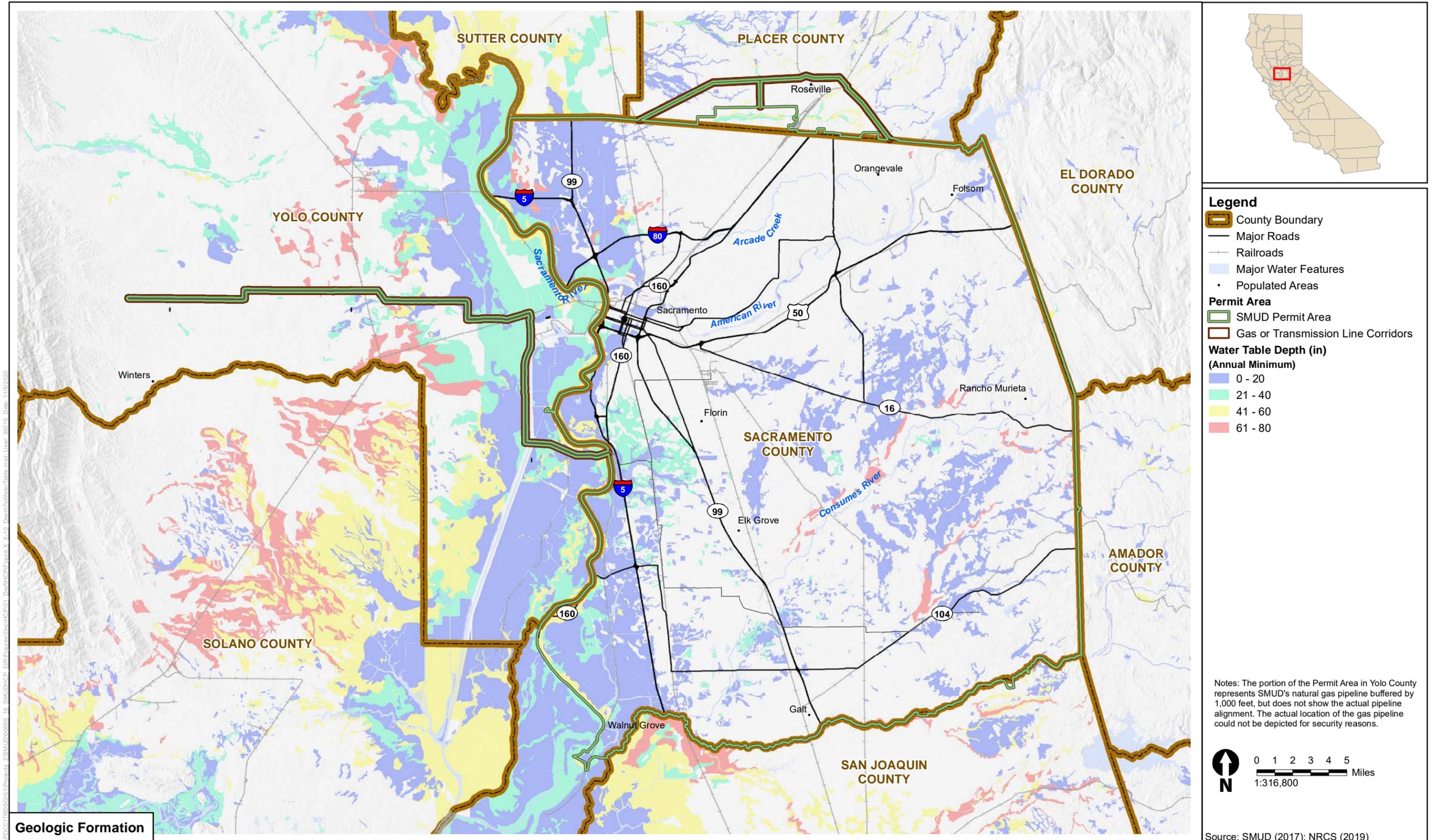
Erosion is a natural process that occurs when soil and highly weathered rock materials are worn away and transported by wind or water. Erosion can undermine the stability of roads, buildings, utilities, and other infrastructure when rapid soil loss undermines foundational stability. Human activity, such as vegetation clearing and earthwork, can reduce soil structure and cohesion, intensifying the effect of erosion by making the soil more susceptible to wind and water. In general, coarse-grained soils that include high gravel and sand content are less susceptible to erosion, whereas silty soils are more susceptible.



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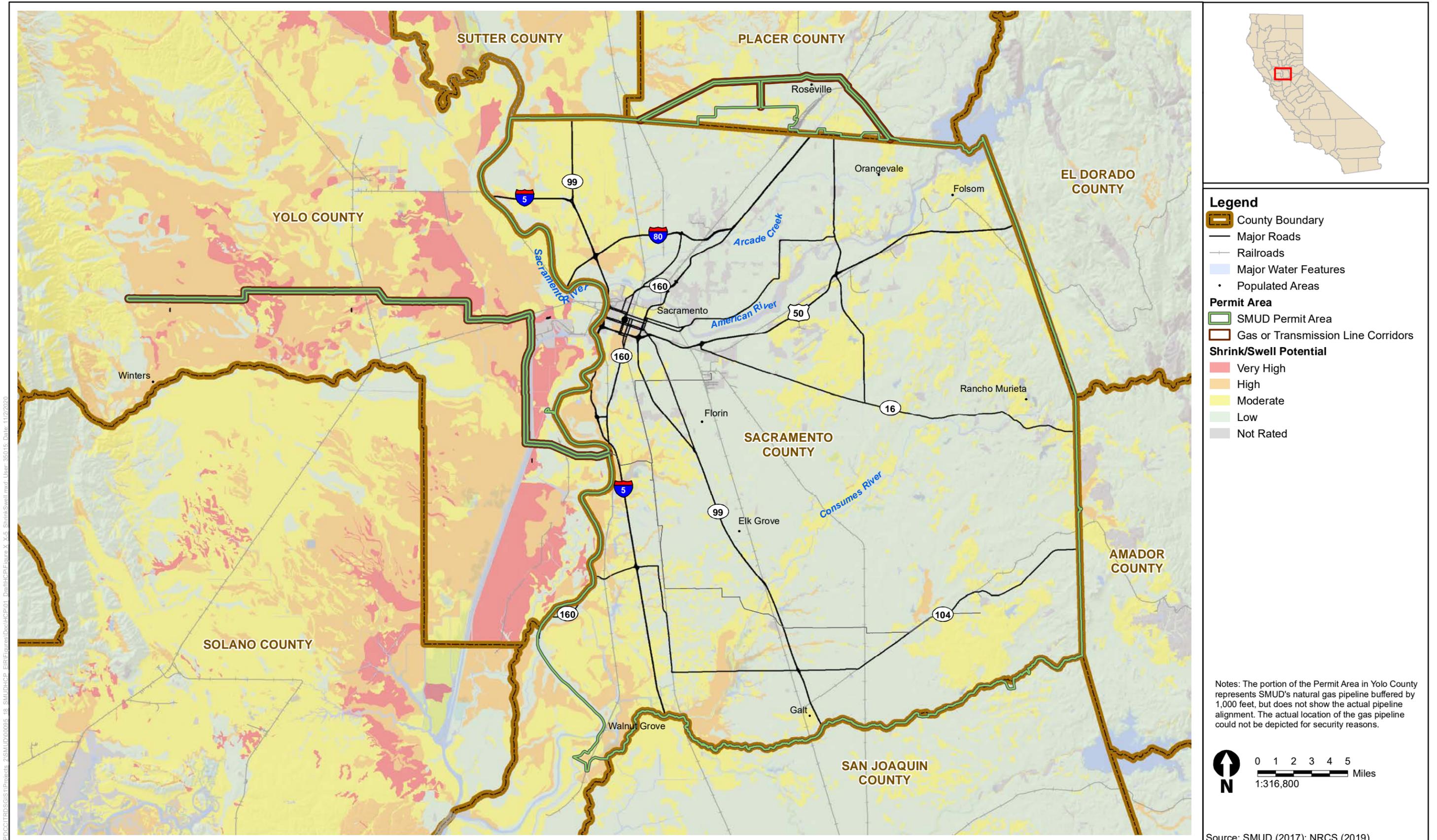
**Figure 3.7-1**  
**Regional Fault Map**  
**SMUD HCP**



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**Figure 3.7-2**  
**USGS Groundwater Levels within the Permit Area**  
**SMUD HCP**



I:\Projects\2018\SMUD\GIS\1\Projects\_2\SMUD\00095\_18\_SMUDHCP\_EIR\Figures\Doc\HCP\01\_DraftHCP\Figure X\_X-5\_ShrinkSwell.mxd; User: 35015; Date: 11/2/2020



**Figure 3.7-3**  
**Shrink/Swell Potential within the Permit Area**  
**SMUD HCP**



As shown in Figure 3.7-4, soils in the majority of the Permit Area exhibit a “Slight” risk of erodability by water. Soils with a “Moderate” to “Severe” risk of water erosion occur in the eastern portion of the Permit Area, with the greatest risk concentrated near the border of El Dorado County, between Folsom and Rancho Murieta.

As shown in Figure 3.7-5, soils in the majority of the Permit Area exhibit a “Slight” to “Moderate” risk of erodability by wind. Soils with a “Moderate” risk of wind erosion are mostly concentrated in the northern portion of the Permit Area, between Sacramento and the Placer County border, though other areas, including along the Consumes River, also exhibit a “Moderate” risk of wind erosion. No portion of the Permit Area presents a “Severe” risk of wind erosion.

### ***Landslides***

Landslides occur when the stability of a slope changes from a stable to an unstable condition. The stability of a slope is affected by slope inclination, material type, moisture content, orientation of layering, and vegetative cover. In general, steeper slopes are less stable and therefore more susceptible to landslide than more gently inclined ones. The Permit Area exhibits a wide range of elevations and slopes, ranging from relatively flat land just below sea level near the Delta to steep slopes over 800 feet above sea level in the foothill region of the Sierra Nevada.

As shown in Figure 3.7-6, according to the U.S. Geological Survey (USGS), landslide susceptibility within the majority of the Permit Area is generally a Class III, posing a “Low” risk of landslide. However, small areas located in the northeastern portion of the Permit Area near Orangevale and in the southeastern portion near are classed as posing a “High” risk of landslide, and therefore present a landslide risk.

### ***Subsidence***

One type of subsidence, widespread in parts of the San Joaquin Valley, occurs when the extraction of large amounts of groundwater removes support from certain types of fine-grained soils, causing them to fall in on themselves. Land subsidence can damage buildings, levees, and bridges; buckle highways; and disrupt water supply and wastewater drainage. Overpumping of groundwater in the San Joaquin Valley has led to aquifer-system compaction and land subsidence in about half of the valley, with some areas subsiding as much as 28 feet (USGS 2020). Although other parts of the San Joaquin Valley have experienced dramatic subsidence, subsidence is a minor concern throughout the Permit Area, with Yolo County experiencing the most widespread subsidence in recent years, with land surface declining between 0.3 foot and 1.1 feet (California Department of Water Resources 2019).

### **Paleontological Resources**

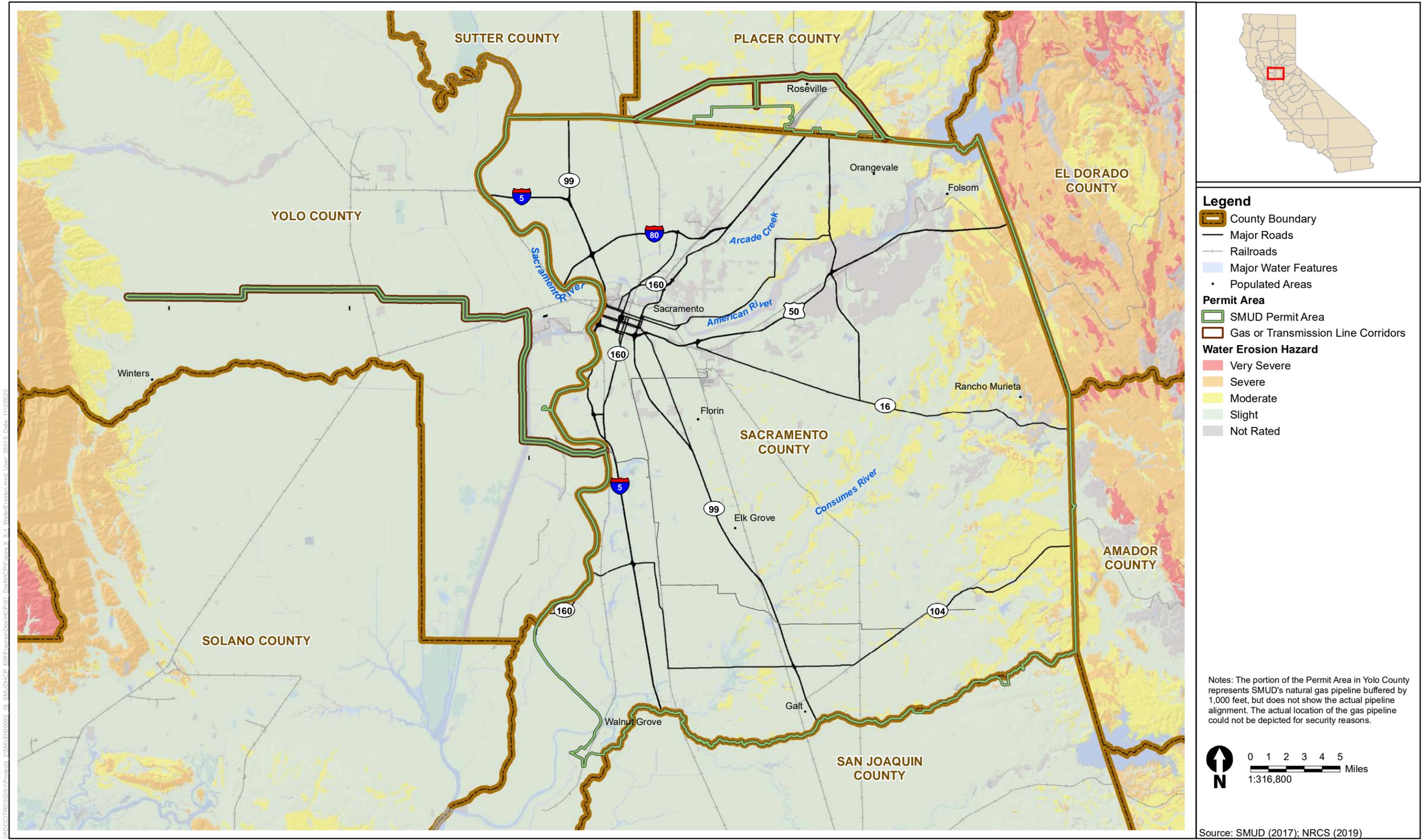
A records search was conducted to (1) identify geologic units at and below ground surface in the Permit Area and (2) assess likelihood that each geologic unit would contain significant paleontological resources. The Permit Area was defined using a geographic

information system (GIS), and the geologic units in the Permit Area were identified using geologic mapping available from the California Geological Survey (Wagner et al. 1981a, 1981b). Geologic units exposed at and below ground surface in the Permit Area are shown in Table 3.7-1. A records search to identify fossils that have been recovered from geologic units in the Permit Area, including the scientific literature and a database search, showed that some of these geologic units have a record of containing fossils important to the scientific record (Marchand and Allwardt 1981; University of California Museum of Paleontology 2020a, 2020b, 2020c; Piper et al. 1939). Table 3.7-1 also shows paleontological sensitivity,<sup>1</sup> related to history of yielding fossils, for each geologic unit. Figure 3.7-7 shows the location of geologic units in the Permit Area.

**Table 3.7-1 Geologic Units in the Permit Area and Their Paleontological Sensitivity**

<b>Geologic Unit</b>	<b>Setting</b>	<b>Paleontological Resources Recovered</b>	<b>Paleontological Sensitivity<sup>a</sup></b>
Holocene natural levee and channel deposits (Qa)	Poorly sorted stream and basin deposits, clay to boulder size	None	Low <sup>b</sup>
Holocene basin deposits (Qb)	Poorly sorted stream and basin deposits, clay to boulder size	None	Low <sup>b</sup>
Holocene intertidal deposits (Qi)	Soft and peaty mud in marshes, swamps, and waterways	None	Low <sup>b</sup>
Holocene dredge and tailings (t)	Dredge and tailings	None	No
Pleistocene Modesto Formation (Qm)	Arkosic sediments (sandstone containing feldspar) of local origin Overlies and interfingers with the Riverbank Formation throughout much of its extent.	<b>Mammals:</b> <i>Bison</i> <i>Camelops</i> <i>Mammuthus</i> <i>Megalonyx</i> Other unspecified genera of mammals and reptiles	High

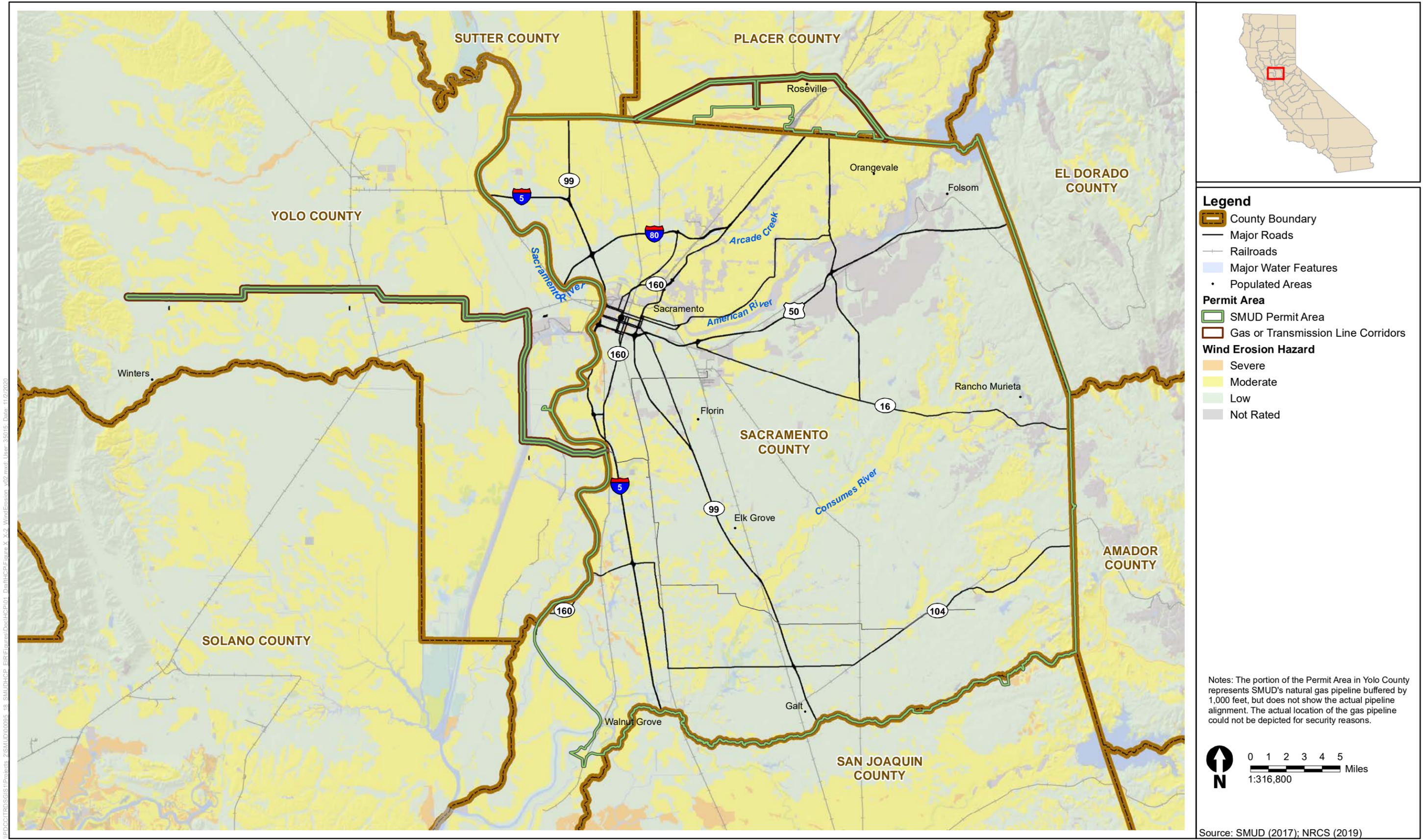
<sup>1</sup> Paleontological sensitivity is a measure of the likelihood of a geologic unit to yield significant fossils. Determination of paleontological sensitivity is described in Methodology and Assumptions, Paleontological Resources.



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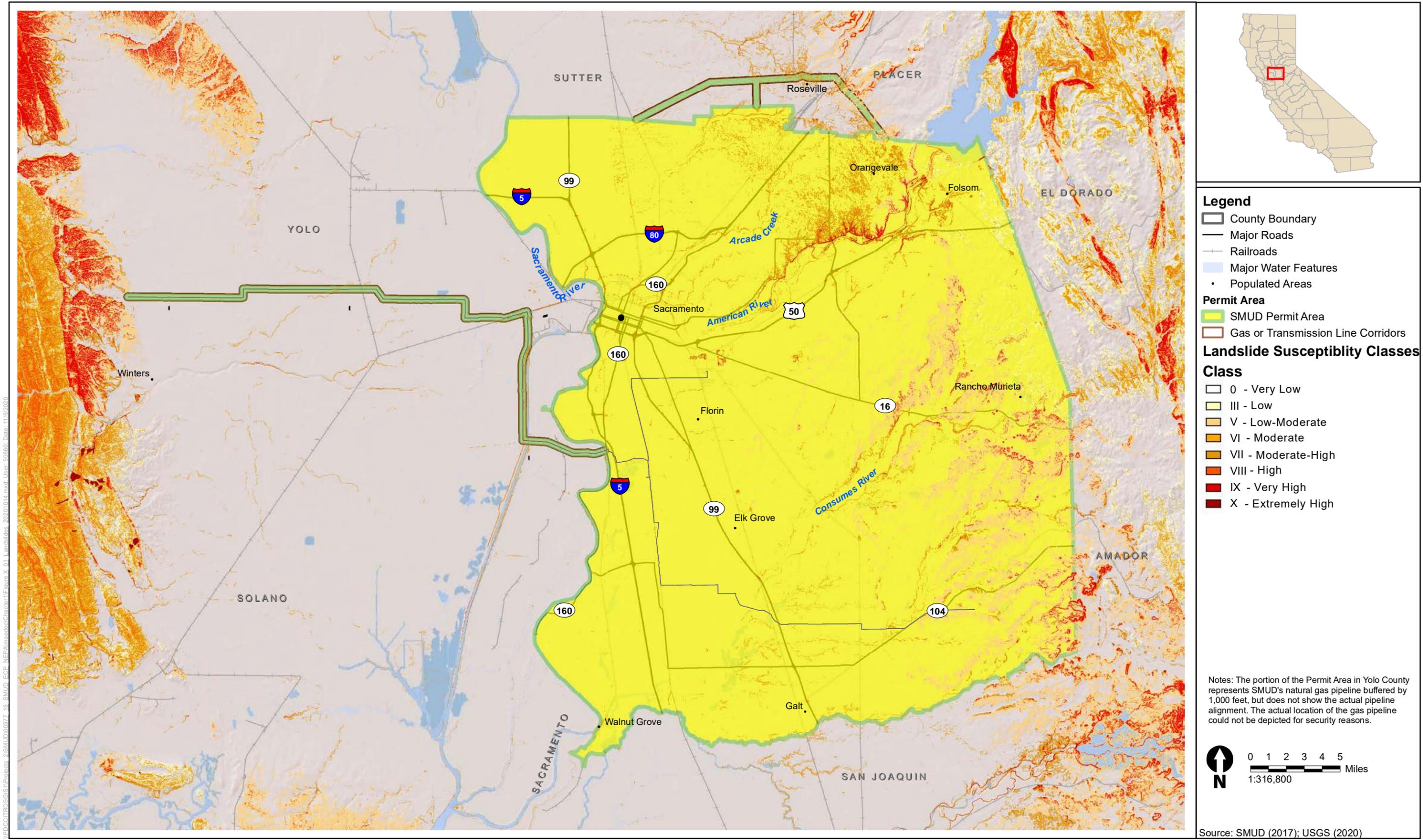
**Figure 3.7-4**  
**Water Erosion Hazard within the Permit Area**  
**SMUD HCP**



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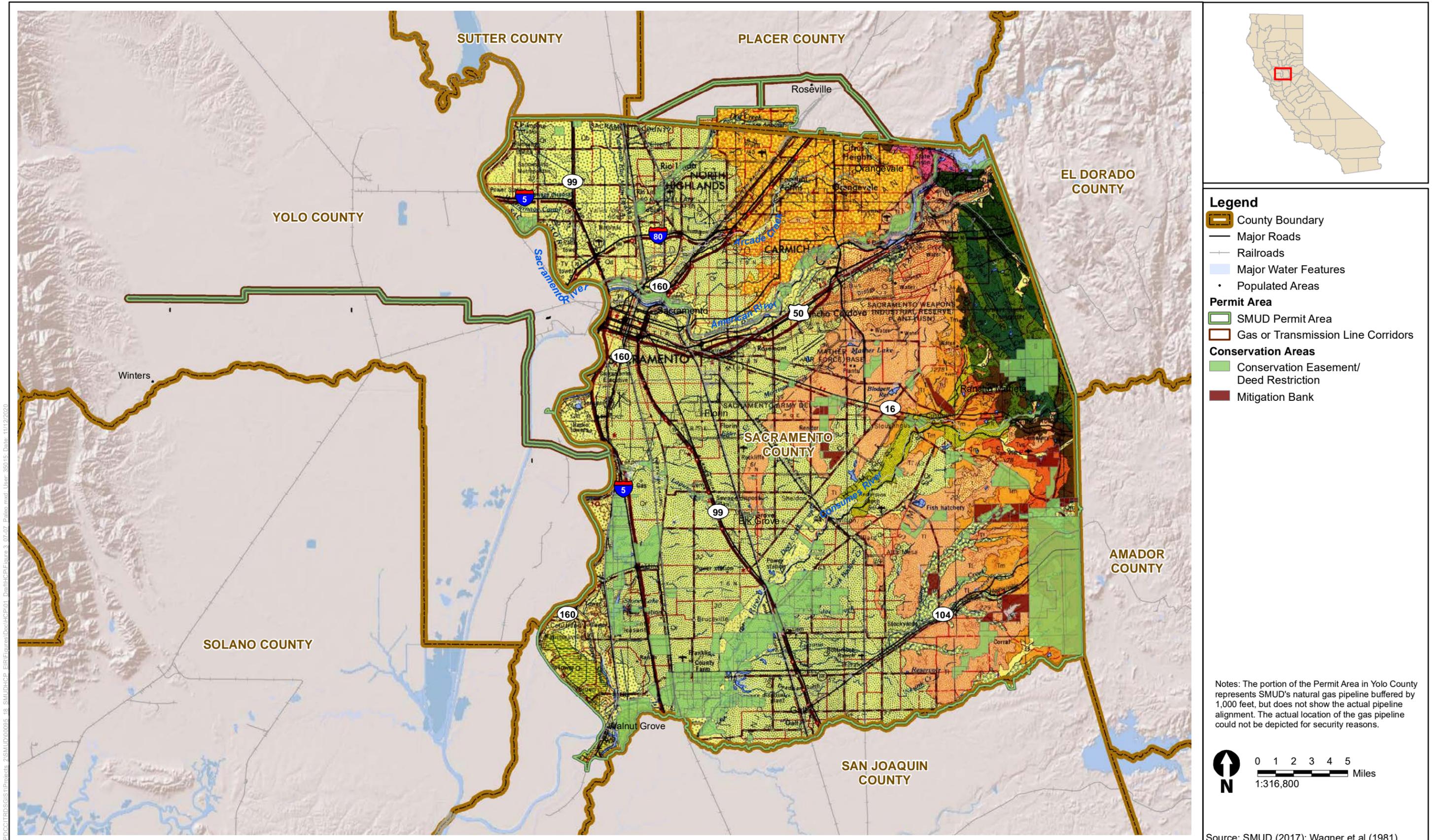
**Figure 3.7-5**  
**Wind Erosion Hazard within the Permit Area**  
**SMUD HCP**



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**Figure 3.7-6**  
**Landslide Susceptibility within the Permit Area**  
**SMUD HCP**



**Figure 3.7-7**  
**Geologic Units with High, Undetermined, Low, and No Paleontological Potential in the Permit Area**  
**SMUD HCP**

Geologic Unit	Setting	Paleontological Resources Recovered	Paleontological Sensitivity <sup>a</sup>
Pleistocene Riverbank Formation (Qr)	Arkosic sediments from the interior of the Sierra Nevada Underlies the Modesto Formation and overlies the Turlock Lake Formation	<b>Mammals:</b> <i>Bison</i> <i>Camelops</i> <i>Canis latrans</i> <i>Canis armbrusteri</i> <i>Canis dirus</i> <i>Capromeryx</i> <i>Dipodomys</i> <i>Equus</i> <i>Glossotherium harlani</i> <i>Hemiauchenia</i> <i>Homotherium serum</i> <i>Lepus</i> <i>Mammuthus columbi</i> <i>Megalonyx wheatleyi</i> <i>Microtus</i> <i>Miracinonyx</i> <i>Neotoma</i> <i>Nothriotheriops shastensis</i> <i>Odocoileus</i> <i>Paramylodon harlani</i> <i>Reithrodontomys</i> <i>Scapanus latimanus</i> <i>Smilodon fatalis</i> <i>Sorex</i> <i>Spermophilus</i> <i>Sylvilagus</i> <i>Taxidea taxus</i> <i>Tertameryx irvingtonensis</i> <i>Thomomys</i> <i>Vulpes velox</i> Other unspecified genera of mammals	
		<b>Amphibians:</b> <i>Rana</i> <i>Scaphiopus</i>	
		<b>Birds:</b> <i>Aythya</i> <i>Tadorna tadorna</i> Other unspecified genera of birds	
		<b>Bony Fish:</b> <i>Archoplites</i> Orthodon Other unspecified genera of bony fish	

Geologic Unit	Setting	Paleontological Resources Recovered	Paleontological Sensitivity <sup>a</sup>
		<b>Reptiles:</b> <i>Actinemys marmorata</i> <i>Clemmys</i> <i>Gopherus agassizii</i> <i>Thamnophis</i>	High
Pleistocene Turlock Lake Formation (Qtl)	Arkosic alluvium Generally, underlies the Riverbank Formation and overlies the Mehrten Formation	<b>Mammals:</b> <i>Arctodus</i> <i>Camelops</i> <i>Capromeryx</i> <i>Dipodomys</i> <i>Equus</i> <i>Geomydae</i> <i>Hemiauchenia</i> <i>Lepus</i> <i>Lynx rufus</i> <i>Mammuthus columbii</i> <i>Microtus</i> <i>Miracinonyx</i> <i>Neotoma</i> <i>Odocoileus</i> <i>Panthera</i> <i>Peromyscus</i> <i>Platygonus vetus</i> <i>Smilodon</i> <i>Spermophilus</i> <i>Taxidea taxus</i> <i>Tetrameryx irvingtonensis,</i>	High
Pleistocene North Merced Gravel (QTom)	Thin pediment veneer	None	Undetermined
Pliocene Laguna Formation (Tl)	Sierran-derived arkosic sand and silt Underlies the North Merced Gravel	Horse tooth	Undetermined

Geologic Unit	Setting	Paleontological Resources Recovered	Paleontological Sensitivity <sup>a</sup>
Pliocene and Miocene Mehrten Formation (Tm)	Andesitic sandstone, siltstone, and conglomerate from Sierran volcanic mudflow sources Underlies the Laguna Formation	<b>Mammals:</b> <i>Altomeryx</i> <i>Aphelops</i> <i>Borophagus parvus</i> <i>Castor</i> <i>Copemys</i> <i>Cupidinimus</i> <i>Dinohippus coalingensis</i> <i>Dipodomys</i> ; <i>Dipoides williamsi</i> <i>Felis</i> <i>Garberoceras</i> <i>Gomphotherium</i> <i>Hipparion mohavense</i> <i>Machairodus coloradensis</i> <i>Mammut americanum</i> <i>Megalonyx mathisi</i> <i>Merycodus</i> <i>Nannippus</i> <i>Neohipparion</i> <i>Osteoborus</i> <i>Otospermophilus argonotus</i> <i>Paracamelus</i> <i>Pediomeryx</i> <i>Platybelodon</i> <i>Pliauchenia</i> <i>Pliohippus coalingensis</i> <i>Pliohippus. interpolates</i> <i>Pliohippus tantalus</i> <i>Pliometanastes protistus</i> <i>Pliotaxidea garberi</i> <i>Procamelus</i> <i>Procyon</i> <i>Prosthennops</i> <i>Pseudaelurus</i> <i>Sphenophalos</i> <i>Teleoceras</i> <i>Tetrameryx</i> <i>Vulpes</i>	High
		<b>Bony Fish:</b> <i>Orthodon</i> <i>Smilodonichthyes</i> <i>Smilodonichthys rastrosus</i>	

Geologic Unit	Setting	Paleontological Resources Recovered	Paleontological Sensitivity <sup>a</sup>
		<b>Reptiles:</b> <i>Actinemys marmorata</i> <i>Clemmys</i> <i>Geochelone orthopygia</i> <i>Hesperotestudo</i>	
Miocene and Oligocene Valley Springs Formation (Tvs)	Rhyolitic tuff, sandstone, siltstone, claystone, and conglomerate	No	Undetermined

Sources: Wagner et al. 1981a, 1981b; Marchand and Allwardt 1981; University of California Museum of Paleontology 2020a, 2020b, 2020c; Piper et al. 1939.

<sup>a</sup> See Methodology and Assumptions, Paleontological Resources, for an explanation of how paleontological sensitivity is determined.

<sup>b</sup> Holocene sediments are unlikely to yield fossils because of their young age.

**Definitions:**

**Mammals**

*Altomeryx*, an extinct genus of camel  
*Aphelops*, an extinct genus of hornless rhinoceros  
*Arctodus*, an extinct genus of bear  
*Bison*, a genus of buffalo  
*Borophagus parvus*, an extinct species of canid (bear/dog)  
*Camelops*, an extinct genus of camel  
*Canis arbrusteri*, extinct species of wolf  
*Canis dirus*, extinct species of wolf  
*Canis latrans*, a species of wolf  
*Capromeryx*, an extinct genus of dwarf pronghorns  
*Castor*, a genus of beaver  
*Copemys*, an extinct genus of cricetid rodent  
*Cupidiniimus*, an extinct genus of pocket mouse  
*Dinohippus coalingensis*, an extinct species of horse  
*Dipodomys*, a genus of kangaroo rat  
*Dipoides williamsi*, an extinct species of beaver  
*Equus*, a genus including horses, donkeys, and zebras  
*Felis*, a genus of cat  
*Garberoceras*, a species of pronghorn  
*Geomydae*, a genus of pocket gopher  
*Glossotherium harlani*, a large extinct species of ground sloth  
*Gomphotherium*, an extinct genus of proboscidean  
*Hemiauchenia*, an extinct genus of llamae camels  
*Hipparion mohavense*, an extinct species of horse  
*Homotherium serum*, an extinct species of scimitar-toothed cats  
*Lepus*, an extinct genus of rabbit;  
*Lynx rufus*, bobcat  
*Machairodus coloradensis*, an extinct species of sabertoothed tiger  
*Mammut americanum*, an extinct species of mastodon  
*Mammuthus columbi*, an extinct species of mammoth;  
*Mammuthus*, an extinct genus of mammoth  
*Megalonyx*, an extinct genus of ground sloth  
*Megalonyx mathisi*, a species of sloth  
*Megalonyx wheatleyi*, an extinct species of ground sloth  
*Merycodus*, an extinct species of artiodactyl  
*Microtus*, a genus of voles

*Miracinonyx*, extinct genus of cat  
*Nannippus*, an extinct genus of horse  
*Neohipparion*, an extinct genus of horse  
*Neotoma*, a genus of woodrat;  
*Nothiotheriops shastensis*, a species of ground sloth  
*Odocoileus*, a genus of deer  
*Osteoborus*, an extinct genus of canid  
*Otospermophilus argonotus*, a species of ground squirrel  
*Panthera*, a genus of cat  
*Paracamelus*, an extinct genus of camel  
*Paramylodon harlani*, an extinct species of ground sloth  
*Pediomeryx*, an extinct genus of artiodactyl  
*Peromyscus*, a species of deer mouse  
*Platybelodon*, an extinct genus of proboscoid  
*Platygonus vetus*, a species of peccary  
*Plianchenia*, an extinct genus of camel  
*Pliohippus coalingensis*, an extinct species of horse  
*Pliohippus tantalus*, an extinct species of horse  
*Pliohippus interpolates*, an extinct species of horse  
*Pliometanastes protistus*, an extinct species of giant ground sloth  
*Pliotaxidea garberi*, an extinct species of badger  
*Procamelus*, an extinct genus of camel  
*Procyon*, a genus of raccoon  
*Prosthennops*, an extinct genus of artiodactyl  
*Pseudaelurus*, an extinct genus of cat  
*Reithrodontomys*, a genus of harvest mouse  
*Scapanus latimanus*, a species of mole  
*Smilodon*, an extinct genus of cat  
*Smilodon fatalis*, an extinct species of saber-toothed tiger  
*Sorex*, a genus of shrew  
*Spermophilus*, a genus of ground squirrel  
*Sphenophalos*, an extinct genus of artiodactyl  
*Sylvilagus*, a genus of cottontail rabbit  
*Taxidea taxus*, a species of badger  
*Teleoceras*, an extinct genus of rhinoceros  
*Tertameryx irvingtonensis*, an extinct species of pronghorn  
*Tetrameryx*, an extinct genus of artiodactyl  
*Thomomys*, a genus of pocket gopher  
*Vulpes*, a genus of canid.  
*Vulpes velox*, a species of fox

**Amphibians**

*Rana*, a genus of frogs  
*Scaphiopus*, a genus of spadefoot toads

**Birds**

*Aythya*, a genus of diving ducks  
*Tadorna tadorna*, a species of shelduck

**Bony Fish**

*Archoplites*, a genus of sunfish  
*Orthodon*, a genus of cyprinid fish  
*Smilodonichthyes*, an extinct genus of salmon  
*Smilodonichthys rastrosus*, an extinct species known as the sabertooth salmon

**Reptiles**

*Actinemys marmorata*, a species of pond turtle  
*Clemmys*, a genus of semi-aquatic turtle

*Geochelone orthopygia*, an extinct species of giant tortoise  
*Gopherus agassizii*, a species of tortoise  
*Hesperotestudo*, an extinct genus of tortoise  
*Thamnophis*, a genus of garter snake

### 3.7.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Impacts associated with SMUD Bank Oak Tree Planting (C1) and SMUD Bank Management (C2) were analyzed in the 2010 Initial Study and Mitigated Negative Declaration document for the Bank (SMUD 2010; SCH #2008022151), and will not be discussed in this document.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

#### **Geology, Soils, and Seismicity**

Impacts were assessed qualitatively based on review of applicable data from USGS, the Natural Resources Conservation Service, Soil Survey Geographic database, as well as applicable area general plans and other available reports and studies.

### ***Paleontological Resources***

The Impact Mitigation Guidelines Revisions Committee of the Society of Vertebrate Paleontology (SVP) Standard Guidelines (SVP 2010) include procedures for the investigation, collection, preservation, and cataloguing of fossil-bearing sites, including the designation of paleontological sensitivity. The Standard Guidelines are widely accepted among paleontologists and are followed by most investigators. The Standard Guidelines identify the two key phases of paleontological resource protection as (1) assessment and (2) implementation. Assessment involves identifying the potential for a project site or area to contain significant nonrenewable paleontological resources that could be damaged or destroyed by project excavation or construction. Implementation involves formulating and applying measures to reduce such adverse effects.

For the assessment phase, SVP defines the level of potential as one of four sensitivity categories for sedimentary rocks: High, Undetermined, Low, and No Potential (SVP 2010).

- **High Potential.** Assigned to geologic units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered; and sedimentary rock units suitable for the preservation of fossils (“middle Holocene and older, fine-grained fluvial sandstones...fine-grained marine sandstones, etc.”). Paleontological potential consists of the potential for yielding abundant fossils, a few significant fossils, or “recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data.”
- **Undetermined Potential.** Assigned to geologic units “for which little information is available concerning their paleontological content, geologic age, and depositional environment.” In cases where no subsurface data already exist, paleontological potential can sometimes be assessed by subsurface site investigations.
- **Low Potential.** Field surveys or paleontological research may allow determination that a geologic unit has low potential for yielding significant fossils (e.g., basalt flows). Mitigation is generally not required to protect fossils.
- **No Potential.** Some geologic units have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks (e.g., gneisses and schists) and plutonic igneous rocks (e.g., granites and diorites). Mitigation is not required.

The methods used to analyze potential impacts on paleontological resources for the proposed Project and develop mitigation for the identified impacts followed the SVP’s Standard Guidelines above.

- Assessment

- Identify the geologic units that would be affected by the proposed Project, based on the Project's depth of excavation—either at ground surface or below ground surface, defined as at least 5 feet below ground surface.
- Evaluate the potential of the identified geologic units to contain significant fossils (paleontological sensitivity).
- Identify impacts on paleontologically sensitive geologic units as a result of near-term and longer-term construction and operation that involve ground disturbance.
- Evaluate impact significance.
- Implementation
  - According to the identified degree of sensitivity, formulate and implement measures to mitigate potential impacts.

The potential of the proposed Project to affect paleontological resources relates to ground disturbance. Geologic units at the Permit Area were identified through California Geological Survey regional maps (Wagner et al. 1981a, 1981b). Determination of presence of paleontological resources in the units was based on the fossil record as documented by the University of California Museum of Paleontology (2020a, 2020b, 2020c) and the scientific literature (Marchand and Allwardt 1981).

After the records search noted in Section 3.7.2, *Environmental Setting*, under *Paleontological Resources*, the paleontological sensitivity of the units was assessed according to the Impact Mitigation Guidelines Revisions Committee of the SVP Standard Guidelines (SVP 2010).

For the purposes of this analysis, an impact on paleontological resources was considered significant and to require mitigation if it would result in any of the following.

- Damage to or destruction of vertebrate paleontological resources.
- Damage to or destruction of any paleontological resource that:
  - Provides important information about evolutionary trends, including the development of biological communities
  - Demonstrates unusual circumstances in the history of life
  - Represents a rare taxon or a rare or unique occurrence
  - Is in short supply and in danger of being destroyed or depleted
  - Has a special and particular quality, such as being the oldest of its type or the best available example of its type

- Provides information used to correlate strata for which it may be difficult to obtain other types of age dates

### Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the proposed Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Directly or indirectly cause potential 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
  - Strong seismic ground shaking
  - Seismic-related ground failure, including liquefaction
  - Landslides
- 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 an onsite or offsite 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.
- 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.
- Destroy a unique paleontological resource or site, or a unique geological feature.

### Impact Analysis

***Impact 3.7-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not involve the construction or placement of any structures or facilities which would directly or indirectly

cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, liquefaction, or landslides; therefore, the Direct Action would result in **no impact**.

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As discussed in the *Seismicity and Seismic Hazards* portion of Section 3.7.2, no known active faults exist in the Permit Area. While all of California, including the Permit Area, is generally considered to be seismically active, the risk of strong ground shaking is considered low in the Permit Area. The majority of the Permit Area has not been evaluated for liquefaction, but annual minimum groundwater is high in some portions of the Permit Area, which may increase the risk of liquefaction. The related risk of lateral spreading is greatest in portions of the Permit Area consisting of cohesionless sandy sediments where groundwater level is high and an open face such as a cliff or streambank is nearby. The Permit Area exhibits a range of elevations and slopes, with the area near the foothill region of the Sierra Nevada exhibiting the highest elevations. While the Permit Area generally exhibits a “Low” landslide risk, small areas located in the northeastern portion of the Permit Area near Orangevale and in the southeastern portion near Rancho Murieta are classed as VIII, exhibiting a “High” risk of landslide. Therefore, activities in these “High” risk areas which involve excavation, grading, or removal of vegetative cover pose a risk of landslide.

Portions of the Permit Area may contain liquefiable soils, present a risk related to lateral spreading, or contain areas at risk of landslide. Therefore, some Covered Activities could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, liquefaction, or landslides.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would not involve the construction or placing of structures on a potentially unstable geologic unit or soil; therefore, the Direct Actions would result in **no impact**.

### ***Indirect Actions***

Covered Activities that would constitute a change to baseline conditions are shown in Table 2-10 and Sections 2.3.3 and 2.3.4; activities that could cause potential substantial adverse effects related to fault rupture, ground shaking, ground failure, or landslides include the replacement or expansion of new structures and facilities; grading, trenching, and directional boring; vegetation management; and miscellaneous activities that would involve minor maintenance activities at existing SMUD-owned power plant and properties. The risk of potential adverse effects from these activities would vary depending on the specific activity. Because potential adverse effects related to fault rupture, ground shaking, ground failure, or landslide would vary depending on activity, they are discussed by Covered Activity category below.

### Operation and Maintenance

Operation and maintenance (O&M) activities that would constitute a change from baseline conditions would include the replacement of new structures and facilities (E7, E8, E9a, E9b, G6, T3). Replacement structures could be located in areas susceptible to seismic-related ground failure, including liquefaction or landslides.

No known active faults exist in the Permit Area and the risk of severe ground shaking and fault rupture are considered to be low; therefore, risks associated with fault rupture and seismic ground shaking are considered low. Thus, the risk of structures being placed in an area of severe ground shaking or fault rupture would be low.

Liquefiable soils and high groundwater are located in portions of the Permit Area. Therefore, structures could potentially be placed on soils which could liquefy during a seismic event. Likewise, lateral spreading could occur in areas subject to liquefaction during a seismic event, which could pose a risk to structures. However, structures would not serve as shelter for individuals who would be placed at risk during a seismic event. Therefore, the risk of loss, injury, or death associated with liquefaction or lateral spreading during a seismic event is considered low. Additionally, a project-specific geotechnical investigation, if required, would identify potentially liquefiable soils as part of, which would provide recommendations to reduce any potential risk.

While landslide risk is generally low in the Permit Area, some activities requiring ground disturbance would take place in areas of high landslide risk in the eastern part of the Permit Area, and could pose a risk to people and structures. However, none of the structures or facilities constructed as part of the O&M activities would shelter or house individuals who would be put at risk during a seismic event. While some O&M activities would require excavation, the excavation is generally minor in nature, would be backfilled upon completion of the activities, and is unlikely to increase the risk of landslide. Thus, risks associated with landslides are considered low.

The construction and placement of new structures could potentially require the preparation of a geotechnical investigation or be subject to project-specific CEQA review. If required, the geotechnical investigation would evaluate risks associated with surface fault rupture, seismic ground shaking, seismic-related ground failure (including liquefaction and landslides) and would provide recommendations which would reduce the impacts associated with these risks.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new facilities and expansion of existing facilities (E13, E15, E16, G9, T2). This construction and expansion may also require trenching and directional boring (E14a, E14b, G10a, G10b, G10c) along existing or new gas pipelines or subtransmission and distribution line easements. Minor construction would involve grading, excavation, and/or other ground-disturbing activities. New facilities could be

located in areas susceptible to seismic-related ground failure, including liquefaction or landslides.

No known active faults exist in the Permit Area and the risk of severe ground shaking and fault rupture are considered to be low; thus, the risk of structures or facilities being placed in an area of severe ground shaking or fault rupture would be low. New facilities could potentially be placed on soils which could liquefy during a seismic event. Likewise, lateral spreading could occur in areas subject to liquefaction during a seismic event, which could pose a risk to structures. However, structures or facilities associated with new construction would not serve as shelter for individuals who would be placed at risk during a seismic event. Therefore, the risk of loss, injury, or death associated with liquefaction or lateral spreading during a seismic event is considered low. Additionally, a project-specific geotechnical investigation, if required, would identify potentially liquefiable soils and provide recommendations to reduce any potential risk.

In addition, while landslide risk is generally low in the Permit Area, excavation, grading, and ground-disturbing activities which take place in areas of high landslide risk in the eastern part of the Permit Area could pose a risk to people and structures. However, none of the structures or facilities constructed as part of the new construction would shelter or house individuals who would be put at risk during a seismic event. While some new construction activities would require excavation, the excavation is generally minor in nature, would be backfilled upon completion of the activities, and is unlikely to increase the risk of landslide.

The construction and placement of new structures could require preparation of a geotechnical investigation or be subject to project-specific CEQA review. If required, the geotechnical investigation would evaluate risks associated with surface fault rupture, seismic ground shaking, seismic-related ground failure (including liquefaction and landslides) and would provide recommendations which would reduce the impacts associated with these risks.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include inspection within and adjacent to newly constructed overhead subtransmission and distribution lines (V1) and routine vegetation management actions within easement (V2). This inspection and management may also require tree removal (V4); elderberry shrub trimming, removal, or replanting (V5a, V5b, V5c); vegetation clearing for new poles (V6); and vegetation maintenance near pipelines (V7). Vegetation removal would occur at various locations throughout the Permit Area. Vegetation removal and vegetation planting and transplanting would involve ground disturbance as a result of removing underground plant roots and digging holes to plant or replant. This ground disturbance could occur in areas susceptible to seismic-related landslides; however, because ground disturbance associated with vegetation management would be minor, such activities would not place people or structures at risk from surface fault rupture, strong seismic ground shaking, or seismic-related ground failure.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions comprise activities at the Cosumnes Power Plant (CPP) including the installation of 17 cathodic protection test stations (M2a), water pipeline valve installation (M2b), and water pipeline segment replacement (M2c). Installation of the new valve would involve construction of a temporary access road to the work area, grading the work area, and excavating both sides of the existing water pipeline to install the new valve components. Repair and/or replacement of pipeline segments is expected to include draining or removing water from the pipeline, excavation around the damaged pipeline segment(s), backfilling the excavated area, and restoring the site to preconstruction contours. All of these activities except for installation of a subset of cathodic protection test stations, which would be installed into existing vaults, would involve ground disturbance. These structures could be placed in areas susceptible to seismic-related ground failure, including liquefaction, or landslides.

However, ground-disturbing activities associated with O&M of the CPP water pipeline would pose little risk in terms of seismic faulting or severe ground shaking. There are no identified active faults in the area and the risk of severe shaking is considered low. Though high groundwater levels exist in the area, and thus poses a risk of seismic-related liquefaction, the risk of liquefaction depends on the strength of the seismic activity, which is low in the area. While landslide risk has been noted in the general vicinity of the CPP, the plant itself is on flat ground away from hills or areas which would pose a landslide risk.

The construction and placement of new structures could potentially require the preparation of a geotechnical investigation and be subject to project-specific CEQA review. If required, the geotechnical investigation would evaluate risks associated with surface fault rupture, seismic ground shaking, seismic-related ground failure (including liquefaction and landslides) and would provide recommendations which would reduce the impacts associated with these risks.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Action; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would not place people or structures in a way which would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. There would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, new construction, vegetation management for new facilities, and miscellaneous Covered Activities could include the placement of structures in areas subject to seismic-related ground failure, including liquefaction or landslides. However, none of the structures would house or shelter individuals who would be put at risk in the event of a seismic occurrence. Therefore, the risk of loss, injury, or death associated with liquefaction or lateral spreading during a seismic event would be low. In addition, these activities may require the preparation of a geotechnical investigation and may be subject to project-specific CEQA review. The geotechnical investigation would identify risks related to seismic-related ground failure and provide design and construction measures which would reduce impacts by addressing potential deficiencies in soils or risks associated with location. For these reasons, it is unlikely that adverse impacts related to seismic ground shaking or ground failure would occur. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Impact 3.7-2: Substantial soil erosion or loss of topsoil***

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Implementation of the Direct Action would not result in physical environmental effects, with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity, which would involve minor ground-disturbing activities that would be unlikely to lead to soil erosion or loss of topsoil. Additionally, the implementation of AMMs would ensure that impacts were less than significant. This impact would be **less than significant**.

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As described in Section 3.7.2 under *Erodible Soils*, the majority of the Permit Area is underlain with soils exhibiting a “Slight” risk of erodibility by water, with a portion of the eastern part of the Permit Area exhibiting a “Moderate” to “Severe” risk (mostly concentrated near the border of El Dorado County, between Folsom and Rancho Murieta). The majority of the Permit Area is underlain with soils exhibiting is “Slight” to “Moderate” risk of erodibility by wind, with the “Moderate” risk areas mostly concentrated between Sacramento and the Placer County border.

Covered Activities that involve ground disturbance, including excavation, resulting in exposure or stockpile of soils possessing a high risk of erodibility have the potential result in substantial soil erosion or loss of topsoil.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Specifically, enhancing the Sacramento Orcutt grass population and introducing slender Orcutt grass at the SMUD Bank would involve invasive plant management, which could involve ground-disturbing activities such as removal of underground plant root roots on potentially erodible soils.

While ground-disturbing activities on erodible soils could potentially lead to erosion and loss of topsoil, AMMs would avoid, minimize, or mitigate impacts related to erosion.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previous disturbed areas)

Therefore, this impact would be **less than significant**.

### ***Indirect Actions***

Covered Activities that would constitute a change to baseline conditions are shown in Table 2-10 and Sections 2.3.3 and 2.3.4; activities which could cause potential substantial adverse effects related to soil erosion or loss of topsoil include excavation for installation and replacement of facilities; grading, trenching, and directional boring; vegetation management; and miscellaneous activities that would involve construction of a temporary access road. The risk of potential adverse effects from these activities would vary depending on the specific activity, but all activities would pose a minimal risk as the majority of the Permit Area is underlain with soils exhibiting only a low to moderate susceptibility to erosion by wind and water, and the implementation of protective measures would further reduce the risk of erosion. Because potential adverse effects related to erosion or loss of topsoil would vary depending on activity, they are discussed by Covered Activity category below.

#### Operation and Maintenance

O&M activities that would constitute a change from baseline conditions would include the replacement of new structures and facilities (E7, E8, E9a, E9b, G6, T3). The replacement of new structures and facilities would also require inspections and testing (E1a, E2a, E4, E6a, G1a, G1b, G1c, G2, G3, G4). Construction could involve excavation and grading for installation and replacement of facilities. While a majority of the Permit Area is underlain with soils exhibiting only a “Slight” to “Moderate” risk of erosion, ground-disturbing activities may occur in parts of the Permit Area exhibiting a “Moderate” to “Severe” risk of erodibility by water (mostly concentrated near the border of El Dorado County, between Folsom and Rancho Murieta) or “Moderate” risk of erodibility by wind (mostly

concentrated between Sacramento and the Placer County border) pose the greatest risk of erosion.

Ground-disturbing activities on erodible soils could lead to erosion including loss of topsoil. Measures similar to those listed below could reduce potential adverse effects of erosion.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previous disturbed areas)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access).

In addition, if a proposed Covered Activity would disturb more than 1 acre, SMUD would be required to obtain coverage under the Construction General Permit before the onset of any construction activities. A SWPPP would be developed by a qualified engineer or erosion control specialist in accordance with the appropriate Water Board's requirements and implemented prior to the issuance of any grading permit. The SWPPP would contain BMPs to reduce soil erosion and to meet water quality standards. Thus, the risk of soil erosion or loss of topsoil would be considered low.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new facilities and expansion of existing facilities (E13, E15, E16, G9, T2). This construction and expansion may also require trenching directional boring (E14a, E14b, G10a, G10b, G10c) along existing or new pipelines or subtransmission and distribution line easements. Construction of new facilities may also require trenching and boring along existing or new pipelines or subtransmission and distribution line easements and creating temporary access roads. Minor construction would involve grading, excavation, and/or other ground-disturbing activities. New facilities could be located on potentially erodible soils. While a majority of the Permit Area is underlain with soils which exhibit only a "Slight" to "Moderate" risk of erosion, ground-disturbing activities occurring in parts of the Permit Area exhibiting a "Moderate" to "Severe" risk of erodibility by water (mostly concentrated near the border of El Dorado County, between Folsom and Rancho Murieta) or "Moderate" risk of erodibility by wind (mostly concentrated between Sacramento and the Placer County border) pose the greatest risk of erosion.

Ground-disturbing activities on erodible soils could lead to erosion including loss of topsoil. Measures similar to those listed below could reduce potential adverse effects related to erosion.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previous disturbed areas)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access).

In addition, if a proposed Covered Activity would disturb more than 1 acre, SMUD would be required to obtain coverage under the Construction General Permit before the onset of any construction activities. A SWPPP would be developed by a qualified engineer or erosion control specialist in accordance with the appropriate Water Board's requirements and implemented prior to the issuance of any grading permit. The SWPPP would contain BMPs to reduce soil erosion and to meet water quality standards. Thus, the risk of soil erosion or loss of topsoil would be considered low.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include inspection within and adjacent to newly constructed overhead subtransmission and distribution lines (V1) and routine vegetation management actions within easement (V2). This inspection and management may also require tree removal (V4); shrub trimming, removal, or replanting (V5a, V5b, V5c); vegetation clearing for new poles (V6); and vegetation maintenance near pipelines (V7). Vegetation removal would occur at SMUD facilities throughout the Permit Area. Vegetation removal and vegetation planting and transplanting would involve ground disturbance as a result of removing underground plant roots and digging holes to plant or replant. Such ground disturbance could be located on soils susceptible to wind or water erosion. While a majority of the Permit Area is underlain with soils exhibiting only a "Slight" to "Moderate" risk of erosion, ground-disturbing activities may occur in parts of the Permit Area exhibiting a "Moderate" to "Severe" risk of erodibility by water (mostly concentrated near the border of El Dorado County, between Folsom and Rancho Murieta) or "Moderate" risk of erodibility by wind (mostly concentrated between Sacramento and the Placer County border) pose the greatest risk of erosion.

Ground-disturbing activities on erodible soils could lead to erosion including loss of topsoil. Measures similar to those listed below could reduce potential adverse effects related to erosion.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previous disturbed areas)

- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access).

In addition, if a proposed Covered Activity would disturb more than 1 acre, SMUD would be required to obtain coverage under the Construction General Permit before the onset of any construction activities. A SWPPP would be developed by a qualified engineer or erosion control specialist in accordance with the appropriate Water Board's requirements and implemented prior to the issuance of any grading permit. The SWPPP would contain BMPs to reduce soil erosion and to meet water quality standards. Thus, the risk of soil erosion or loss of topsoil would be considered low.

#### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions comprise activities at the CPP pipeline including the installation of 17 cathodic protection test stations (M2a), water pipeline valve installation (M2b), and water pipeline segment replacement (M2c). Installation of the new valve would involve construction of a temporary access road to the work area, grading the work area, and excavating both sides of the existing water pipeline to install the new valve components. Repair and/or replacement of pipeline segments is expected to include draining or removing water from the pipeline, excavation around the damaged pipeline segment(s), backfilling the excavated area, and restoring the site to preconstruction contours. All of these activities except for installation of a subset of cathodic protection test stations, which would be installed into existing vaults, would involve ground disturbance. The CPP pipeline is in a portion of the Permit Area susceptible to "Moderate" to "Severe" risk of erodibility by water and to "Moderate" risk of erodibility by wind. Thus, some excavation and grading work could potentially expose erodible soils to erosion by wind or water.

Ground-disturbing activities on erodible soils could lead to erosion including loss of topsoil. Measures similar to those listed below could reduce potential adverse effects related to erosion.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previous disturbed areas)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)

- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access).

In addition, if a proposed Covered Activity would disturb more than 1 acre, SMUD would be required to obtain coverage under the Construction General Permit before the onset of any construction activities. A SWPPP would be developed by a qualified engineer or erosion control specialist in accordance with the appropriate Water Board's requirements and implemented prior to the issuance of any grading permit. The SWPPP would contain BMPs to reduce soil erosion and to meet water quality standards. Thus, the risk of soil erosion or loss of topsoil would be considered low.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Action; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The Direct Action, if constructed on erodible soils, could potentially lead to erosion and loss of topsoil; however, AMMs would minimize effects related to erosion. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M, new construction, vegetation management for new facilities, and miscellaneous Covered Activities, if conducted on erodible soils, could potentially lead to erosion and loss of topsoil. However, ground disturbances of greater than 1 acre would require a SWPPP, which would contain BMPs to reduce soil erosion and to meet water quality standards. Measures similar to the AMMs identified above, as refined as part of project-specific CEQA review, could also minimize potential erosion resulting from ground-disturbing activities. For these reasons it is unlikely that adverse erosion impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review if required under CEQA, when an activity is proposed.

***Impact 3.7-3: Place facilities on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse***

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Implementation of Direct Actions would not result in physical environmental effects, with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve construction or placing structures on a potentially unstable geologic unit or soil; therefore, the Direct Action would result in **no impact**.

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Groundwater is generally close to the ground surface in parts of the Permit Area, ranging between 0 and 20 inches below ground surface, which may increase the risk of liquefaction. This risk of lateral spreading is greatest in portions of the Permit Area consisting of cohesionless sandy sediments where the groundwater level is high and an open face such as a cliff or streambank is nearby. While most of the Permit Area is considered low risk for landslides, the northeastern portion of the Permit Area near Orangevale and the southeastern portion near Rancho Murieta are classed as having high landslide risk.

Covered Activities that involve new construction could potentially place new facilities (e.g., telecommunication towers, poles, substations) on an unstable geologic unit or soil resulting in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not involve construction or placing structures on a potentially unstable geologic unit or soil; therefore, the Direct Actions would result in **no impact**.

***Indirect Actions***

Covered Activities that would constitute a change to baseline conditions are shown in Table 2-10 and Sections 2.3.3 and 2.3.4; some activities could potentially place new facilities (e.g., telecommunication towers, poles, substations) on a geologic unit or soil that is unstable or that would become unstable. The risk of potential adverse effects from these activities would vary depending on the specific activity and its location within the Permit Area, but any dewatering associated with construction would be minor and would not result in subsidence. The construction and placement of new structures would be subject to project-specific CEQA review, and may require the preparation of a geotechnical investigation, which would identify any underlying unstable soils or geologic units and provide recommendations which would reduce any associated impacts. Because potential adverse effects related to placement of new facilities on unstable

geologic units would vary depending on activity, they are discussed by Covered Activity category below.

### Operation and Maintenance

O&M activities that would constitute a change from baseline conditions would include the replacement of new structures and facilities (E7, E8, E9a, E9b, G6, T3). As discussed in Section 3.7.2, portions of the Permit Area may pose a risk of liquefaction, lateral spreading, or landslide. A structure placed on an unstable geologic unit or soil could potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. While many portions of the Permit Area are underlain with soils which present a low potential for liquefaction, pockets of liquefiable soils have been found in Sacramento County, and the presence of high groundwater, particularly in the southeastern and the northeastern portion of the Permit Area, increase the risk of liquefaction. Structures placed in these areas are at a higher risk of impacts from liquefaction and lateral spreading. Subsidence resulting from the extraction of groundwater is a minor concern throughout the Permit Area, specifically in Yolo County. While construction activities could potentially require the removal of groundwater through dewatering of excavated areas, this is not likely to be of an amount large enough to lead to increased subsidence. While most of the Permit Area is considered low risk for landslides, placement of structures or excavations in the northeastern portion of the Permit Area near Orangevale or in the southeastern portion near Rancho Murieta could present a “High” landslide risk.

The construction and placement of new structures could require preparation of a geotechnical investigation or be subject to project-specific CEQA review. The geotechnical investigation would identify any underlying unstable soils or geologic units which could lead to structural defects and would provide recommendations which would reduce the impacts associated with unstable geologic units or soils.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new facilities and expansion of existing facilities (E13, E15, E16, G9, T2). This construction and expansion may also require trenching directional boring (E14a, E14b, G10a, G10b, G10c) along existing or new pipelines or subtransmission and distribution line easements. These new construction activities would involve grading, excavation, and/or other ground-disturbing activities. Construction of new facilities may also require trenching and boring along existing or new pipelines or subtransmission and distribution line easements and creating temporary access roads. Minor construction would involve grading, excavation, and/or other ground-disturbing activities. New facilities could be located on an unstable geologic unit or soil which could potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

As discussed in Section 3.7.2, portions of the Permit Area may pose a risk of liquefaction, lateral spreading, or landslide. A structure placed on an unstable geologic unit or soil could potentially result in an onsite or offsite landslide, lateral spreading, subsidence,

liquefaction, or collapse. While many portions of the Permit Area are underlain with soils which present a low potential for liquefaction, pockets of liquefiable soils have been found in Sacramento County, and the presence of high groundwater, particularly in the southeastern and northeastern portions of the Permit Area, increase the risk of liquefaction. Structures placed in these areas are at a higher risk of impacts from liquefaction and lateral spreading. Subsidence resulting from the extraction of groundwater is a minor concern throughout the Permit Area, specifically in Yolo County. While construction activities could potentially require the removal of groundwater through dewatering of excavated areas, this is not likely to be of an amount large enough to lead to increased subsidence. While most of the Permit Area is considered low risk for landslides, placement of structures or excavations in the northeastern portion of the Permit Area near Orangevale or in the southeastern portion near Rancho Murieta could present a “High” landslide risk.

However, any new or expanded facilities would be subject to California Building Code Title 24, which identifies specific design requirements to reduce damage related to seismic ground shaking, ground failure, landslides, soil erosion, and expansive soils. Thus, the risk of impacts related to placement of structure or facilities on an unstable, or potentially unstable geologic unit would be considered low. In addition, the construction and placement of new structures could require preparation of a geotechnical investigation or be subject to project-specific CEQA review. The geotechnical investigation, if required, would identify any underlying unstable soils or geologic units which could lead to structural defects and would provide recommendations which would reduce the impacts associated with unstable geologic units or soils.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include inspection within and adjacent to newly constructed overhead subtransmission and distribution lines (V1) and routine vegetation management actions within easement (V2). This inspection and management may also require tree removal (V4); elderberry shrub trimming, removal, or replanting (V5a, V5b, V5c); vegetation clearing for new poles (V6); and vegetation maintenance near pipelines (V7). Vegetation management would not involve the construction or placement of any structures on an unstable geologic unit or soil and therefore would not result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions comprise activities at the CPP pipeline including the installation of 17 cathodic protection test stations (M2a), water pipeline valve installation (M2b), and water pipeline segment replacement (M2c). Installation of the new valve would involve construction of a temporary access road to the work area, grading the work area, and excavating both sides of the existing water pipeline to install the new valve components. Repair and/or replacement of pipeline segments is expected to include draining or removing water from

the pipeline, excavation around the damaged pipeline segment(s), backfilling the excavated area, and restoring the site to preconstruction contours. All of these activities except for installation of a subset of cathodic protection test stations, which would be installed into existing vaults, would involve ground disturbance. This ground disturbance could be located on an unstable geologic unit or soil which could potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

The CPP pipeline is located in an area with high water table, which poses a risk of liquefaction and lateral spreading. The plant is located in a flat area, away from potential landslide risks. While subsidence resulting from the extraction of groundwater is a minor concern throughout the Permit Area, dewatering of excavated areas for the above activities is not likely to be of an amount large enough to lead to increased subsidence.

However, any new or expanded facilities would be subject to California Building Code Title 24, which identifies specific design requirements to reduce damage related to seismic ground shaking, ground failure, landslides, soil erosion, and expansive soils. Thus, the risk of impacts related to placement of structure or facilities on an unstable or potentially unstable geologic unit would be considered low. In addition, Covered Activities associated with the CPP pipeline could require preparation of a geotechnical investigation or be subject to project-specific CEQA review. The geotechnical investigation would identify any underlying unstable soils or geologic units which could lead to structural defects and would provide recommendations which would reduce the impacts associated with unstable geologic units or soils.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not involve the construction or placing of structures on a potentially unstable geologic unit or soil; therefore, the Direct Action would result in **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, new construction, and miscellaneous Covered Activities could include the construction or placing of structures on a potentially unstable geologic unit or soil. However, these activities would be subject to project-specific CEQA review, and would require the preparation of a geotechnical investigation. The geotechnical investigation, if required, would identify risks related to potential ground failure and provide design and construction measures which would reduce impacts by identifying any underlying

unstable soils or geologic units which could lead to structural defects and provide recommendations which would reduce the impacts. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review if required under CEQA, when an activity is proposed.

***Impact 3.7-4: Place project-related facilities on expansive soil, creating substantial direct or indirect risks to life or property***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve the construction or placing of structures on a potentially expansive soils; therefore, the Direct Action would result in **no impact**.

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Soils within the Permit Area are generally considered to have a “Low” shrink/swell potential, with areas of “Moderate” shrink/swell potential occurring in various places throughout the Permit Area. Areas of “High” shrink/swell potential exist in the southern portion of the Permit area, east and west of the city of Walnut Grove and in an area north of SR 104. The Permit Area traverses areas of “Very High” shrink/swell potential in Yolo County. Therefore, the highest risk of impacts resulting from expansive soils are expected to be along the Permit Area extending east though Yolo County, though other areas may be affected as well.

Covered Activities that involve new construction could potentially place new facilities (e.g., towers, poles, substations, pipelines) on expansive soils, creating direct or indirect risks to life or property.

***Direct Action***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not involve the construction or placing of structures on a potentially expansive soils; therefore, the Direct Actions would result in **no impact**.

***Indirect Actions***

Covered Activities that would constitute a change to baseline conditions are shown in Table 2-10 and Sections 2.3.3 and 2.3.4; some activities could potentially place new structures and facilities (e.g., telecommunication towers, poles, substations) on expansive soil. The risk of potential adverse effects from these activities would vary depending on the specific activity and its location within the Permit Area, but the construction and placement of new structures would be subject to project-specific CEQA

review, and may require the preparation of a geotechnical investigation, which would identify any underlying expansive soils and provide recommendations which would reduce any associated impacts. Because potential adverse effects related to placement of new facilities on expansive soils would vary depending on activity, they are discussed by Covered Activity category below.

### Operation and Maintenance

O&M activities that would constitute a change from baseline conditions would include the replacement of new structures and facilities (E7, E8, E9a, E9b, G6, T3). The replacement of new structures and facilities would also require inspections and testing (E1a, E2a, E4, E6a, G1a, G1b, G1c, G2, G3, G4).

Soils within the Permit Area are generally considered to have a low shrink/swell potential, with areas of moderate shrink/swell potential occurring near the Sacramento and Consumes River, in the south near Walnut Grove. The Permit Area traverses areas of high shrink/swell potential primarily in Yolo County. A structure placed on expansive soil could potentially experience structural defects. This is of particular concern for activities expected to occur in Yolo County such as direct-buried cable replacement. However, the construction and placement of new structures could require preparation of a geotechnical investigation or be subject to project-specific CEQA review. The geotechnical report would identify any expansive soils underlying site of a future development project and would provide recommendations which would reduce impacts related to expansive soils.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new facilities and expansion of existing facilities (E13, E15, E16, G9, T2). This construction and expansion may also require trenching directional boring (E14a, E14b, G10a, G10b, G10c) along existing or new pipelines or utility corridors. These new construction activities would involve grading, excavation, and/or other ground-disturbing activities. Construction of new facilities may also require trenching and boring along existing or new pipelines or utility corridors and creating temporary access roads. Minor construction would involve grading, excavation, and/or other ground-disturbing activities. New facilities could be located on soil with a high shrink/swell potential, which could result in structural damage.

Soils within the Permit Area are generally considered to have a low shrink/swell potential, with areas of moderate shrink/swell potential occurring near the Sacramento and Consumes Rivers, in the south near Walnut Grove. The Permit Area traverses areas of high shrink/swell potential primarily in Yolo County. This is of particular concern for activities expected to occur in Yolo County such as new construction for valve stations and pressure-limiting stations.

However, any new or expanded facilities would be subject to California Building Code Title 24, which identifies specific design requirements to reduce damage related to expansive soils. Thus, the risk of impacts related to placement of structure or facilities on

expansive soils would be considered low. In addition, the construction and placement of new structures could require preparation of a geotechnical investigation or be subject to project-specific CEQA review, and for larger installations such as substations could require the preparation of a geotechnical investigation. The geotechnical report would identify any expansive soils underlying the site of a future development project and would provide recommendations which would reduce impacts related to expansive soils.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include inspection within and adjacent to newly constructed overhead subtransmission and distribution lines (V1) and routine vegetation management actions within easement (V2). This inspection and management may also require tree removal (V4); shrub trimming, removal, or replanting (V5a, V5b, V5c); vegetation clearing for new poles (V6); and vegetation maintenance near pipelines (V7). Vegetation management would not involve the construction or placement of any structures on expansive soils.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions comprise activities at the CPP pipeline including the installation of 17 cathodic protection test stations (M2a), water pipeline valve installation (M2b), and water pipeline segment replacement (M2c). Installation of the new valve would involve construction of a temporary access road to the work area, grading the work area, and excavating both sides of the existing water pipeline to install the new valve components. Repair and/or replacement of pipeline segments is expected to include draining or removing water from the pipeline, excavation around the damaged pipeline segment(s), backfilling the excavated area, and restoring the site to preconstruction contours. All of these activities except for installation of a subset of cathodic protection test stations, which would be installed into existing vaults, would involve ground disturbance. The installation of new facilities and the construction of access roads could potentially place structures on expansive soils.

The CPP pipeline is located in an area with moderate shrink/swell potential, which poses a potential risk to new construction in the area. However, any new or expanded facilities would be subject to California Building Code Title 24, which identifies specific design requirements to reduce damage related to expansive soils. Thus, the risk of impacts related to placement of structure or facilities on expansive soils would be considered low. In addition, the construction and placement of new structures could require preparation of a geotechnical investigation or be subject to project-specific CEQA review. The geotechnical report would identify any expansive soils underlying site of a future development project and would provide recommendations, such as replacement with engineered fill, which would reduce impacts related to expansive soils.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Action; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The Direct Action would not involve the construction or placing of structures on a potentially expansive soil; therefore, the Direct Action would result in **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, new construction, and miscellaneous Covered Activities could include the construction or placing of structures on a potentially expansive soils. However, these activities would be subject to project-specific CEQA review, and could require the preparation of a geotechnical investigation. The geotechnical investigation would identify risks related expansive soils and provide design and construction measures which would reduce impacts. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review if required under CEQA, when an activity is proposed.

### ***Impact 3.7-5: 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***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve the construction or placing of structures that would require the use of septic tanks or alternative wastewater disposal systems; therefore, the Direct Action would result in **no impact**.

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The proposed Project would not include any activities which would require connection to a septic tank or alternative wastewater disposal system.

### **Direct Actions**

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction

at SMUD Bank activity could result in physical environmental effects. This Direct Action would not involve construction or placing structures that would require the use of septic tanks or alternative wastewater disposal systems; therefore, the Direct Actions would result in **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

O&M activities that would constitute a change from baseline conditions would include the replacement of new structures and facilities (E7, E8, E9a, E9b, G6, T3). The replacement of new structures and facilities would also require inspections and testing (E1a, E2a, E4, E6a, G1a, G1b, G1c, G2, G3, G4). None of the O&M activities would involve the construction or placing of structures which would require the use of septic tanks or alternative wastewater disposal systems.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new facilities and expansion of existing facilities (E13, E15, E16, G9, T2). This construction and expansion may also require trenching directional boring (E14a, E14b, G10a, G10b, G10c) along existing or new pipelines or utility corridors. New construction activities include the construction of four new transmission substations and 45 new distribution substations, which may require a control building with a restroom for employees. In order to provide sewer service to the restroom, SMUD may install a sanitary sewer septic system. While the location of the substations and septic systems are unknown at this time, the design, construction, and installation of an onsite wastewater treatment system would be completed in compliance with all applicable permitting requirements, which may require the completion of a test drill and system design prior to the installation of any septic system. Thus, risks associated with soils incapable of supporting a septic system are considered low.

#### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include inspection within and adjacent to newly constructed overhead subtransmission and distribution lines (V1) and routine vegetation management actions within easement (V2). This inspection and management may also require tree removal (V4); shrub trimming, removal, or replanting (V5a, V5b, V5c); vegetation clearing for new poles (V6); and vegetation maintenance near pipelines (V7). Vegetation management would not involve the construction or placing of structures which would require the use of septic tanks or alternative wastewater disposal systems.

#### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions comprise activities at the CPP pipeline including the installation of 17 cathodic protection

test stations (M2a), water pipeline valve installation (M2b), and water pipeline segment replacement (M2c). Installation of the new valve would involve construction of a temporary access road to the work area, grading the work area, and excavating both sides of the existing water pipeline to install the new valve components. None of the miscellaneous Covered Activities would involve the construction or placing of structures which would require the use of septic tanks or alternative wastewater disposal systems.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not involve construction or placing structures that would require the use of septic tanks or alternative wastewater disposal systems; therefore, the Direct Action would result in **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

The majority of the Indirect Actions involve the construction or placing of structures that would not require the use of septic tanks or alternative wastewater disposal systems. While new transmission substations and new distribution substations may require the installation of a septic system, the locations of the substations and septic systems are unknown at this time, and any installation of an onsite wastewater treatment system would be completed in compliance with all applicable permitting requirements.

### ***Impact 3.7-6: Destroy a unique paleontological resource or site***

Geologic units with high paleontological sensitivity are exposed at ground surface and underlie substantial portions of the Permit Area. Ground-disturbing activities could uncover buried paleontological resources that may be significant and therefore unique. The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Ground-disturbing activities associated with this Direct Action could affect unique paleontological resources that these activities may unearth. However, because the area that would be disturbed for planting is both shallow and small, the likelihood of encountering significant fossils is likewise small. AMMs would further minimize effects. This impact would be **less than significant**.

Several geologic units occur in the Permit Area that have yielded vertebrate fossils in the past. These are the Modesto Formation, Riverbank Formation, Turlock Lake Formation,

Laguna Formation, and Mehrten Formation. These geologic units have high paleontological sensitivity, assessed according to SVP (2010) methods. These units are widespread across the Permit Area (Figure 3.7-7).

Covered Activities that involve ground disturbance, including excavation, into geologic units with high paleontological sensitivity have potential to destroy significant and therefore potentially unique paleontological resources.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Specifically, enhancing the Sacramento Orcutt grass population would involve invasive plant management, which could involve ground-disturbing activities such as removal of underground plant root roots on geologic units with high paleontological sensitivity exposed at shallow depths; and introducing slender Orcutt grass would involve ground-disturbing activities such as preparing the ground for planting or seeding. All plantings and plant management would be accomplished using only hand tools.

Ground-disturbing activities on geologic units with high paleontological sensitivity could destroy significant paleontological resources by exposing, moving, and potentially marring, breaking, or otherwise damaging or destroying previously buried paleontological resources. However, because the area that would be disturbed for planting is both shallow and small and because planting and plant management would be done with hand tools, the likelihood of encountering significant fossils is likewise small. Further, the following AMMs would avoid, minimize, or mitigate for damage or destruction of any significant paleontological resources that may occur in the Permit Area.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previous disturbed areas)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access).

For these reasons, the impact would be **less than significant**.

## ***Indirect Actions***

### Operation and Maintenance

O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities. O&M activities that would constitute a change from baseline conditions would include the replacement of new structures and facilities (E7, E8, E9a, E9b, G6, T3). Construction could involve excavation and grading for installation and replacement of facilities. Such ground disturbance could be located on geologic units with high paleontological sensitivity, specifically Modesto Formation (Qr), Riverbank Formation (Qr), Turlock Lake Formation (TI), and Mehrten Formation (Tm). These geologic units constitute a large portion of the Permit Area. Other geologic units in the Permit Area where O&M activities could take place are Holocene natural levee and channel deposits (Qa), Holocene basin deposits (Qb), Holocene intertidal deposits (Qi), and Holocene dredge and tailings (t) (low paleontological sensitivity) and North Merced Gravel (QTom), Laguna Formation (TI), and Valley Springs Formation (Tvs).

Ground-disturbing activities on geologic units with high paleontological sensitivity could destroy significant paleontological resources by exposing, moving, and potentially marring, breaking, or otherwise damaging or destroying previously buried paleontological resources. Although some of the proposed ground-disturbing activities could take place on previously disturbed ground, because depth of previous disturbance and depth of proposed activities are variable and geologic units are sensitive for paleontological resources, the potential exists for encountering and thus damaging or destroying significant paleontological resources. HCP general AMMs listed below would minimize areas of disturbance and thus minimize potential adverse effects on paleontological resources.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previous disturbed areas)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access).

Installation of new facilities is addressed under New Construction below.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new facilities and expansion of existing facilities (E13, E15, E16, G9, T2). This construction and expansion may also require trenching directional boring (E14a, E14b, G10a, G10b, G10c) along existing or new pipelines or utility corridors.

These new construction activities would involve grading, excavation, and/or other ground-disturbing activities. New facilities could be located on geologic units with high paleontological sensitivity, specifically Modesto Formation (Qr), Riverbank Formation (Qr), Turlock Lake Formation (Tl), and Mehrten Formation (Tm). These geologic units constitute a large portion of the Permit Area. Other geologic units in the Permit Area where new construction activities could take place are Holocene natural levee and channel deposits (Qa), Holocene basin deposits (Qb), Holocene intertidal deposits (Qi), and Holocene dredge and tailings (t) (low paleontological sensitivity) and North Merced Gravel (QTom), Laguna Formation (Tl), and Valley Springs Formation (Tvs).

Ground-disturbing activities on geologic units with high paleontological sensitivity could destroy significant paleontological resources by exposing, moving, and potentially marring, breaking, or otherwise damaging or destroying previously buried paleontological resources. Although some of the proposed ground-disturbing activities could take place on previously disturbed ground, because depth of previous disturbance and depth of proposed activities are variable and geologic units are sensitive for paleontological resources, the potential exists for encountering and thus damaging or destroying significant paleontological resources. HCP general AMMs listed below could reduce potential adverse effects on paleontological resources. In addition, where sites are determined to be sensitive for paleontological resources, SMUD may retain an on-call paleontologist to respond to potential finds during proposed Project construction. Standard measures, including stopping work immediately within 100 feet of the area of paleontological resources uncovered during any onsite construction, retaining a Professional Paleontologist to evaluate the deposits and consult with the SMUD project manager, will further reduce the likelihood of damage to or destruction of significant paleontological resources.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previous disturbed areas)
- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access).

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree removal (V4), elderberry bush removal and transplantation (V5b), pole vegetation clearing (V6), and vegetation management on pipeline easements (V7). SMUD vegetation management would occur on or adjacent to SMUD facilities. Vegetation removal and vegetation planting and transplanting would involve ground disturbance as a result of removing underground plant roots and digging holes to plant or

replant. This ground disturbance could occur on geologic units with high paleontological sensitivity, specifically Modesto Formation (Qr), Riverbank Formation (Qr), Turlock Lake Formation (TI), and Mehrten Formation (Tm). These geologic units constitute a large portion of the Permit Area. Other geologic units in the Permit Area where vegetation management activities could take place are Holocene natural levee and channel deposits (Qa), Holocene basin deposits (Qb), Holocene intertidal deposits (Qi), and Holocene dredge and tailings (t) (low paleontological sensitivity) and North Merced Gravel (QTom), Laguna Formation (TI), and Valley Springs Formation (Tvs).

Ground-disturbing activities on geologic units with high paleontological sensitivity could destroy significant paleontological resources by exposing, moving, and potentially marring, breaking, or otherwise damaging or destroying previously buried paleontological resources. Although some of the proposed ground-disturbing activities could take place on previously disturbed ground, because depth of previous disturbance and depth of proposed activities are variable and geologic units are sensitive for paleontological resources, the potential exists for encountering and thus damaging or destroying significant paleontological resources. HCP general AMMs listed below could reduce potential adverse effects on paleontological resources.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limit access to previous disturbed areas)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access).

#### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions comprise minor O&M of the CPP water pipeline, including the installation of 17 cathodic protection test stations (M2a), water pipeline valve installation (M2b), and water pipeline segment replacement (M2c). All of these activities would involve ground disturbance. This ground disturbance could occur on geologic units with high paleontological sensitivity, specifically Modesto Formation (Qr), Riverbank Formation (Qr), Turlock Lake Formation (TI), and Mehrten Formation (Tm). These geologic units constitute a large portion of the Permit Area. Other geologic units in the Permit Area where miscellaneous activities could take place are Holocene natural levee and channel deposits (Qa), Holocene basin deposits (Qb), Holocene intertidal deposits (Qi), and Holocene dredge and tailings (t) (low paleontological sensitivity) and North Merced Gravel (QTom), Laguna Formation (TI), and Valley Springs Formation (Tvs).

Ground-disturbing activities on geologic units with high paleontological sensitivity could destroy significant paleontological resources by exposing, moving, and potentially marring, breaking, or otherwise damaging or destroying previously buried paleontological resources. Although some of the proposed ground-disturbing activities could take place on previously disturbed ground, because depth of previous disturbance and depth of proposed activities are variable and geologic units are sensitive for paleontological

resources, the potential exists for encountering and thus damaging or destroying significant paleontological resources. In addition, where sites are determined to be sensitive for paleontological resources, SMUD may retain an on-call paleontologist to respond to potential finds during proposed Project construction. Standard measures, including stopping work immediately within 100 feet of the area of paleontological resources uncovered during any onsite construction and retaining a Professional Paleontologist to evaluate the deposits and consult with the SMUD project manager, will further reduce the likelihood of damage to or destruction of significant paleontological resources.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The activities described above, if constructed on geologic units with high paleontological sensitivity (i.e., Modesto Formation (Qr), Riverbank Formation (Qr), Turlock Lake Formation (TI), and Mehrten Formation (Tm)), could result in damage or destruction of significant paleontological resources. However, because the area that would be disturbed for planting is both shallow and small, the likelihood of encountering significant fossils is likewise small. AMMs would further minimize effects. This impact would be **less than significant**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, new construction, vegetation management for new facilities, and miscellaneous Covered Activities, if conducted on geologic units with high paleontological sensitivity, could result in damage or destruction of significant paleontological resources. The general AMMs and standard measures identified above, as refined as part of project-specific CEQA review, could reduce impacts by minimizing the size of work area footprint, using existing roads to access work areas where available, using standard erosion control BMPs to reduce likelihood of erosion, stabilizing disturbed work areas to reduce risk of erosion, and minimizing grading for temporary vehicle access to work areas. For these reasons it is unlikely that adverse paleontological impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review, if required, under CEQA, when an activity is proposed.

## 3.8 Greenhouse Gas Emissions

This section summarizes regulations applicable to greenhouse gases (GHG), describes the current state of climate change science and GHG emissions sources in California, and analyzes potential impacts from GHG emissions that could result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

For the purposes of this analysis, GHG emissions are measured as metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>). The atmospheric impact of a GHG is based on the global warming potential (GWP) of that gas. GWP is a measure of the heat trapping ability of one unit of a gas over a certain timeframe relative to one unit of carbon dioxide (CO<sub>2</sub>). The GWP of CO<sub>2</sub> is one (Intergovernmental Panel on Climate Change [IPCC] 2014).

In response to the Notice of Preparation, the Sacramento Metropolitan Air Quality Management District (SMAQMD) recommended that the environmental impact report's (EIR) analysis of GHG-related impacts in SMAQMD's jurisdiction follow guidance and mitigation strategies in SMAQMD's *Guide to Air Quality Assessment in Sacramento County* (CEQA Guide) (SMAQMD 2020a).

### 3.8.1 Regulatory Setting

#### Federal

In *Massachusetts et al. v. Environmental Protection Agency et al.*, 549 U.S. 497 (2007), the Supreme Court of the United States ruled that CO<sub>2</sub> is an air pollutant as defined under the federal Clean Air Act (CAA) and that the U.S. Environmental Protection Agency (EPA) has the authority to regulate GHG emissions. Since then, EPA has regulated several sources of GHGs. For example, in October 2012, EPA and the National Highway Traffic Safety Administration (NHTSA), on behalf of the U.S. Department of Transportation, issued final rules to further reduce GHG emissions and improve corporate average fuel economy (CAFE) standards for light-duty vehicles for model years 2017 and beyond (77 *Federal Register* [FR] 62624). However, on April 2, 2018, the EPA administrator announced a final determination that the current standards should be revised. On August 2, 2018, the U.S. Department of Transportation and EPA proposed the Safer Affordable Fuel-Efficient Vehicles Rule (SAFE Rule), which would amend existing CAFE standards for passenger cars and light-duty trucks through retaining the current model year 2020 standards through model year 2026 and establish new standards covering model years 2021 through 2026 (NHTSA 2018).

The CAA grants California the ability to enact and enforce more strict fuel economy standards through the acquisition of an EPA-issued waiver. Each time California adopts a new vehicle emission standard, the state applies to EPA for a preemption waiver for those standards. However, Part One of the SAFE Rule, which became effective on November 26, 2019, revokes California's existing waiver to establish a nationwide standard (84 FR 51310). At the time of preparing this environmental document, the

implications of the SAFE Rule on California's future emissions are contingent upon a variety of unknown factors.

## **State**

### ***Statewide GHG Emission Targets and Climate Change Scoping Plan***

Reducing GHG emissions in California has been the focus of the state government for approximately two decades (State of California 2019). GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (Assembly Bill [AB] 32 of 2006) and reducing them to 40 percent below 1990 levels by 2030 (Senate Bill [SB] 32 of 2016). Executive Order S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. Executive Order B-55-18 calls for California to achieve carbon neutrality by 2045 and achieve and maintain net negative GHG emissions thereafter. These targets are in line with the scientifically established levels needed in the U.S. to limit the rise in global temperature to no more than 2 degrees Celsius (°C), the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected; these targets also pursue efforts to limit the temperature increase even further to 1.5°C (United Nations 2015:3).

*California's 2017 Climate Change Scoping Plan (2017 Scoping Plan)*, prepared by the California Air Resources Board (CARB), outlines the main strategies California will implement to achieve the legislated GHG emission target for 2030 and "substantially advance toward our 2050 climate goals" (CARB 2017:1, 3, 5, 25–26). It identifies the reductions needed by each GHG emission sector (e.g., transportation, industry, electricity generation, agriculture, commercial and residential, pollutants with high GWP, and recycling and waste). CARB and other state agencies also released the *January 2019 Draft California 2030 Natural and Working Lands Climate Change Implementation Plan* consistent with the carbon neutrality goal of Executive Order B-55-18 (California Environmental Protection Agency et al. 2019).

The state has also passed more detailed legislation addressing GHG emissions associated with transportation, electricity generation, and energy consumption, as summarized below.

### ***Transportation-Related Standards and Regulations***

As part of its Advanced Clean Cars program, CARB established more stringent GHG emission standards and fuel efficiency standards for fossil fuel-powered on-road vehicles than EPA. In addition, the program's zero-emission vehicle (ZEV) regulation requires battery, fuel cell, and plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025 (CARB 2018). When the rules are fully implemented by 2025, GHG emissions from the statewide fleet of new cars and light-duty trucks will be reduced by 34 percent and cars will emit 75 percent less smog-forming pollution than the statewide fleet in 2016 (CARB 2020a).

Executive Order B-48-18, signed in January 2018, requires all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as 200 hydrogen fueling stations and 250,000 electric vehicle–charging stations installed by 2025. It specifies that 10,000 of these charging stations must be direct-current fast chargers. Signed in September 2020, Executive Order N-79-2020 sets a goal that all sales in California of new passenger cars and trucks be zero-emission by 2035. The Executive Order also outlines goals for off-road vehicles and medium- and heavy-duty trucks.

The CAA requires that a waiver be provided by EPA for states to enact more stringent emissions standards for new cars, which was granted to CARB by EPA on June 14, 2011; however, in addition to the SAFE Rule, but as a separate action, on September 19, 2019, EPA issued a final action entitled the “One National Program Rule” which would institute a nationwide, uniform fuel economy and GHG standard for all automobiles and light-duty trucks (EPA 2019). The action would include the revocation of California’s waiver under the CAA which would affect the enforceability of CARB’s ZEV programs. While EPA has issued an action to revoke the waiver, the outcome of any related lawsuits and how such lawsuits could delay or affect the SAFE Rule implementation or CARB’s ZEV programs is unknown at this time.

CARB adopted the Low Carbon Fuel Standard (LCFS) in 2007 to reduce the carbon intensity of California’s transportation fuels. The LCFS applies to fuels used by on-road motor vehicles and off-road vehicles, including construction equipment (Wade pers. comm.).

## **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

## ***Air Districts***

### Sacramento Metropolitan Air Quality Management District

SMAQMD is the primary agency responsible for addressing air quality concerns in all of Sacramento County—its role is discussed further in Section 3.3, *Air Quality*. SMAQMD also recommends methods for analyzing project-generated GHGs in CEQA analyses and offers multiple potential GHG reduction measures for land use development projects.

SMAQMD developed thresholds of significance to provide a uniform scale to measure the significance of GHG emissions from land use and stationary source projects in compliance with CEQA (SMAQMD 2020a). SMAQMD's goals in developing GHG thresholds include ease of implementation; use of standard analysis tools; and emissions mitigation consistent with the statewide GHG targets mandated by AB 32 of 2006. However, since the establishment of new statewide GHG target of 40 percent below 1990 levels by 2030 with passage of SB 32 in 2016, SMAQMD has not developed new thresholds that align with this statewide GHG target.

### Neighboring Air Districts

Neighboring air districts have varying approaches to evaluation of GHGs. For example, while the Yolo-Solano Air Quality Management District (YSAQMD) does not have specific thresholds associated with GHGs, it is still recommended to include a qualitative discussion of GHGs in air quality analyses for sizable projects (YSAQMD 2007). Meanwhile, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has issued guidance, including *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (SJVAPCD 2009a), and *Addressing GHG Emission Impacts for Stationary Source Projects under CEQA When Serving as the Lead Agency* (SJVAPCD 2009b).

### **County of Sacramento**

The Air Quality Chapter of the County of Sacramento 2030 General Plan includes the following policy related to reducing GHG emissions in unincorporated Sacramento County (Sacramento County 2017).

**Policy AQ-22:** Reduce greenhouse gas emissions from County operations as well as private development.

Some similar policies are contained in the general plans for Yolo, Placer, Amador, and San Joaquin Counties; GHG-related policies range from requirements for building efficiency to general goals to reduce GHG reductions to requirements for pedestrian and vehicle access. These policies are applicable to residential, commercial, and industrial development, not to implementation of the Conservation Strategy and Covered Activities.

### **SMUD Resource Planning Report**

SMUD adopted the *Resource Planning Report* (SMUD 2019a) in April 2019, to provide guidance for serving the needs of residents and businesses within its service area while fulfilling regulatory requirements. The report, or Integrated Resources Report, contains the following objectives that are relevant to the proposed HCP.

- SMUD's goal is to achieve Energy Efficiency equal to 1.5 percent of retail load over the next 10-year period. On an annual basis, SMUD will achieve energy efficiency savings of 1.5 percent of the average annual retail energy sales over the 3-year period ending with the current year.

- Provide dependable renewable resources to meet 33 percent of SMUD's retail sales by 2020, 44 percent by 2024, 52 percent by 2027, and 60 percent of its retail sales by 2030 and thereafter, excluding additional renewable energy acquiring for certain customer programs.
- In meeting GHG reduction goals, SMUD will emphasize local and regional environmental benefits.
- SMUD will continue exploring additional opportunities to accelerate and reduce carbon in our region beyond the GHG goals in the policy.
- Promote cost-effective, clean distributed generation through SMUD programs.

### ***SMUD 2030 Zero Carbon Plan***

For decades, SMUD has been a leader in clean energy and carbon reduction. Now SMUD has a new bold vision to make Sacramento a cleaner and healthier region. The 2030 Zero Carbon Plan is SMUD's strategy to achieve that goal. SMUD's goal to eliminate carbon emissions from their power supply by 2030 is more ambitious than already aggressive state mandates and is ahead of virtually all other utilities in the United States. SMUD's 2030 Zero Carbon Plan is a flexible road map to achieve the zero-carbon goal while ensuring all customers and communities SMUD serves reap the benefits of decarbonization. To achieve zero carbon, SMUD is focused on four main areas: repurposing existing natural gas generation power plants to eliminate GHG emissions; using proven clean technologies including solar, wind and geothermal energy and battery storage; testing pilot projects and programs to test and prove new and emerging technologies; and identifying savings and pursuing partnerships and grants that support the 2030 Zero Carbon Plan. (SMUD 2021:6).

#### ***3.8.2 Environmental Setting***

### **Greenhouse Gas Emissions and Climate Change**

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are CO<sub>2</sub>, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF<sub>6</sub>). Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural

warming of the earth’s climate, known as global climate change or global warming. It is “extremely likely” that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing (IPCC 2014:5).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO<sub>2</sub> is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO<sub>2</sub> emissions, approximately 55 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO<sub>2</sub> emissions remain stored in the atmosphere (IPCC 2013:467).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is considered to be enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

### Greenhouse Gas Emission Sources

As discussed previously, GHG emissions are attributable in large part to human activities. The total GHG inventory for California in 2018 was 425.3 million metric tons of carbon dioxide equivalent (MMTCO<sub>2</sub>e) (CARB 2020b). This is less than the 2020 target of 431 MMTCO<sub>2</sub>e (CARB 2020b). Table 3.8-1 summarizes the statewide GHG inventory for California by percentage.

**Table 3.8-1 Statewide GHG Emissions by Economic Sector**

Sector	Percent
Transportation	40
Industrial	21
Electricity generation (in state)	9
Agriculture	8
Residential	6
Electricity generation (imports)	5
Commercial	4
High Global Warming Potential	5
Waste	2

Source: CARB 2020b.

Emissions of CO<sub>2</sub> are byproducts of fossil fuel combustion. Methane, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO<sub>2</sub> sinks, or reservoirs, include vegetation and the ocean, which absorb CO<sub>2</sub> through sequestration and dissolution (CO<sub>2</sub> dissolving into the water), respectively, two of the most common processes for removing CO<sub>2</sub> from the atmosphere.

### **Effects of Climate Change on the Environment**

According to the IPCC, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature will increase by 3.7 to 4.8 °C (6.7 to 8.6 degrees Fahrenheit [°F]) by the end of the century unless additional efforts to reduce GHG emissions are made (IPCC 2014:10). According to *California's Fourth Climate Change Assessment*, with global GHGs reduced at a moderate rate California will experience average daily high temperatures that are warmer than the historic average by 2.5 °F from 2006 to 2039, by 4.4 °F from 2040 to 2069, and by 5.6 °F from 2070 to 2100; and if GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historic average by 2.7 °F from 2006 to 2039, by 5.8 °F from 2040 to 2069, and by 8.8 °F from 2070 to 2100 (Governor's Office of Planning and Research [OPR] et al. 2018:5).

Since its previous climate change assessment in 2012, California has experienced several of the most extreme natural events in its recorded history: a severe drought from 2012 to 2016, an almost non-existent Sierra Nevada winter snowpack in 2014–2015, increasingly large and severe wildfires, and back-to-back years of the warmest average temperatures (OPR et al. 2018:3). According to the California Natural Resources Agency's (CNRA) *Safeguarding California Plan: 2018 Update*, California experienced the driest 4-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014 (CNRA 2018:55). According to the National Oceanic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration, 2016, 2017, and 2018 were the hottest recorded years in history (NOAA 2019). In contrast, the northern Sierra Nevada experienced one of its wettest full year on record during the 2016–2017 water year (CNRA 2018:64). The changes in precipitation exacerbate wildfires throughout California through a cycle of high vegetative growth coupled with dry, hot periods which lowers the moisture content of fuel loads. As a result, the frequency, size, and devastation of wildfires increase.

As temperatures increase, the amount of precipitation falling as rain rather than snow also increases, which could lead to increased flooding because water that would normally be held in the snowpack of the Sierra Nevada and Cascade Range until spring would flow into the Central Valley during winter rainstorm events. This scenario would place more pressure on California's levee/flood control system (CNRA 2018:190–192). Furthermore, in the

extreme scenario involving the rapid loss of the Antarctic ice sheet and the glaciers atop Greenland, the sea level along California's coastline is expected to rise 54 inches by 2100 if GHG emissions continue at current rates (OPR et al. 2018:6).

Temperature increases and changes to historical precipitation patterns will likely affect ecological productivity and stability. Existing habitats may migrate from climatic changes where possible, and those habitats and species that lack the ability to retreat will be severely threatened. Altered climate conditions will also facilitate the movement of invasive species to new habitats thus outcompeting native species. Altered climatic conditions dramatically endanger the survival of arthropods (e.g., insects, spiders) which could have cascading effects throughout ecosystems (Lister and Garcia 2018). Conversely, a warming climate may support the populations of other insects such as ticks and mosquitos, which transmit diseases harmful to human health such as the Zika virus, West Nile virus, and Lyme disease (European Commission Joint Research Centre 2018).

Changes in temperature, precipitation patterns, extreme weather events, wildfires, and sea-level rise have the potential to threaten transportation and energy infrastructure, crop production, forests and rangelands, and public health (CNRA 2018:64, 116–117, 127; OPR et al. 2018:7–14). The effects of climate change will also have an indirect adverse impact on the economy as more severe natural disasters cause expensive physical damage to communities and the state.

### 3.8.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

The evaluation of potential GHG impacts of the proposed Project was based on a review of the Conservation Strategy and Covered Activities described in Chapter 2, *Project Description*, and an assumption that each of the activities would comply with applicable federal, state, and local statutes and regulations. The significance of GHG emissions is evaluated using the thresholds below. Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

As explained in Chapter 2, the proposed Project considered in this EIR consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard

environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

The evaluation of GHG impacts follows SMAQMD's CEQA Guide (SMAQMD 2020a), which provides methods to analyze GHG impacts, because the vast majority of the Permit Area is in Sacramento County and the Direct Action would occur in Sacramento County. For assessing GHG impacts, the CEQA Guide outlines methodologies for land use development projects and stationary-source facilities. Implementation of the proposed HCP would not involve construction or operation of a new stationary source, which is a single emissions source with an identified emission point. Rather, the proposed Project would involve ongoing activities distributed through the Plan Area throughout the life of the proposed HCP. Therefore, the land use development methodology is most appropriate for the proposed Project.

SMAQMD's CEQA Guide outlines screening methods for land use development projects to determine if quantification of emissions should be conducted. The CEQA Guide states that SMAQMD assumes that projects that are eligible for a statutory or categorical exemption under CEQA would not interfere with achieving emission reductions from new projects subject to CEQA. Additionally, SMAQMD states that if a project would result in emissions of 1,100 MTCO<sub>2</sub>e GHG per year or less and also implements applicable operational best management practices (BMP), then it would not exceed SMAQMD's threshold of significance. The CEQA Guide contains a table of GHG Operational Screening Levels shows the size of development by land use type at which the SMAQMD threshold would not be exceeded.

Regarding whether a project would conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions, SMAQMD recommends evaluating consistency with the following plans and policies, if applicable.

- Jurisdiction's qualified climate action plan or GHG reduction plan
- Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS)
- CARB's 2017 Climate Change Scoping Plan

## Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the proposed Project would result in a potentially significant impact related to GHG emissions if it would do the following.

- Generate GHG 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 emissions of GHGs.

## Impact Analysis

### ***Impact 3.8-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would result in GHG emissions. Emissions would be less than the Operational Screening Levels in SMAQMD's CEQA Guide and would be similar to those associated with projects that are typically exempt. As a result, this impact would be **less than significant**.

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Generally, Covered Activities could result in intermittent, short-term GHG emissions that occur over the life of the proposed HCP. Some Covered Activities, such as those requiring new construction, would also result in short-term emissions of GHGs.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would result in short-term, limited GHG emissions resulting from pickup trucks and utility vehicles to access the site. Vehicle travel would be limited, intermittent, and short term. The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would involve the use of non-motorized hand tools such as shovels. These activities would take place in areas subject to SMAQMD jurisdiction.

SMAQMD provides a table of Operational Screening Levels in its CEQA Guide. The screening levels were developed using the California Emissions Estimator Model (CalEEMod), Version 2106.3.2, using appropriate parameters and defaults for projects in Sacramento County. If a project would be smaller than a project in the table, then the project's GHG emissions would be less than the threshold of significance. All CalEEMod land uses modeled for screening levels pertain to land use development; that is, they involve construction of buildings such as a hospital, strip mall, junior college, or apartment building. The Direct Action would generate a lower level of GHG emissions than any of

the land uses in the SMAQMD Operational Screening Levels table because the Direct Action would not result in a level of GHG-emitting activity that is typically associated with operation of the types of land uses listed in the Operational Screening Levels. For example, implementation of the Direct Action would generate limited, intermittent, and short-term vehicle trips that do not reach the intensity of a regional shopping center. Also, although SMAQMD's CEQA Guide also requires implementation of BMPs, these BMPs are not relevant to the Direct Action; for example, forgoing natural gas infrastructure and providing parking spaces that are ready for electric vehicle charger connections. This Direct Action therefore does not need to include these BMPs.

In addition, enhancement of habitat would increase carbon sequestration at the SMUD Bank, offsetting at least some GHG emissions. Therefore, this Direct Action would not exceed SMAQMD's thresholds of significance. The impact would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

Operation and maintenance (O&M) Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. O&M activities could result in short-term, periodic GHG emissions that occur over the life of new facilities. Emissions would occur from use of motorized equipment associated with activities such as minor ground disturbance as well as from vehicles used to access facility sites. O&M activities would be conducted for newly constructed facilities (e.g., substations [E4], gas facilities [G1 through G6], telecommunications towers [T1, T3]). Some substation equipment is insulated with SF<sub>6</sub>, which is a GHG. This equipment slowly leaks SF<sub>6</sub> over its lifetime; however, SMUD has been focusing on reducing the use of SF<sub>6</sub> in its electric system and where technically feasible, intends to phase out purchasing new SF<sub>6</sub> low-voltage equipment by 2025 and higher voltage equipment by 2033 (CARB 2021 MRR). SMUD also employs a number of best practices for the proper handling and transport of SF<sub>6</sub>. These procedures ensure that SMUD is minimizing the amount of leaks from gas insulated equipment (GIE) and cylinders. For example, recently SMUD began to procure GIE with inert nitrogen gas rather than SF<sub>6</sub> inside. This will reduce the risk that SF<sub>6</sub> is lost in transport and it will help SMUD better track the amount of SF<sub>6</sub> inside the equipment. (SMUD 2019b). Therefore, all of these activities are far below the level of intensity in terms of equipment use and vehicle use than the land uses in the SMAQMD Operational Screening Levels. Additionally, because no new facilities would be constructed as part of O&M, the SMAQMD BMPs or similar would not be applicable. Therefore, although there would be emissions associated with O&M activities, these activities would generate GHG levels less than the SMAQMD Operational Screening Levels in its CEQA Guide. The installation of new facilities is addressed under New Construction, below.

### New Construction

New construction activities that would constitute a change from baseline conditions from the generation of GHG emissions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. Construction of new facilities may also require trenching and boring along existing or realigned gas pipelines or subtransmission and distribution line easements and creating temporary access roads. Construction of these facilities would involve heavy equipment use and vehicle use and could potentially involve extensive grading. GHG emissions could also be generated through on-road vehicle operations associated with workers commuting to and from the construction site.

New construction is less likely to qualify as a categorical exemption under the State CEQA Guidelines and would be less likely to fall under the SMAQMD Operational Screening Levels in its CEQA Guide; therefore, additional analysis may be required. New construction could result in GHG emissions that exceed SMAQMD-established mass emission thresholds for construction, but it is unlikely. Significant impacts for construction projects are unusual except for very large projects with substantial emissions, unlike any of the Covered Activities. For example, construction of SMUD's Franklin Electric Transmission Project, which is much larger than any Indirect Action, comprising new construction of two substations (a transmission and a distribution substation) on 17 acres, new subtransmission lines, new transmission lines, and fiber optic network connections, was estimated to generate 1,230 MTCO<sub>2</sub>e as the maximum uncontrolled amount of annual emissions, a narrow exceedance of SMAQMD's significance threshold of 1,100 MTCO<sub>2</sub>e/year. Emissions would be largely associated with the use of heavy-duty off-road equipment and haul truck trips for the import and export of material. If any exceedance occurred, emissions could be reduced below identified thresholds through implementation of measures such as the use of alternative fuels, changes in construction schedules, and the phasing of haul truck trips.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). GHG emissions would occur from use of motorized equipment from activities such as grubbing as well as from vehicles used to access sites where vegetation management is needed, all of which would be less than the level of intensity in terms of equipment use and vehicle use than the land uses in the SMAQMD Operational Screening Levels. Although there would be emissions from O&M activities, it is anticipated that these activities would generate emissions less than the SMAQMD Operational Screening Levels in its CEQA Guide and thresholds would not be exceeded.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the Cosumnes Power Plant water pipeline (M2). These activities would include installation of cathodic protection test stations (M2a), installation of a new pipeline valve (M2b), and replacement of pipeline segments (M2c). Installation of these elements would involve construction similar to that described for New Construction, above, in that there would be vehicle use for crews and equipment as well as for underground pipeline replacement activities. Additionally, installation of the new valve (M2b) would require grading for a temporary access road. New construction is less likely to qualify as a categorical exemption under the State CEQA Guidelines and would be less likely to fall under the SMAQMD Operational Screening Levels in its CEQA Guide; therefore, additional analysis may be required. These activities would generate GHG emissions. Similar to Covered Activities considered under New Construction, it is unlikely that GHG emissions related to miscellaneous Covered Activities would exceed SMAQMD thresholds of significance.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any GHG emissions resulting from implementation of the Direct Action would be less than SMAQMD Operational Screening Levels and would have actions similar to those allowed in the Class 4 categorical exemption (State CEQA Guidelines 15304). Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

New construction activities and miscellaneous Covered Activities could result in temporary and short-term emissions of GHGs, while O&M and vegetation management activities would result in periodic emissions over the long term. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and emission reduction measures would be required if a potentially significant impact were identified.

***Impact 3.8-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would result in GHG emissions, but would not conflict with adopted GHG reduction plans, and this impact would be **less than significant**.

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SMAQMD recommends evaluating consistency with the following plans and policies, if applicable, to address this significance criterion: a jurisdiction's qualified climate action plan or GHG reduction plan, the applicable MTP/SCS, and CARB's 2017 Climate Change Scoping Plan. Sacramento County is currently preparing its Climate Action Plan; therefore, there is no applicable qualified climate action plan or GHG reduction plan. The Sacramento Area Council of Governments' (SACOG) 2020 MTP/SCS, adopted in 2019, is the applicable MTP/SCS (SACOG 2019) and CARB's 2017 Scoping Plan are the applicable plans considered in this analysis.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would result in short-term, limited GHG emissions from pickup trucks and utility vehicles accessing the site. Vehicle travel would be limited, intermittent, and short term. These actions would be deemed insignificant as they relate to GHG emissions because they would not exceed SMAQMD screening criteria.

The County does not have an adopted climate action plan so the 2017 Scoping Plan and the 2020 MTP/SCS are the most applicable plans for evaluating project consistency against. The 2017 Scoping Plan identifies GHG reduction strategies for various emissions sectors (e.g., stationary sources, land use, transportation, building energy), and the MTP/SCS identifies transportation-related strategies to reduce per capita vehicle miles traveled. The strategies in these plans are geared towards reducing emissions from those sectors/sources that contribute the most GHG emissions within the County. GHG emissions deemed insignificant under CEQA would not interfere with these efforts. Further, many of the strategies identified in these plans, such as increasing electricity use in buildings and increasing multimodal transit would not apply to the Direct Action. In addition, implementation of the Direct Action would not result in land use development, new stationary sources, new buildings, or any development that would increase regionwide vehicle miles traveled per capita. Therefore, the Direct Action would not conflict with these adopted GHG reduction plans, and this impact would be **less than significant**.

## ***Indirect Actions***

### Operation and Maintenance

O&M activities could result in short-term, periodic GHG emissions that occur over the life of new facilities. Emissions would occur from use of motorized equipment associated with activities such as minor ground disturbance as well as from vehicles used to access facility sites. Some substation equipment is insulated with SF<sub>6</sub>, which is a very potent GHG. This equipment slowly leaks SF<sub>6</sub> over its lifetime; however, SMUD has been focusing on reducing the use of SF<sub>6</sub> in its electric system and where technically feasible, intends to phase out purchasing new SF<sub>6</sub> low-voltage equipment by 2025 and higher voltage equipment by 2033 (CARB 2021 MRR). SMUD also employs a number of best practices for the proper handling and transport of SF<sub>6</sub>. These procedures ensure that SMUD is minimizing the amount of leaks from gas insulated equipment (GIE) and cylinders. For example, recently SMUD began to procure GIE with inert nitrogen gas rather than SF<sub>6</sub> inside. This will reduce the risk that SF<sub>6</sub> is lost in transport and it will help SMUD better track the amount of SF<sub>6</sub> inside the equipment.

Similar to the discussion above for Direct Actions, O&M activities would also be very minor and not exceed SMAQMD GHG screening levels; thus, emissions would not be considered significant under CEQA, a regional, or a statewide context (i.e., 2020 MTP/SCS or the 2017 Scoping Plan). The proposed Project would not conflict with implementation of the adopted applicable GHG plans.

### New Construction

New construction activities may result in short-term increases in GHG emissions associated with the use of heavy-duty construction equipment and mobile source emissions from worker commute and material hauling activities. Should construction activities exceed SMAQMD GHG thresholds of significance, mitigation measures would be required that would reduce emissions to the extent feasible, which may include, if necessary, the purchase of GHG offsets, neutralizing potential GHG impacts. Thus, projects that do not exceed SMAMQD thresholds or ones that are reduced to less-than-significant levels would not be considered significant at the local, regional, or state levels, and would not conflict with implementation of applicable GHG reduction plans, such as the 2017 Scoping Plan and the 2020 MTP/SCS. Further, as discussed above for Direct Actions, these plans address long-term increases in GHG emissions/sources and their recommendations are not applicable to the proposed Project. Nonetheless, if measures were necessary to reduce impacts, those measures would be consistent with suggestions in the 2017 Scoping Plan, such as the use of recycled material, alternative fueled vehicles, and GHG offsets. Therefore, new construction would not conflict with applicable GHG reduction plans.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around

newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). GHG emissions would occur from use of motorized equipment from activities such as grubbing as well as from vehicles used to access sites where vegetation management is needed, all of which would be less than the level of intensity in terms of equipment use and vehicle use than the land uses in the SMAQMD Operational Screening Levels.

The 2017 Scoping Plan and 2020 MTP/SCS address long-term increases in GHG emissions/sources and their recommendations are not applicable to the proposed HCP. Further, because GHG emissions associated with these activities would be minimal, they would not be considered significant under CEQA or at the regional or state level, and would not conflict with implementation of the 2017 Scoping Plan or 2020 MTP/SCS.

#### Miscellaneous Covered Activities

Miscellaneous Covered Activities would involve activities similar to that described for New Construction. Thus, if measures were necessary to reduce impacts, those measures would be consistent with suggestions in the 2017 Scoping Plan, such as the use of recycled material, alternative fueled vehicles, and GHG offsets. If new construction was so minor that it didn't trigger SMAQMD thresholds, GHG emissions would be considered insignificant at the local, regional, and state level. Therefore, miscellaneous Covered Activities would not conflict with applicable GHG reduction plans.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any GHG emissions resulting from implementation of the Direct Action would be less than SMAQMD Operational Screening Levels and would have actions similar as allowed for in the Class 4 categorical exemption (State CEQA Guidelines 15304). GHG emissions deemed insignificant at the local level would also not conflict with GHG reduction efforts associated with regional (i.e., 2020 MTP/SCS) and state (i.e., 2017 Scoping Plan) GHG reduction goals. Further, policies in the 2020 MTP/SCS pertain to development of housing and transportation as well as related land use changes that aim to increase density or affect the jobs/housing balance. The proposed Project would not involve this kind of development.

To evaluate consistency with CARB's 2017 Climate Change Scoping Plan, SMAQMD prepared a technical support document that identified operational measures that should be incorporated into a project to demonstrate consistency. The measures include designing and constructing projects without natural gas infrastructure, constructing projects that are electric vehicle ready, and achieving reductions in vehicle miles traveled

for residential, office, and retail projects (SMAQMD 2020b). None of these measures are relevant to implementation of the proposed HCP because the proposed HCP would not involve development that would increase demand for natural gas; have long-term parking; or have residential, commercial, or office uses. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

New construction activities and miscellaneous Covered Activities could result in temporary and short-term emissions of GHGs, while O&M and vegetation management activities would result in periodic emissions over the long term. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed. Nonetheless, emissions that do not exceed SMAQMD threshold or that do not trigger CEQA would also inherently not conflict with regional (i.e., 2020 MTP/SCS) and state (i.e., 2017 Scoping Plan) GHG reduction goals.

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### 3.9 Hazards and Hazardous Materials

This section summarizes regulations applicable to hazards and hazardous materials, describes the existing conditions for hazards and hazardous materials in the Permit Area, and provides an assessment of potential changes to those conditions that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

A hazardous material is any substance that, because of its quantity, concentration, or physical or chemical properties, may pose a hazard to human health and the environment. Under California Code of Regulations (CCR) Title 22, the term “hazardous substance” refers to both hazardous materials and hazardous wastes. Both of these are classified according to four properties: (1) toxicity, (2) ignitability, (3) corrosiveness, and (4) reactivity (CCR Title 22, Chapter 11, and Article 3). A hazardous material is defined in CCR Title 22 as:

[a] substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (22 CCR 66260.10).

Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Hazards to human health and the environment can occur during production, storage, transportation, use, or disposal of hazardous materials.

No questions or concerns related to hazards and hazardous materials were raised in the responses to the Notice of Preparation.

#### 3.9.1 *Regulatory Setting*

##### **Federal**

##### ***Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act***

The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a U.S. Environmental Protection Agency (EPA)–administered program to regulate the generation, transport, treatment, storage, and disposal of hazardous waste. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the “cradle to grave” system of regulating hazardous wastes.

***Comprehensive Environmental Response, Compensation, and Liability Act/  
Superfund Amendments and Reauthorization Act***

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as “Superfund,” was enacted by Congress on December 11, 1980. This law (42 United States Code 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulations [CFR] Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

***Occupational Safety and Health Administration***

The Occupational Safety and Health Administration’s (OSHA) mission is to ensure the safety and health of American workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR Part 1910.

***Department of Transportation Hazardous Materials Regulations (49 CFR Parts 100–185)***

U.S. Department of Transportation Hazardous Materials regulations cover all aspects of hazardous materials packaging, handling, and transportation. Some of the topics covered include Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications), and 180 (Packaging Maintenance).

***Aviation Hazards***

Federal Aviation Administration (FAA) Regulations (14 CFR Part 77) establish standards for what constitutes an obstruction to navigable airspace. Obstructions include any object if it is: (1) 500 feet above ground level; (2) 200 feet above ground level or above the established airport elevation, whichever is higher, within 3 nautical miles of an airport; and (3) above a height within a terminal obstacle clearance area or en route obstacle clearance area. In addition, California Public Utilities Code Section 21659 prohibits hazards near airports (as defined by 14 CFR Part 77) unless a permit allowing the construction is issued by the California Department of Transportation Division of Aeronautics. FAA requires a developer to file a Notice of Proposed Construction (Form

7460) for any structure more than 200 feet above ground level. The form requires a proposal for marking and lighting of wind turbines and towers. FAA determines if the proposed Project would create a hazard to navigable airspace and issues either a Determination of No Hazard or a Notice of Presumed Hazard.

## **State**

California hazardous materials and wastes regulations are equal to or more stringent than federal regulations. EPA has granted the state primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous materials are handled, stored, and disposed of properly to reduce risks to human health and the environment.

### ***California Accidental Release Prevention Program***

As specified in 19 CCR 2, Chapter 4.5, Articles 1 through 11, all businesses that handle specific quantities of hazardous materials are required to prepare a California Accidental Release Prevention (CalARP) Program risk management plan (RMP). The CalARP RMP is the state equivalent of the federal RMP. CalARP RMPs include the preparation of an offsite consequence analysis of worst-case release of the stored chemicals and the preparation of emergency response plans, including coordination with local emergency response agencies. CalARP RMPs are required to be updated at least every 5 years and when there are significant changes to the stored chemicals.

### ***California Health and Safety Codes***

The California Environmental Protection Agency (Cal-EPA) has been granted primary responsibility by EPA for administering and enforcing hazardous materials management plans within California. Cal-EPA, more generally than EPA, defines a hazardous material as a 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 (26 CCR 25501).

State regulations include detailed planning and management requirements to ensure that hazardous materials are properly handled, stored, and disposed of to reduce human health risks. In particular, the state has acted to regulate the transfer and disposal of hazardous waste. Hazardous waste haulers are required to comply with regulations that establish numerous standards, including criteria for handling, documenting, and labeling the shipment of hazardous waste (26 CCR 25160 et seq.).

### ***Cortese List***

Cal-EPA maintains the Hazardous Wastes and Substances Site (Cortese) List, a planning document used by state and local agencies and developers to comply with California Environmental Quality Act (CEQA) requirements in providing information about the locations of hazardous materials release sites. Per Government Code Section 65962.5, the Cortese List must be updated at least once annually. The California Department of

Toxic Substances Control (DTSC), State Water Resources Control Board (SWRCB), and California Department of Resources Recycling and Recovery contribute to the hazardous material release site listings.

### ***Emergency Services Act***

Under the California Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by all governmental agencies. The plan is administered by the California Office of Emergency Services (OES). OES coordinates the responses of other agencies, including EPA, the Federal Emergency Management Agency, the California Highway Patrol, regional water quality control boards, air quality management districts, and county disaster response offices. Local emergency response teams, including fire, police, and sheriff's departments, provide most of the services to protect public health.

### ***Worker Safety***

The California Division of Occupational Safety and Health (Cal/OSHA) is the state agency responsible for assuring worker safety in the workplace.

Cal/OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices within the state. At sites known to be contaminated, a site safety plan must be prepared to protect workers. The site safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

### ***Fire Hazard Severity Zones***

Government Code Section 51178 requires the California Department of Forestry and Fire Protection (CAL FIRE) to identify fire hazard severity zones (FHSZ) in the state. Government Code Section 51179 requires a local agency to designate, by ordinance, FHSZs in its jurisdiction. Specifically, the state is required to designate Very High FHSZs in Local Responsibility Areas (LRA). LRAs consist of areas where local agencies are responsible for fire suppression rather than the state.

### ***Regional and Local***

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies

of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### ***Certified Unified Program Agency***

Cal-EPA can delegate responsibility for many of its programs to a local government through certification as a Certified Unified Program Agency (CUPA). A CUPA is responsible for implementing a unified hazardous materials and hazardous waste management program. This program was established under the amendments to the California Health and Safety Code made by Senate Bill (SB) 1082 in 1994. California Health and Safety Code Section 25505 requires handlers of hazardous materials to submit business plans to the CUPA if hazardous materials inventories meet or exceed established thresholds. A CUPA can be a county, city, or joint powers authority that demonstrates its ability to administer the program. The CUPAs within the Permit Area are listed below.

- Sacramento County Environmental Management Department
- Environmental Health Services Division of Yolo County
- Environmental Health Division of Placer County
- Amador County Environmental Health Department
- Environmental Health Department of San Joaquin County

These CUPAs oversee hazardous waste facilities, implement programs for hazardous materials emergency response, implement programs for hazardous waste generators, and regulate the construction, operation, repair, and removal of both aboveground storage tanks and underground storage tanks.

### ***Sacramento County General Plan***

The *Sacramento County General Plan* (Sacramento County 2017) Hazardous Materials Element contains policies related to hazards and hazardous waste. These include policies regarding the proper handling of hazardous materials and public safety (Policies HM-4, HM-7, HM-8, HM-9, HM-10, HM-11). The Safety and Public Facilities Elements contain policies related to wildfire and fire protection. These include policies to prevent fire (Policies SA-23, SA-24, SA-25, PF-55), and emergency response (Policies SA-30, PF-59).

### ***Yolo County General Plan***

The following policies excerpted from the Health and Safety Element of the 2030 Countywide General Plan pertain to hazards and hazardous materials (Yolo County 2009). These include policies to minimize the potential for wildland fires (Policies HS-3.1,

HS-4.1) and policies to ensure safe airport operations and minimize incompatible land uses. (Policy HS-5.1, HS-6.1, HS-6.2).

### ***Placer County General Plan***

The following goals and policies excerpted from the Health and Safety Element of the current General Plan pertain to hazards and hazardous materials (Placer County 2013). These include policies to reduce fire hazards (Policies 8.C.1, 8.C.2, 8.C.3, 8.C.11), policies related to airport safety (Policies 8.D.1, 8.D.2, 8.D.3), and policies aimed to maintain emergency preparedness and ensure proper handling of hazardous wastes (Policies 8.E.1, 8.G.1, 8.G.2, 8.G.3, 8.G.13).

### ***Amador County General Plan***

The *Amador County General Plan* (Amador County 2016) Safety Element contains policies related to fire protection (Policy S-2.1, S-2.2), a policy to identify hazardous materials sites (Policy S-6.1) and policies regarding emergency preparedness (Policies S-7.2, S-7.3, S-7.4).

### ***San Joaquin County General Plan***

The *San Joaquin County General Plan* (San Joaquin County 2016) Public Health and Safety Element contains policies related to hazards and hazardous materials. These include policies to ensure adequate emergency preparedness (Policies PHS-1.1, PHS-1.3, PHS-1.12), reduce fire hazards (Policy PHS-4.3), proper handling of hazardous wastes (Policies PHS-7.3, PHS-7.6), and land use compatibility with airports (PHS-8.1).

### ***City General Plans***

In addition to county general plans, the Cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, Folsom, and Roseville all have general plan policies related to hazards and hazardous materials. Similar to the county general plans, these policies are related to proper handling of hazardous wastes and materials, fire hazards, and emergency preparedness. These policies are applicable to residential, commercial, and industrial development, not to implementation of the Conservation Strategy and Covered Activities.

### ***SMUD 2019 Wildfire Mitigation Plan***

In 2019, SMUD published its Wildfire Mitigation Plan (WMP) (SMUD 2019) in accordance with SB 901 Section 8387, which requires every publicly owned utility to prepare and present a WMP to a governing body by January 2020, and provide comprehensive revisions to the plan every 3 years thereafter. The WMP highlights wildfire prevention strategies and programs, some of which are the Covered Activities, including vegetation management programs, inspection and maintenance programs. In addition, the WMP provides protocols for deactivating infrastructure in severe weather or hazard conditions, a strategy for how service will be restored in the event of a wildfire and actions SMUD is

taking to mitigate the threat of infrastructure-ignited wildfires, including a variety of plans, programs, and procedures.

### 3.9.2 *Environmental Setting*

The section describes the environmental setting for hazards and hazardous materials and the existing conditions within the Permit Area and vicinity as it relates to hazardous materials sites, locations of schools and airports, and areas of wildfire risk.

## **Hazardous Materials**

### ***Hazardous Materials and Land Use***

Land use within the SMUD Permit Area consists of agriculture, public land (including vacant lands, parks, open space), transportation corridors, and residential, commercial, and industrial uses. Due to the nature of their use, residential and public lands typically do not pose significant hazardous material impacts. Hazardous materials are not usually handled in significant amounts, and common materials used for cleaning, maintenance, etc. are not classified as acutely hazardous. Agricultural, industrial, and commercial land uses have a higher likelihood of hazardous materials impacts.

Large portions of the Permit Area have been historically used for agriculture. It is likely that agricultural chemicals have been applied throughout these areas and, as such, pesticides/herbicides, along with their associated metal constituents, could be present in surficial soils at or above residual concentrations. Agricultural chemicals in use today are applied in diluted concentrations and, when used properly, degrade relatively quickly; however, older pesticides can linger in the soil for several years.

Industrial land use can encompass a wide range of business operations that have the potential to create hazardous materials impacts. Industrial facilities store hazardous materials in underground storage tanks and/or aboveground storage tanks, and in designated storage locations. Age and improper maintenance of storage tanks are common causes of soil and groundwater contamination. Improper handling and storage of hazardous material containers can lead to hazardous material incidents. Industrial SMUD facilities include the decommissioned Rancho Seco Nuclear Generating Station and the Cosumnes Power Plant (CPP). Existing SMUD facilities throughout the Permit Area include overhead electrical lines, substations, and natural gas transmission facilities.

Commercial locations can include vehicle repair sites, gasoline fueling stations, and dry-cleaning facilities. Like industrial facilities, some commercial sites store hazardous materials in storage tanks and in designated areas within the facility. Hazardous materials spills and leaks in vehicle repair and fueling locations can lead to hydrocarbon-impacted soil and groundwater. Improper storage and use of hazardous materials in dry cleaning facilities can lead to chlorofluorocarbon-contaminated soil and groundwater.

### ***Hazardous Materials Sites within the Permit Area***

The Permit Area has a substantial number of industries and activities that transport, store, or use toxic or hazardous chemicals, posing significant potential safety hazards.

An overview Cortese database search of hazardous sites and facilities was conducted for the Permit Area (DTSC 2020). Sites listed are considered in the following categories: active (i.e., remediation in process); active sites with land use restrictions; or certified for operation and maintenance (O&M) with land use restrictions.

Seventeen sites are listed by the DTSC EnviroStor database in the Permit Area (DTSC 2020). The Aerojet facility located off U.S. Highway 50 is listed as a Superfund site with extensive groundwater and soil contamination. Other sites listed include five sites within the Railyards Central Shops area; two sites in Roseville at the Union Pacific Railyard (identified in the database as Southern Pacific Railyard); and the Folsom Prison (DTSC 2020).

The Mather Field Landfill in Rancho Cordova and the Sacramento Army Depot are listed as solid waste disposal sites with hazardous waste levels above regulatory thresholds (DTSC 2020). SWRCB's GeoTracker database lists numerous leaking underground storage tank (LUST) sites within the Permit area (SWRCB 2020a).

There are two listed sites listed within 0.5 mile of SMUD's Nature Preserve Mitigation Bank (SMUD Bank). Both are LUST sites. The first, located just east of Rancho Seco Lake, was first reported in 1965 for soil contamination by a non-hydrocarbon release. This site has since been listed as "clean-up completed" as of February 2, 1994 (SWRCB 2020b).

The second LUST site is located at SMUD facilities (14440 Twin Cities Road). Soil contamination of gasoline was first reported in January 1986. Removal of three of four tanks and monitoring activities commenced during decommissioning of the nuclear generation station. This site is listed as "completed – case closed" as of November 11, 1986 (SWRCB 2020c).

### ***Schools***

There are multiple school districts serving Sacramento County and parts of Placer, Yolo, Amador, and San Joaquin Counties within the Permit Area. Some SMUD facilities (e.g., transmission lines) are located near existing schools. Hazardous emissions and accidental release or combustion of hazardous materials near existing schools could result in health risks or other dangers to students.

There are no schools located within 0.25 mile of the SMUD Bank.

## ***Airports***

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoff and landing. Airport operation hazards include incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the imaginary surfaces surrounding an airport.

Aviation facilities in the Permit Area include both public and private airports and helipads serving commercial, recreational, medical, law enforcement, fire and agricultural needs. The Sacramento International Airport is the only major airport within the Permit Area. Other smaller airports in the Sacramento County portion of the Permit Area include Sacramento Executive, Mather, and McClellan. In Yolo County, the Yolo County Airport is partially within the Permit Area and there are no airports within the Permit Area in any of the other surrounding counties (i.e., Amador, Placer, San Joaquin). The closest airport to the Orcutt grass habitat within the SMUD Bank is the Ranch airstrip located approximately 5.5 miles east near Lone.

## ***Emergency Response***

Emergency response for most of the Permit Area is under the jurisdiction of the Sacramento County Office of Emergency Services (SacOES). SacOES is responsible for alerting and notifying appropriate agencies when disaster strikes; coordinating all agencies that respond; ensuring resources are available and mobilized in times of disaster; developing plans and procedures in response to and recovery from disasters; and developing and providing preparedness materials for the public (Sacramento County 2020). The SacOES is responsible for coordinating plans for all types of emergencies including emergency evacuations. The counties of Yolo, Placer, Amador, and San Joaquin all have their own Office of Emergency Services that provide coordinated emergency management. Local emergency response teams, including fire, police, and sheriff's departments, provide most of the services to provide aid in an emergency response.

SacOES operates the Emergency Operation Center (EOC), located at McClellan Air Park. The EOC provides overall coordination of county resources, staff, policy application, and public information (Sacramento County 2018).

Emergency evacuations would be implemented by local jurisdictions according to local laws, policies, and authority. The decision to evacuate would depend on the nature, scope, and severity of the emergency, as well as the number of people affected and what actions are necessary to protect the public. Local jurisdictions would activate their own resources and EOCs for an evacuation of their communities based on the local situation (Sacramento County 2018).

## ***Fire-Related Hazards***

Wildland fires are fires that pose a threat to the more rural areas of the Permit Area. Grass fires and peat fires are the two main types of wildland fires of concern. Grass fires are an

annual threat in the unincorporated areas of the Permit Area, especially recreational areas (e.g., American River Parkway). Peat fires are unique to the Delta where peat is subject to spontaneous combustion. Once started, these fires can become very difficult to control.

The State Responsibility Area (SRA) is the area in which the State is financially responsible for the prevention and suppression of wildfires; it does not include lands within city boundaries or in federal ownership. Alternatively, the LRA is the area in which local governments or fire districts, rather than the State, are responsible for fire prevention and suppression. Most of the Permit Area is designated as an LRA. Approximately 20 percent of the Permit Area located in eastern Sacramento County, is in an SRA and zoned as having moderate fire hazard risks (CAL FIRE 2019). Approximately 970 acres on either side of Clay Station Road, north of Borden Road in Sacramento County, is designated as a Very High FHSZ under both LRA and SRA. SMUD's WMP (2019) identifies various prevention strategies to address wildfire risk factors. Some of these strategies include reducing fuels, maintaining vegetation management and clearances. Activities to reduce wildfire risks, specific to SMUD's infrastructure, also include routine maintenance, focused design and construction standards to reduce ignition sources, transmission and distribution line detailed inspections and annual patrol, use of non-expulsion fuses and arrestors, and de-energization of lines during certain circumstances. SMUD construction and maintenance crews are also required to attend education of fire ignition sources and fire watch 30 minutes after completion of work in high-risk areas.

### ***Electromagnetic Fields***

Electromagnetic fields (EMF) comprise electromagnetic radiation that is on the lower frequency end of the electromagnetic spectrum.<sup>1</sup> The electromagnetic spectrum includes the various wave forms of energy, from electrical fields to radio waves to light to x-rays. Energy frequencies at the high end of the spectrum are termed ionizing because they break chemical bonds and thereby can damage living cells and deoxyribonucleic acid (DNA). Energy frequencies at the lower end are termed non-ionizing since they do not break chemical bonds and would not have the same biological effects as ionizing radiation. EMF can also result in electromagnetic interference, which can cause disruptions and possibly malfunctions in sensitive equipment.

EMF is both naturally occurring and human-made. Movement within the earth's molten core generates substantial EMF. Stars and sunspot activity generate EMF, as do certain biological processes. Electrical systems produce both electric and magnetic fields. Electric fields result from the strength of the electric charge, while magnetic fields are generated from the motion of the charge. Together these fields are referred to as EMF, which are invisible, non-ionizing, low-frequency radiation. Human-made sources have become increasingly prevalent in the last 100 or so years and prominent among these are electrical equipment, telecommunications, and electricity supply facilities.

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<sup>1</sup> The frequency of electromagnetic radiation is the rate at which the EMF changes direction, expressed in terms of cycles per second, or Hertz (Hz). Frequencies of less than around 3,000 Hz are considered extremely low frequency and include alternating current electrical fields that oscillate at 60 Hz.

No CEQA standards or health-based standards exist to indicate that EMF emissions are a potentially significant impact, and this issue is not discussed further.

### 3.9.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

The evaluation of potential impacts of the proposed HCP regarding hazards and hazardous materials was based on a desktop survey of the Permit Area land uses.

Analysis of hazardous materials sites and facilities is based on a review of government hazardous facilities databases (i.e., DTSC's EnviroStor and SWRCB's GeoTracker) prepared in compliance with federal, state, and local ordinances and regulations, and professional standards pertaining to hazards and hazardous materials.

The impact analysis associated with wildfires uses data from various state sources to determine the proximity of the Permit Area to various wildfire responsibility and risk locations. CAL FIRE data of LRAs and SRAs was used to determine if the Permit Area is located in or near a designated SRA.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this EIR consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details. Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

## Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the proposed Project would result in a potentially significant impact related to hazards and hazardous materials if it would do the following.

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise 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.

## Impact Analysis

### ***Impact 3.9-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This impact would be **less than significant**.

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Covered Activities (as shown in Table 2-10 and Sections 2.3.3 and 2.3.4) could result in exposure of workers or the environment by accidental release of hazardous substances such as fuels, lubricants, and oils, which could contaminate soils and degrade the quality of surface water and groundwater, or be released into the air, resulting in a potential public safety hazard.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Enhancement and introduction of Orcutt grass at the SMUD Bank could involve small quantities of commonly used materials, such as fuels and oils, to operate vehicles.

However, consistent with applicable laws and regulations, as discussed above in Section 3.9.1, *Regulatory Setting*, the transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. SMUD has on file a Material Safety Data Sheet for each hazardous material onsite. Employees are trained to respond to leaks, spills, and discharges. In addition, the proposed AMMs listed below would reduce potential adverse effects involving hazardous materials.

- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

In addition, continued implementation of Mitigation Measures HAZ-1 and HAZ-2, identified in the SMUD Nature Preserve Mitigation Bank IS/MND would reduce this impact to a **less than significant** level.

### ***Indirect Actions***

#### Operation and Maintenance

O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Most O&M activities requiring the regular use of hazardous substances such as fuels, lubricants, and oils used in the operation of construction equipment, vehicles, and other facilities (e.g., substations, telecommunications towers, gas pipelines, repair and replacement of transformers) could result in the accidental release of small quantities of these substances and could contaminate soils and degrade the quality of surface water and groundwater, or be released into the air, resulting in a potential public safety hazard. However, SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA, thereby reducing the potential for inadvertent release of these materials.

Other activities such as Wood Pole Testing and Treatment (E6), Pole Replacement (E8) and Underground Component Repair and Replacement (E9) would involve the handling of hazardous waste in the form of treated wood waste (TWW) in wooden poles and polychlorinated biphenyls (PCBs) associated with pad-mounted transformers. TWW is considered a low-risk hazardous waste. As such, sampling is not required, and it may be

disposed of in either a hazardous waste landfill or in a composite-lined portion of a solid waste landfill approved by the Regional Water Quality Control Board to accept TWW. The handling and disposal of TWW would be in accordance with all applicable laws.

Hazardous materials associated with pad-mounted transformers and switchgear equipment include mineral oil and PCBs could be encountered during maintenance or replacement activities. Generally, these materials are confined to a containment system to avoid inadvertent release and would not pose a serious threat to human health or the environment. Internal Pipeline Inspection (G4) workers would test for and could encounter hazardous materials in pipelines. Any hazardous materials found would be disposed of in accordance with state and federal law reducing the potential for inadvertent releases.

SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. SMUD has on file a Material Safety Data Sheet for each hazardous material onsite. Employees are trained to respond to leaks, spills, and discharges. Further, implementation of AMMs in the HCP listed below and similar measures would minimize potential adverse effects related to hazards and hazardous materials.

- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

To ensure hazardous materials are not inadvertently released, standard measures such as worker training for handling hazardous materials, preparation of a spill prevention, control, and countermeasures (SPCC) plan to identify specifications for storage and containment measures for spill events, and a hazardous materials business plan (HMBP) to specify protocol for hazardous materials used and provide an operation specific emergency response plan, could be required. Depending on the extent to which hazardous materials would be used or encountered, one or a combination of these measures could be required to reduce the potential for adverse effects regarding hazardous materials.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead subtransmission and distribution lines (E13). These activities are similar in nature to those described under Operation and Maintenance. Similar equipment, vehicles, and hazardous substances would be used during new

construction activities; therefore, having the same potential to expose workers and/or the environment to hazards and hazardous materials.

SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. Measures like those described above in O&M Covered Activities would minimize adverse effects associated with routine use of hazardous materials. In addition, these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

### Vegetation Management

Vegetation management activities that constitute a change in baseline include routine vegetation management actions within newly constructed overhead subtransmission and distribution line easements (V2), tree removals near newly constructed subtransmission and distribution facilities (V4), transplanting and removing elderberry shrubs (V5b), vegetation clearing for newly constructed poles (V6), and vegetation maintenance of the newly constructed realigned pipelines (V7). These activities would involve the storage and use of hazardous materials such as fuels, lubricants, and oils used in the operation of construction equipment and vehicles. Inadvertent spills or releases of these materials could contaminate soils and degrade the quality of surface water and groundwater, or be released into the air, resulting in a potential public safety hazard. However, hazardous materials used for vegetation management activities are not considered particularly hazardous. In addition, the transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. In addition, these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA. Therefore, the potential for inadvertent spills or release through routine transport, use, or disposal of hazardous materials is considered low.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change in baseline conditions include certain O&M projects related to the CPP water pipeline. These projects include the addition of new facilities (M2a, M2b, M2c) (i.e., cathodic test stations, valve, pipeline segments). Installation of the test stations and new valve would require some ground disturbance and earth movement, stockpiling, and the construction of a temporary access road, which may also require vehicles and construction equipment such as work trucks, excavator, backhoe, and a crane. O&M of either the existing CPP (M1) or Rancho Seco Nuclear Generation Facility (M1) would involve the use of hazardous materials such as fuels, lubricants, and oils utilized in the operation of construction equipment, vehicles, and pipeline construction. These materials could contaminate soils and degrade the quality of surface water and groundwater, or be released into the air, resulting in a potential public safety hazard. However, the transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. Hazardous materials used for the operation of equipment are not considered particularly hazardous.

Therefore, the potential for inadvertent spills or release through routine transport, use, or disposal of hazardous materials would be low.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Occasional, short-term use of hazardous materials such as fuels, oils, and lubricants used for vehicles would occur as a result of this activity, but would not be substantial. Further, all use of these materials would comply with all applicable laws and regulations previous and would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. In addition, continued implementation of Mitigation Measures HAZ-1 and HAZ-2, identified in the SMUD Nature Preserve Mitigation Bank IS/MND, would reduce this impact to a **less than significant** level.

### Mitigation Measures

Mitigation Measures HAZ-1 and HAZ-2, described in the SMUD Nature Preserve Mitigation Bank IS/MND, would continue to be implemented.

#### ***SMUD Bank IS/MND Mitigation Measure HAZ-1***

Inspect equipment containing hazardous materials daily for signs of spills or leakage. A spill response kit shall be kept on the construction site at all times and shall include oil absorbent materials (i.e., pads, pillows, and socks) and disposable bags. If an accidental release of petroleum fuel occurs during refueling or a spill occurs during construction of the Proposed Project, the release shall be cleaned up immediately and hazardous materials shall be removed from the site, disposed of at an approved hazardous materials acceptance facility, and reported in accordance with SMUD Environmental Management Procedure EM 2-08.

#### ***SMUD Bank IS/MND Mitigation Measure HAZ-2***

No soil disturbance shall occur within 100 feet of placer mine features.

No further mitigation is required.

### Indirect Actions

O&M, new construction of facilities, vegetation management for new facilities, and miscellaneous Covered Activities throughout the Permit Area that constitute a change to baseline as identified in Table 2-10 and Sections 2.3.3 and 2.3.4 could result the inadvertent release or spills of hazardous materials described above. However,

compliance with regulations enforced by CUPA and Cal/OSHA and standard measures generally implemented by SMUD as described above would minimize these effects.

For these reasons it is unlikely that adverse hazardous materials impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.9-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This impact would be **less than significant**.

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Some land uses within the Permit Area (e.g., agriculture, commercial, industrial) have a higher likelihood of soil or groundwater contamination. In addition, there are Cortese List sites located throughout the Permit Area. Therefore, Covered Activities could result in exposure of the public or the environment to previously unknown hazards.

***Direct Actions***

One known hazardous waste site is located at the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction area at the SMUD Bank. The LUST site, located just east of Rancho Seco Lake, has been remediated and cleanup completed as of 1994. In addition, as discussed in Section 3.9.2, *Environmental Setting*, another former LUST site is located within 0.5 mile of the boundaries of the SMUD Bank. The database search does not indicate a significant risk of environmental contamination at the site, nor is there any need for environmental cleanup of existing conditions. As an existing preserve, there is little potential for encountering soil contamination during enhancement, management, and monitoring activities. Enhancement, management, and monitoring activities would not expose the public or the environment to hazardous materials sites. In addition, continued implementation of Mitigation Measure HAZ-2, identified in the SMUD Nature Preserve Mitigation Bank IS/MND, would reduce this impact to a **less than significant** level.

## ***Indirect Actions***

### Operation and Maintenance

O&M Covered Activities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, constituting a change from baseline conditions would include O&M activities for new facilities. Land uses in the Permit Area have current or former commercial, industrial, or agricultural sites, some, with a history of releases (e.g., Aerojet facility). O&M activities required near hazardous sites or land uses, especially those involving ground disturbance, could expose the public or the environment to hazardous materials releases resulting in a potential public safety hazard.

However, SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA, thereby reducing the potential for inadvertent release of these materials. In addition, implementation of AMMs in the HCP listed below and similar measures would minimize the potential of upset and accident conditions involving the release of hazardous materials into the environment.

- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

To ensure hazardous materials are not inadvertently released, standard measures such as worker training for handling hazardous materials, preparation of an SPCC Plan to identify specifications for storage and containment measures for spill events, performing a Phase I Environmental Site Assessment prior to ground disturbance to assess impacts on soil and/or groundwater, and conduct soil and/or groundwater remediation, if necessary, could be required. Depending on the potential for encountering hazardous materials, (i.e., ground disturbance at a known hazardous site such as Aerojet facility) one or a combination of these measures could be required to reduce the potential for adverse effects regarding hazardous materials.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead subtransmission and distribution lines (E13). These activities could occur within or near current or former commercial, industrial, or agricultural sites with a history of releases. Soil disturbance or dewatering activities could result in exposure of the public or the environment to previously unknown hazards, particularly if ground disturbance or dewatering occurs at a known hazardous site or land use.

However, SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of hazardous materials would be compliant with regulations enforced by CUPA and Cal/OSHA. In addition, implementation of AMMs in the HCP and measures like those described above in O&M Covered Activities would minimize the potential of upset and accident conditions involving the release of hazardous materials into the environment during new construction activities. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

### Vegetation Management

Vegetation management activities that constitute a change in baseline include routine vegetation management actions within newly constructed overhead subtransmission and distribution line easements (V2), tree removals near newly constructed subtransmission and distribution facilities (V4), transplanting and removing elderberry shrubs (V5b), vegetation clearing for newly constructed poles (V6), and vegetation maintenance of the newly constructed realigned pipelines (V7). Vegetation removal would involve some minor ground disturbance. The likelihood that vegetation management activities could expose contaminated media, is low. Also, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA. Therefore, the potential of upset and accident conditions involving the release of hazardous materials into the environment during vegetation management activities is low.

- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change in baseline conditions include certain O&M projects related to the CPP water pipeline. These projects include the addition of new facilities (M2a, M2b, M2c) (i.e., cathodic test stations, valve, pipeline segments). Installation of pipelines could involve ground disturbance or dewatering. Two former LUST sites are located within the boundaries of the SMUD Bank, one of which is located at the CPP. However, there is no indication of a significant risk of environmental contamination at these sites, nor is there any need for environmental cleanup of existing. In addition, Indirect Actions, including miscellaneous Covered Activities, are subject to future review and approval by SMUD, including environmental review required under CEQA. This review would include a search of the project area for Cortese List sites, reducing the potential for new construction to occur on a hazardous waste site. Measures such as those described above under Operation and Maintenance could reduce the potential to encounter hazardous materials during miscellaneous Covered Activities.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. No known hazardous waste sites are located at the SMUD Bank. As an existing preserve, there is little potential for encountering soil contamination during enhancement, management, and monitoring activities. The Cortese List database search does not indicate a significant risk of environmental contamination at the SMUD Bank, nor is there any need for environmental cleanup of existing conditions. Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activities would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. In addition, continued implementation of Mitigation Measure HAZ-2, identified in the SMUD Nature Preserve Mitigation Bank IS/MND, would reduce this impact to a **less-than-significant** level.

### Mitigation Measures

Mitigation Measure HAZ-2, described in the SMUD Nature Preserve Mitigation Bank IS/MND, would continue to be implemented.

### ***SMUD Bank IS/MND Mitigation Measure HAZ-2***

No soil disturbance shall occur within 100 feet of placer mine features.

No further mitigation is required.

### Indirect Actions

O&M projects related to the CPP water pipeline, new construction, vegetation management for new facilities, and miscellaneous Covered Activities could occur in or near current or former commercial, industrial, or agricultural sites, some with a history of releases. Measures such as those described above under Operation and Maintenance would minimize the potential to encounter hazardous materials during Indirect Actions. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific locations and activities are not known for each individual action. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures would be required if potentially significant impacts related to hazards or hazardous materials were identified.

***Impact 3.9-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school***

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Activities associated with Direct Actions would not occur within 0.25 mile of a school or school site. Therefore, the Direct Actions would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. There would be **no impact**.

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Covered Activities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, could result in exposure of schools to hazards and hazardous materials through normal use of substances such as fuels and oils, to operate vehicles and construction equipment used for Indirect Actions

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. There are no schools within 0.25 mile of the site of this activity at the SMUD Bank. Therefore, the Direct Action would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. There would be **no impact**.

***Indirect Actions***

Operation and Maintenance

O&M Covered Activities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, constituting a change from baseline conditions would include O&M activities for new facilities. O&M activities requiring the short-term use of hazardous substances such as fuels, lubricants, and oils used in the operation of construction equipment, vehicles, and other facilities (e.g., substations, telecommunications towers, gas pipelines, repair and replacement of transformers) could result in the accidental release of small quantities of these substances within 0.25 mile of a school.

However, SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. Further, SMUD has on file a Material Safety Data Sheet for each hazardous material onsite. Employees are trained to respond to leaks, spills, and discharges, thereby reducing the potential for inadvertent release of these materials. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

To ensure hazardous materials are not inadvertently released, standard measures such as worker training for handling hazardous materials, preparation of an SPCC Plan and an HMBP, could be required if work occurs within 0.25 mile of a school. Depending on the extent to which hazardous materials would be used or encountered, one or a combination of these measures could be required to reduce the potential for adverse effects regarding hazardous materials near schools. Implementation of AMMs in the HCP listed below and similar measures would minimize potential adverse effects related to hazards and hazardous materials.

- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

To ensure hazardous materials are not inadvertently released near a school, standard measures such as worker training for handling hazardous materials, preparation of an SPCC Plan to identify specifications for storage and containment measures for spill events, and an HMBP to specify protocol for hazardous materials used and provide an operation specific emergency response plan, could be required. Depending on the extent to which hazardous materials would be used or encountered, one or a combination of these measures could be required to reduce the potential for adverse effects regarding inadvertent release of hazardous materials within 0.25 mile of a school.

### New Construction

New construction activities that would constitute a change from baseline conditions would include the construction of new substations (E16) and the expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead subtransmission and distribution lines (E13). Similar equipment, vehicles, and hazardous substances would be used during new construction activities. Although unlikely, it is possible new construction could occur within 0.25 mile of a school; therefore, it would have the potential to emit hazardous materials near a school. However, SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. Measures like those described above in O&M Covered Activities would minimize adverse effects associated with routine use of hazardous materials. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

### Vegetation Management

Vegetation management activities that constitute a change in baseline include routine vegetation management actions within newly constructed overhead subtransmission and

distribution line easements (V2), tree removals near newly constructed subtransmission and distribution facilities (V4), transplanting and removing elderberry shrubs (V5b), vegetation clearing for newly constructed poles (V6), and vegetation maintenance of the newly constructed realigned pipelines (V7). It is possible that some of these facilities are located near schools. Regular vegetation management would require the use of some hazardous materials such as fuels, lubricants, and oils used in the operation of construction equipment and vehicles. It is not anticipated that any hazardous materials would be used near schools and, if needed, their use would be short-term and temporary and the handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA. Therefore, the potential for inadvertent spills or release of hazardous materials near a school is considered low.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change in baseline conditions include O&M of the CPP water pipeline. In addition to the maintenance of the existing CPP water pipeline, these activities include the addition of new facilities (M2a, M2b, M2c) (i.e., cathodic test stations, valve, pipeline segments). Installation of the test stations and new valve would require some ground disturbance and earth movement, stockpiling, and the construction of a temporary access road, which may also require vehicles and construction equipment such as work trucks, excavator, backhoe, and a crane. There are no schools within 0.25 mile of these facilities and work at the facilities would therefore not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Occasional, short-term use of hazardous materials such as fuels, oils, and lubricants used for vehicles would occur as a result of this activity, but would not be substantial. Further, there are no schools within 0.25 mile of the SMUD Bank. Therefore, there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M projects related to the CPP water pipeline, new construction of facilities, vegetation management for new facilities, and miscellaneous Covered Activities could result in the

use of hazardous materials described above within 0.25 mile of a school. However, compliance with regulations enforced by CUPA and Cal/OSHA and the AMMs and standard measures generally implemented by SMUD as described above, would minimize these effects. For these reasons it is unlikely that adverse hazardous materials impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.9-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment***

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Direct Actions would not 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, create a significant hazard to the public or the environment. There would be **no impact**.

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Covered Activities that involve ground disturbance or dewatering (E8, E9a, E14a, E14b, E15, E16, G5a, G5b, G6, G10a, G10b, G10c, V4, C1, M2)., could result in exposing construction personnel, people in the vicinity, and the surrounding environment to contaminated media from a Cortese List site.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. As discussed in Section 3.9.2, two former LUST sites are located within 0.5 mile of the boundaries of the SMUD Bank. Remediation has been completed at both sites. The database search does not indicate a significant risk of environmental contamination at the SMUD Bank, nor is there any need for environmental cleanup of existing conditions. The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity at the SMUD Bank would not expose workers or the environment to hazardous materials sites. Therefore, there would be **no impact**.

***Indirect Actions***

Operation and Maintenance

O&M Covered Activities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, constituting a change from baseline conditions would include O&M activities for new facilities. SMUD facilities would be located throughout the Permit Area. It is possible some of these facilities are located near a hazardous materials site listed on the databases searched for this report, including those compiled pursuant to Government Code Section

65962.5. O&M activities that would occur at existing facilities or do not involve ground disturbance (e.g., Internal Pipeline Inspection [G4]) are not likely to be located on a hazardous waste site. O&M Covered Activities could occur anywhere in the Permit Area. As discussed above, land uses in the Permit Area have former and current properties with a history of releases (e.g., Aerojet facility). O&M activities required near hazardous sites or land uses, especially those involving ground disturbance, could expose the public or the environment to hazardous materials releases resulting in a potential public safety hazard.

However, SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA, thereby reducing the potential for inadvertent release of these materials. In addition, implementation of AMMs in the HCP listed below and similar measures would minimize the potential for O&M activities to be located near a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.

- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

To ensure hazardous materials are not inadvertently released, standard measures such as worker training for handling hazardous materials, preparation of an SPCC Plan to identify specifications for storage and containment measures for spill events, performing a Phase I Environmental Site Assessment prior to ground disturbance to assess impacts on soil and/or groundwater, and conduct soil and/or groundwater remediation, if necessary, could be required. Depending on the potential for encountering hazardous materials, (i.e., ground disturbance at a known hazardous site such as Aerojet facility) one or a combination of these measures could be required to reduce the potential for adverse effects regarding hazardous materials.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead subtransmission and distribution lines (E13). These activities could occur throughout the Permit Area; thus, they could have the potential to occur adjacent to or within the footprint of a Cortese List site. Exposing contaminated media from a Cortese List site through ground-disturbing or dewatering activities could

cause potential impacts on construction personnel, people in the vicinity, and the surrounding environment.

However, SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of hazardous materials would be compliant with regulations enforced by CUPA and Cal/OSHA. In addition, implementation of AMMs in the HCP and similar measures described above would minimize the potential of encountering hazards and hazardous materials at Cortese sites.

### Vegetation Management

Vegetation management activities that constitute a change in baseline include routine vegetation management actions within newly constructed overhead subtransmission and distribution line easements (V2), tree removals near newly constructed subtransmission and distribution facilities (V4), transplanting and removing elderberry shrubs (V5b), vegetation clearing for newly constructed poles (V6), and vegetation maintenance of the newly constructed realigned pipelines (V7). Vegetation removal would involve some minor ground disturbance. Due to the limited amount of ground disturbance, the likelihood that vegetation management activities could expose contaminated media, is low. Also, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA. Therefore, the potential of upset and accident conditions involving the release of hazardous materials into the environment during vegetation management activities is low.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change in baseline conditions include certain O&M nonroutine projects for the CPP water pipeline. In addition to the maintenance of the existing CPP water pipeline, these activities include the addition of new facilities (M2a, M2b, M2c) (i.e., cathodic test stations, valve, pipeline segments). Installation of pipelines could involve ground disturbance or dewatering. Two former LUST sites are located within 0.5 mile the boundaries of the SMUD Bank, one of which is located at the CPP. However, there is no indication of a significant risk of environmental contamination at these sites, nor is there any need for environmental cleanup of existing conditions. In addition, Indirect Actions are subject to future review and approval by SMUD, including environmental review required under CEQA. This review would include a search of the project area for Cortese List sites, reducing the potential for miscellaneous Covered Activities to occur on a hazardous waste site.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. As discussed in

Section 3.9.2, two former LUST sites are located within 0.5 mile of the boundaries of the SMUD Bank, one of which is located at the CPP. The database search does not indicate a significant risk of environmental contamination at the SMUD Bank, nor is there any need for environmental cleanup of existing conditions. SMUD Bank enhancement, management, and monitoring activities would not expose workers or the environment to hazardous materials sites. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Indirect Actions related to the CPP water pipeline, new construction of facilities, vegetation management for new facilities, and miscellaneous Covered Activities could occur within or near a Cortese List site. Measures such as those described above under New Construction, which include a Cortese site database search, would minimize the potential to encounter hazardous materials sites. For these reasons it is unlikely that adverse hazardous materials impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures would be required if potentially significant impacts related to hazards or hazardous materials were identified.

#### ***Impact 3.9-5: Located within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area***

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Activities associated with Direct Actions would not occur within 2 miles of a public or private airport or airport land use plan. Therefore, the Direct Actions would not result in a safety hazard or excessive noise for people residing or working in the Permit Area. There would be **no impact**.

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Covered Activities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, could occur within 2 miles of an airport, exposing workers to airport safety hazards or excessive noise.

#### ***Direct Actions***

The only Direct Action that would constitute a change to baseline conditions would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at the SMUD Bank. There are no airports within 2 miles of the SMUD Bank; therefore, the Direct Action would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 2 miles of a public or private airport. There would be **no impact**.

## ***Indirect Actions***

### Operation and Maintenance

O&M Covered Activities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, constituting a change from baseline conditions would include O&M activities for new facilities. Some O&M activities could occur near at or near an airport. O&M activities would be temporary and workers and equipment would be at or near each facility for short periods of time and it is not expected that their intermittent and temporary presence at or near airports would subject workers to significant aviation-related risks.

As described in Section 3.13, *Noise*, construction and maintenance crews may temporarily work in areas near existing airports and be exposed to aircraft noise. However, workers would be at each facility site for short periods of time and their exposure to airport/aircraft noise would be temporary. The proposed Project would not result in a safety hazard or excessive noise for people residing or working in the Permit Area.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations and expansion of existing substations, new telecommunication towers, gas pipeline realignment, and construction of new overhead subtransmission and distribution lines. As described above under Operation and Maintenance, new construction could occur within 2 miles of an airport. However, implementation of applicable general plan policies and review of development near airports by the respective county or local jurisdiction would reduce any risks associated with people residing or working near airports.

As described in Section 3.13, construction and maintenance crews may temporarily work in areas near existing airports and be exposed to aircraft noise. However, workers would be at each new construction sites for short periods of time and their exposure to airport/aircraft noise would be temporary. The proposed Project would not result in a safety hazard or excessive noise for people residing or working in the Permit Area.

### Vegetation Management

Vegetation management activities that constitute a change in baseline include tree and vegetation removal. It is possible that some of these activities could occur at or near airports. Tree removal might require use of an aerial lift on a service truck but would not be so tall as to interfere with airport operations. Due to the temporary nature of vegetation removal activities, it is not expected that workers would be exposed to aviation-related risks or excessive airport noise.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change in baseline conditions include certain O&M projects related to the CPP water pipeline. In addition to the maintenance of the existing CPP water pipeline, these projects include the addition of new facilities (M2a, M2b, M2c) (i.e., cathodic test stations, valve, pipeline segments). There are no airports within 2 miles of the facilities where miscellaneous Covered Activities would occur. Therefore, miscellaneous Covered Activities would not interfere with airports or airport land use plans and would not expose workers to aviation-related risks or excessive airport noise.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. However, there are no airports within 2 miles of the Orcutt grass habitat within the SMUD Bank. Therefore, there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Indirect Actions related to the CPP water pipeline, new construction, and vegetation management for new facilities could place workers within 2 miles of an airport. However, this work would be for short periods of time and it is not expected that an intermittent and temporary presence near airports would subject workers to significant aviation-related risks or excessive noise. However, implementation of applicable general plan policies and review of development near airports by the respective county or local jurisdiction would reduce any risks associated with people residing or working near airports. For these reasons it is unlikely that adverse hazardous materials impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.9-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve enough personnel or equipment to necessitate traffic delays on existing roads used to access the SMUD Bank. Roads used to access the SMUD Bank and conduct the Direct Action are located in more rural areas, free of heavy traffic. Therefore, implementation of the Direct Actions would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. There would be **no impact**.

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Each local jurisdiction in the Permit Area has policies, regulations, and plans related to emergency response and evacuation. Local emergency response plans identify specific routes for emergency evacuations. Generally, Indirect Actions, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, could result in short-term, temporary traffic delays on existing roads used to access SMUD's facilities and infrastructure, and consequently, potentially interfere with implementation of an emergency response plan and delay emergency responders.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Activities associated with the Direct Action would require the use of equipment and personnel during activities. These activities would occur intermittently and not require large number of personnel or equipment. However, potential impacts on emergency response plans or emergency evacuation plans resulting from these short-term activities would not be significant. These activities would not occur in a highly urbanized or developed area, and therefore would not result in significant traffic delays that would affect emergency evacuation plans or emergency response plans. SMUD would comply with all local plans pertaining to emergency evacuations and would coordinate with local jurisdictions should traffic controls be necessary. As a result, it is not likely the proposed Project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, there would be **no impact**.

***Indirect Actions***Operation and Maintenance

O&M Covered Activities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, constituting a change from baseline conditions would include O&M activities for new facilities. O&M activities could result in short-term, temporary impacts on emergency response or emergency evacuation plans resulting from minor ground-disturbing

activities, and the presence of equipment, personnel, and supplies. Traffic delays possibly limiting access to some roads/lanes due to the presence of construction crews and equipment could affect emergency response or evacuation plans. However, any activities that involve public right-of-way would be required to obtain an encroachment permit from the applicable jurisdiction (e.g., California Department of Transportation or City of Sacramento). As part of this encroachment permit application, SMUD would be required to prepare and implement a traffic control plan, which would require the provision of temporary traffic controls and maintenance of emergency access during construction. As a result, O&M activities would not interfere with emergency response or evacuation plans.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations and expansion of existing substations, new telecommunication towers, gas pipeline realignment, and construction of new overhead subtransmission and distribution lines. These activities could occur throughout the Permit Area, possibly limiting access to some roads/lanes, which could result in impairment of emergency response/evacuation plans. Short-term activities related to new construction could result in temporary impacts on these types of emergency plans similar to those described above for O&M activities. Long-term impacts on emergency response or evacuation plans could result from installation of new facilities, such as new telecommunication towers or new substations. However, as described above in Operation and Maintenance, SMUD would be required to prepare and implement a traffic control plan. Further, Indirect Actions such as new construction are subject to future review and approval by SMUD, including environmental review required under CEQA. Therefore, the potential for new construction to interfere with emergency response or evacuation plans is low.

### Vegetation Management

Vegetation management activities that constitute a change in baseline include tree and vegetation removal. Vegetation removal would occur at SMUD facilities throughout the Permit Area, which would occur over short time periods, and along existing paved and unpaved access roads. However, these activities would not alter or obstruct roadways to such an extent that emergency response or evacuation plans would be impaired. Therefore, these activities would not result in significant impacts on emergency evacuation plans or emergency response plans.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change in baseline conditions include certain O&M projects related to the CPP water pipeline. In addition to the maintenance of the existing CPP water pipeline, these activities include the addition of new facilities (M2a, M2b, M2c) (i.e., cathodic test stations, valve, pipeline segments). These activities are not expected to result in significant impacts on emergency response or evacuation plans because they primarily involve continued maintenance of existing and new facilities. However, under some circumstances, SMUD might use public roads to

access facilities (e.g., M2a Cathodic Protection Installation) using different construction vehicles or equipment which could impact emergency access or result in delays for emergency vehicles. As described above in Operation and Maintenance, SMUD would be required to prepare and implement a traffic control plan. Further, miscellaneous Covered Activities are subject to future review and approval by SMUD, including environmental review required under CEQA. As a result, the potential for miscellaneous Covered Activities to interfere with emergency response or evacuations is low.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Implementation of the Direct Action would not involve enough personnel or equipment to necessitate traffic delays on existing roads used to access SMUD's facilities and infrastructure. Also, the Direct Action would occur on roads relatively free of heavy traffic. Therefore, implementation of the Direct Action would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. There would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M projects related to the CPP water pipeline, new construction, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term temporary traffic delays. However, SMUD would comply with all local plans pertaining to emergency evacuations and would coordinate with local jurisdictions should traffic controls be necessary. In addition, SMUD would be required to prepare a traffic control plan for any work on public right-of-way which would include measures which would require the provision of temporary traffic controls and maintenance of emergency access during construction. For these reasons it is unlikely that adverse impacts on emergency routes or plans would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.9-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Portions of the SMUD Bank are located near, or adjacent to, areas that are under both the responsibilities of SRAs and LRAs and have FHSZ designations that range from moderate to very high fire hazard severity. Consequently, it is possible that implementation of this Direct Action could occur within or near a moderate or very high fire hazard area. These activities are expected to follow fire management goals and policies set forth by the Sacramento County General Plan. This impact would be **less than significant**.

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Covered Activities that involve personnel and equipment working in open space areas and areas designated as moderately susceptible to wildland fire risks, could result in exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Activities associated with the Direct Action would involve the presence of construction personnel and equipment, all of which could increase the risk of wildfire. Several factors contribute to susceptibility to wildland fire danger in Sacramento County, most notably climate, winds, vegetation, and water supply. The SMUD Bank and vicinity is in an area mapped as moderately hazardous for wildland fires, which could potentially expose people and structures to wildland fire risk. In addition, continued implementation of Mitigation Measure HAZ-3, identified in the SMUD Nature Preserve Mitigation Bank IS/MND, would reduce this impact to a **less-than-significant** level.

***Indirect Actions***

Operation and Maintenance

O&M Covered Activities constituting a change from baseline conditions as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, would include O&M activities for new facilities. SMUD facilities would be located throughout the Permit Area. Human activities are the primary reason wildfires start. The greatest potential for fire hazard comes from welding activities and the use of internal combustion engines or sparking equipment in grass-covered areas. Personnel and equipment working in areas designated as moderately susceptible to wildland fire risks, could result in exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

However, SMUD is required to clear vegetation at the base of poles located in the CAL FIRE SRA that have hardware with the potential to cause sparks, such as a switch, fuse, transformer, or lightning arrester (Public Resources Code 4292) and would maintain vegetation clearance in accordance with County setback requirements and standard SMUD perimeter vegetation maintenance. As a result, the potential for impacts associated with wildland fires during O&M activities is considered low.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations and expansion of existing substations, new telecommunication towers, gas pipeline realignment, and construction of new overhead subtransmission and distribution lines. New construction activities would involve the presence of construction personnel and equipment, all of which could increase the risk of wildland fire. However, as described above under Operation and Maintenance, SMUD would comply with all applicable CAL FIRE and County fire and safety policies, as well as standard SMUD measures for perimeter vegetation maintenance. Therefore, construction of these new facilities is not expected to result in a substantial adverse effect related to the exposure of people to wildland fire risks.

### Vegetation Management

Vegetation management activities that constitute a change in baseline include tree and vegetation removal. Vegetation management activities would involve the presence of construction personnel and equipment, all of which could increase the risk of wildfire. However, as previously described, SMUD would comply with all applicable CAL FIRE and County fire and safety policies as well as standard SMUD measures for perimeter vegetation maintenance. As a result, the risk of wildland fire during vegetation management would be minimized.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change in baseline conditions include certain O&M projects related to the CPP water pipeline. In addition to the maintenance of the existing CPP water pipeline, these activities include the addition of new facilities (M2a, M2b, M2c) (i.e., cathodic test stations, valve, pipeline segments). Installation of pipelines would involve construction personnel, vehicles, and equipment in open space areas that could increase the potential for starting a fire. However, as previously described, SMUD would comply with all applicable CAL FIRE and County fire and safety policies as well as standard SMUD measures for perimeter vegetation maintenance. As a result, the risk of wildland fire during miscellaneous Covered Activities would be low. Therefore, these activities are not expected to result in a substantial adverse effect related to the exposure of people to wildland fire risks.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The SMUD Bank and vicinity is in an area mapped as moderately hazardous for wildland fires which could potentially expose people and structures to wildfire risk. Continued implementation of Mitigation Measure HAZ-3, identified in the SMUD Nature Preserve Mitigation Bank IS/MND, would reduce this impact to a **less-than-significant** level.

### Mitigation Measures

Mitigation Measure HAZ-3, described in the SMUD Nature Preserve Mitigation Bank IS/MND, would continue to be implemented.

### ***SMUD Bank IS/MND Mitigation Measure HAZ-3***

No smoking in open areas or near fuel tanks shall occur, spark arrestors will be present on equipment, and fire extinguishers will be onsite at all times during construction.

No additional mitigation is required.

### Indirect Actions

O&M projects related to the CPP water pipeline, new construction, vegetation management for new facilities, and miscellaneous Covered Activities could result in similar risks for exposing people to wildland fire risks described above. However, compliance with all applicable CAL FIRE and County fire and safety policies, as well as standard SMUD measures for perimeter vegetation maintenance would reduce the potential for wildfire risks. Therefore, these activities are not expected to expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

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### 3.10 Hydrology and Water Quality

This section summarizes regulations applicable to hydrology and water quality; describes the existing hydrological setting for the Permit Area, including runoff, storm drainage, flood control, and water quality; and provides an assessment of potential impacts of implementing the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

Two agency comment letters were received relating to water quality and groundwater in response to the Notice of Preparation. These comments outlined the regulations and permitting requirements that pertain to the proposed Project in relation to water quality and groundwater (Basin Plan, Antidegradation, Construction Stormwater General Permit, Phase I and II Municipal Separate Storm Sewer System [MS4], Clean Water Act [CWA] Sections 404 and 401, dewatering, National Pollutant Discharge Elimination System [NPDES] permit), and also discussed the Delta Plan to ensure Sacramento–San Joaquin Delta (Delta) protection.

#### 3.10.1 Regulatory Setting

##### **Federal**

##### ***Clean Water Act***

Several sections of the CWA pertain to regulating impacts on waters of the United States. The CWA sections listed here pertain to the proposed HCP. The term *waters of the United States* refers to all surface waters, such as all navigable waters and their tributaries; all interstate waters and their tributaries; all wetlands adjacent to these waters; and all impoundments of these waters. The U.S. Environmental Protection Agency (EPA) is the overarching authority for protecting the quality of waters of the United States. However, the California State Water Resources Control Board (SWRCB) administers CWA Sections 303, 401 and 402; the U.S. Army Corps of Engineers (USACE) has jurisdiction over waters of the United States under CWA Section 404.

##### Section 303—Impaired Waters

The State of California adopts water quality standards to protect beneficial uses of waters of the state, as required by Section 303(d) of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). Section 303(d) of the CWA established the total maximum daily load (TMDL) process to guide the application of state water quality standards (refer to *State*). To identify candidate waterbodies for TMDL analysis, a list of water quality–limited segments was generated by SWRCB. These stream or river segments are impaired by the presence of pollutants and are more sensitive to disturbance because of this impairment.

In addition to the impaired waterbody list required by CWA Section 303(d), CWA Section 305(b) requires states to develop a report that assesses statewide surface water quality.

Both CWA requirements are addressed through the development of a 303(d)/305(b) Integrated Report, which addresses both an update to the 303(d) list and a 305(b) assessment of statewide water quality. SWRCB's statewide 2012 California Integrated Report was based on Integrated Reports from each of the nine regional water quality control boards (RWQCB). After approval of the 303(d) List portion of the California Integrated Report by SWRCB, the complete 2014 and 2016 California Integrated Report was approved by EPA on April 6, 2018.

#### Section 401—Water Quality Certification

Section 401 of the CWA requires an applicant who pursues a federal permit for conducting an activity that may result in a discharge of a pollutant to obtain Water Quality Certification (or waiver). Water Quality Certification requires the evaluation of water quality considerations associated with dredging or the placement of fill materials into waters of the United States. Water Quality Certifications are issued by one of the nine geographically separated RWQCBs in California. Under the CWA, the RWQCB must issue Section 401 Water Quality Certification for a project to be permitted under CWA Section 404.

#### Section 402—National Pollutant Discharge Elimination System

The 1972 amendments to the federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States.

The 1987 amendments to the CWA created a new section devoted to stormwater permitting (Section 402). EPA has granted the State of California primacy in administering and enforcing the provisions of the CWA and NPDES within state boundaries. NPDES permits are issued by each of the nine RWQCBs.

The proposed HCP is required to comply with both construction and municipal NPDES stormwater requirements. More information is provided below, under *State*.

#### Section 404—Dredge/Fill Permitting

The discharge of dredged or fill material into waters of the United States is subject to permitting specified under Title IV (Permits and Licenses) of the CWA and, specifically, Section 404 (Discharges of Dredged or Fill Material) of the CWA. Section 404 regulates the placement of fill materials into the waters of the United States. Section 404 permits are administered by USACE.

#### ***River and Harbors Act***

The Rivers and Harbors Act of 1899 prohibits the construction of infrastructure over or in navigable waters of the United States and the fill of, or discharge of contaminated sediment to, waters of the United States without approval of USACE. *Navigable waters*

under the act are “subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce” (33 Code of Federal Regulations 3294). Section 10 of the Rivers and Harbors Act prohibits work that affects the course, location, conditions, or capacity of navigable waters of the United States without a permit from USACE. Section 10 requires authorization from USACE for the construction of any structure in or over navigable waters of the United States, activities such as the excavation/dredging or deposition of material in these waters, or any obstruction or alteration in navigable water.

### ***National Flood Insurance Program***

In 1968, Congress created the National Flood Insurance Program in response to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods. Congress also passed the Flood Disaster Protection Act of 1973. The National Flood Insurance Program makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations to limit development in floodplains. FEMA creates official community maps called Flood Insurance Rate Maps that designate 100-year floodplain zones (Special Flood Hazard Areas) and delineate flood hazard areas. A 100-year floodplain zone is the area that has a one in one hundred (1 percent) chance of being flooded in any 1 year based on historical data. Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative.

### **State**

#### ***Porter-Cologne Water Quality Control Act***

The Porter-Cologne Act is implemented by SWRCB and nine RWQCBs. SWRCB is the primary state agency with responsibility for protecting the quality of the state’s surface water and groundwater, or *waters of the state*. Waters of the state are defined more broadly than waters of the United States (i.e., any surface water or groundwater, including saline waters, within the boundaries of the state). This includes waters in both natural and artificial channels. It also includes surface waters that are not waters of the United States or nonjurisdictional wetlands, which are essentially distinguished by whether they are navigable. If waters are not navigable, they are considered to be isolated and, therefore, fall under the jurisdiction of only the Porter-Cologne Act and not the CWA. The SWRCB and RWQCBs are responsible for implementing CWA Sections 303(d), 401, and 402, as mentioned in the above *Federal* section.

The Porter-Cologne Act authorizes SWRCB to draft state policies regarding water quality. The act requires projects that are discharging, or proposing to discharge, wastes that could affect the quality of the state’s water to file a Report of Waste Discharge with the

appropriate RWQCB. The act also requires SWRCB or an RWQCB to adopt basin plans for the protection of water quality, as described below.

### ***Sustainable Groundwater Management Act***

The Sustainable Groundwater Management Act of 2014 (SGMA) is a comprehensive three-bill package that Governor Jerry Brown signed into California State law in September 2014. The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for State intervention only if necessary to protect the resource. The plan is intended to ensure a reliable groundwater water supply for California for years to come. SGMA requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge.

The majority of the Permit Area is located within the following groundwater basins in the Sacramento River hydrologic regions: Yolo, Solano, North American, and South American (California Department of Water Resources [DWR] 2003), with smaller portions located in Yolo, Placer, Amador, and San Joaquin Counties. The majority of the Permit Area is located within Sacramento County, which is divided into three geographic subareas for groundwater management: 131,000 acre-feet (af) for the North Basin (north of the American River); 273,000 af for the Central Basin (between the American and Cosumnes Rivers); and 115,000 af for the South Basin (south of the Cosumnes River) (Sacramento County Water Agency [SCWA] et al. 2006). There are currently three groundwater management plans (GMP): Sacramento Groundwater Authority's (SGA) GMP for the North Basin, SCWA's Central Sacramento County GMP, and South Area Water Council's South Basin GMP (SGA 2014; SCWA et al. 2006; South Area Water Council 2011). The Southeast Sacramento County Agriculture Water Authority is currently developing an updated GMP for the South Basin in accordance with the California Water Code and the provisions of the Water Forum Agreement (SGA 2014). Their previous submission of an alternative to a GMP for the South American Subbasin was denied in 2019. The SGA manages the groundwater basin underlying Sacramento County north of the American River. The Central Sacramento County GMP manages groundwater basins in Sacramento County including the South American groundwater subbasin.

### ***NPDES General Construction Stormwater Permit***

CWA Section 402 mandates permits for municipal stormwater discharges, which are regulated under the NPDES General Permit for MS4s. Phase I MS4 regulations cover municipalities with more than 100,000 residents, certain industrial processes, or construction activities that disturb an area of 5 acres or more. Phase II "small" MS4 regulations require stormwater management plans (SWMP) to be developed by municipalities with fewer than 100,000 residents and construction activities that disturb 1 or more acres of land. SWRCB adopted a Statewide Phase II Small MS4 General Permit in 2013 to efficiently regulate discharges from numerous qualifying small MS4s under a single permit. Small MS4s were categorized as either traditional or nontraditional. *Traditional MS4s* operate throughout a community. *Nontraditional MS4s* are similar to

traditional MS4s but operate at a separate campus facility. Most nontraditional MS4s in California are not designated as having to comply with the Statewide Phase II Small MS4 General Permit, although SWRCB reserves the right to allow the RWQCBs to designate through due process any single nontraditional MS4 if it is deemed necessary.

MS4 permits require cities and counties to develop and implement programs and measures, including management practices, control techniques, system design and engineering methods, and other measures, as appropriate, to reduce the discharge of pollutants in stormwater discharges to the maximum extent possible. As part of permit compliance, permit holders have created SWMPs for their respective locations. These plans outline the requirements for municipal operations, industrial and commercial businesses, construction sites, and planning and land development. The requirements may include multiple measures to control pollutants in stormwater discharges. During implementation of specific projects under the program, project applicants are required to follow the guidance contained in the SWMPs, as defined by the permit holder in that location.

SWRCB is advancing low-impact development in California as a means of complying with municipal stormwater permits. Low-impact development incorporates site design, including, among other things, the use of vegetated swales and retention basins and minimizing impermeable surfaces, to manage stormwater and maintain a site's predevelopment runoff rates and volumes.

The Sacramento area, which covers a large portion of the Permit Area, is considered a Phase I MS4 permittee, and is covered under the regionwide MS4 permit (NPDES Permit and Waste Discharge Requirements General Permit for Discharges from Municipal Separate Storm Sewer Systems; NPDES Order No. R5-2016-0040; General Permit No. CAS0085324). CWA Section 402 also includes waste discharge requirements for dewatering activities. Although small amounts of construction-related dewatering are covered under the Construction General Permit, the Central Valley RWQCB has regulations specific to dewatering activities. The Central Valley RWQCB is no longer accepting applications for coverage under the Low Threat General Order. New applicants must apply for coverage under the Limited Threat General Order (General Waste Discharge Requirements/NPDES Permit for Limited Threat Discharges to Surface Waters, Order R5-2016-0076, NPDES Permit No. CAG995002).

Yolo County and San Joaquin County are Phase II MS4 Permittees.

#### Caltrans Municipal Stormwater Permit

SWRCB has identified the California Department of Transportation (Caltrans) as an owner/operator of an MS4 pursuant to federal regulations. Caltrans' MS4 Permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. This would be relevant to Covered Activities located in Caltrans rights-of-way. Caltrans' MS4 Permit contains three basic requirements.

1. Caltrans must comply with the requirements of the Construction General Permit.

2. Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and nonstormwater discharges.
3. Caltrans stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) best management practices (BMP), to the maximum extent practicable, and other measures as SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed a SWMP to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and nonstormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs.

### ***California Department of Fish and Wildlife***

Under Sections 1600–1617 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) is responsible for the protection and conservation of the state’s fish and wildlife resources. CDFW regulates projects that affect the flow, bed, channel, or banks of rivers, streams, and lakes. Section 1602 requires entities to notify CDFW if they plan to substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. If, based on a complete notification, CDFW determines that the activities may substantially adversely affect existing fish and wildlife resources, CDFW will issue a lake or streambed alteration agreement to the entity that contains measures to avoid, minimize, and mitigate the impacts of the activities.

### ***Delta Protection Commission***

The Delta Protection Commission (DPC) was created by the Delta Protection Act of 1992 (Public Resources Code [PRC] 29700 et seq.), and most recently amended by Senate Bill (SB) X7-1 in November 2009. The Delta Protection Act declared that the Delta is a natural resource of statewide, national, and international significance, containing irreplaceable resources, and that it is the policy of the state to recognize, preserve, and protect Delta resources for the use and enjoyment of current and future generations, in a manner that protects and enhances the unique values of the Delta as an evolving place (PRC 29701–29702) (DPC 2019). PRC Section 29760 requires the DPC to prepare and adopt a long-term resource management plan for land uses in the Primary Zone of the Delta. The Land Use and Resource Management Plan guides local land use decisions on projects in the areas of agriculture, flood protection, Delta communities, natural resources, recreation, and utilities and infrastructure. General plans and projects in the

five Delta counties must be consistent with the plan and are subject to review by the DPC. The DPC also comments on projects in the Secondary Zone that have the potential to affect the Primary Zone (DPC 2010). Parts of the Permit Area are located within the Primary and Secondary Zones.

### ***Senate Bill 5***

SB 5, signed into California state law on October 10, 2007, enacts the Central Valley Flood Protection Act of 2008. The requirements of DWR and the Central Valley Flood Protection Board under SB 5 are as follows.

- Requires preparing and adopting a Central Valley Flood Protection Plan (CVFPP) by 2012 (described in *Regional and Local* under *Central Valley Flood Protection Plan*).
- Requires establishing 200-year protection as the minimum urban level of flood protection, effective with respect to specific development projects as of 2015 or 2025.
- Sets deadlines for cities and counties in the Central Valley to amend their general plans and their zoning ordinances to conform to the CVFPP within 24 months and 36 months, respectively, of its adoption (i.e., approximately 2014 and 2015).
- Obligates Central Valley counties to develop flood emergency plans within 24 months of adoption of the CVFPP.
- Requires DWR to propose amendments to the California Building Standards Code to protect areas with flood depths anticipated to exceed 3 feet for the 200-year flood event. SB 5 requires that California Building Standards Code amendments be designed to reduce the risk of flood damage and increase safety.

### ***California Department of Pesticides Regulation***

California Department of Pesticides Regulation is the lead agency for regulating the registration, sales, and use of pesticides in California. It is required by law to protect the environment, including surface waters, from environmental impacts of pesticides by prohibiting, regulating, or controlling the uses of such pesticides. The California Department of Pesticides Regulation has both a Surface Water and Groundwater Protection Program that address sources of pesticide residues in surface waters and have preventive and response components to reduce the presence of pesticides in surface water and groundwater. The preventive component includes local outreach to promote management practices that reduce pesticide runoff and prevent continued movement to groundwater in contaminated areas. In order to promote cooperation to protect water quality from the adverse effects of pesticides, the California Department of Pesticides Regulation and SWRCB signed a Management Agency Agreement. The Management Agency Agreement, and its companion document, the California Pesticide Management

Plan for Water Quality, are intended to coordinate interaction, facilitate communication, promote problem solving, and ultimately assure the protection of water quality.

## **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### ***Regional Water Quality Control Plan (Basin Plan)***

The majority of the Permit Area is under the jurisdiction of the Central Valley RWQCB's basin plan. RWQCBs establish regulatory standards and objectives for water quality for waters in their respective jurisdictions in their Water Quality Control Plans (WQCP; commonly referred to as basin plans). The RWQCB is required to develop, adopt (after public hearing), and implement a basin plan for their region. Basin plans are updated and reviewed every 3 years. They provide the technical basis for determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. A basin plan must include (1) a statement of beneficial water uses that the RWQCB will protect, (2) the water quality objectives needed to protect the designated beneficial water uses, and (3) strategies to be implemented, with time schedules for achieving the water quality objectives. The Central Valley RWQCB Basin Plan was revised in May 2018 (Central Valley RWQCB 2018).

In basin plans, RWQCBs designate beneficial uses for all waterbody segments in their jurisdictions and then set the criteria necessary to protect and support these uses. Consequently, the water quality objectives developed for particular water segments are based on the designated use and vary depending on that use. Each RWQCB has regionwide and waterbody-specific beneficial uses and sets numeric and narrative water quality objectives for several substances and parameters in numerous surface waters in its region. The RWQCBs have set specific water quality objectives for concentrations of chemical constituents for all bodies of water according to their designated beneficial uses for the following substances and parameters: ammonia, bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity. For waterbodies that do not have specific beneficial uses or water quality objectives designated in the basin plan,

the tributary rule applies. In addition, SWRCB identifies waters that fail to meet standards for specific pollutants, which are then state listed in accordance with CWA Section 303(d).

### ***Bay-Delta Plan***

A portion of the Permit Area is under the jurisdiction of the SWRCB's WQCP for the San Francisco/Sacramento–San Joaquin Delta Estuary (also known as Bay-Delta Plan). The Bay-Delta Plan covers the Bay-Delta Estuary and tributary watersheds, and protects their beneficial uses that require control of salinity and water project operations. This document, last revised in December 2018, is a complimentary document to other WQCPs adopted by the SWRCB and RWQCBs (SWRCB 2018). It protects the beneficial uses of the Bay-Delta Estuary and tributary watersheds, and in the event of any conflict between this plan and regional WQCPs, it supersedes (SWRCB 2018).

### ***The Delta Plan***

The Sacramento–San Joaquin Delta Reform Act of 2009 (Delta Reform Act) established the Delta Stewardship Council to create a plan to manage the Delta's water and environmental resources. The Delta Plan seeks to achieve the State's goal of a reliable statewide water supply and a protected Delta ecosystem (Delta Stewardship Council 2020).

### ***Central Valley Flood Protection Plan***

The CVFPP, as set forth in California Water Code Section 9614, was adopted on June 29, 2012. The CVFPP proposes a “systemwide investment approach” for integrated, sustainable flood management in areas currently protected by facilities of the State Plan of Flood Control. The CVFPP includes a Conservation Strategy with measurable objectives for ecosystem functions and habitats that both restoration and multi-benefit projects within the State Plan of Flood Control should strive to contribute to. The CVFPP includes the following elements.

- A description of the Flood Management System, its performance, and the challenges to modifying it.
- A description of the facilities included in the State Plan of Flood Control.
- A description of probable impacts of projected climate change, land use patterns, and other potential challenges.
- An evaluation of needed infrastructure improvements and identification of facilities recommended for removal.
- A description of both structural and nonstructural methods for providing an urban level of flood protection to currently urbanized areas in the Central Valley.

***Sacramento County General Plan***

The *Sacramento County General Plan* (Sacramento County 2017) Conservation, Delta Protection, Hazardous Materials, and Open Space Elements contain policies related to managing surface water and groundwater quality, and water supply. In the Conservation Element, there are six water resources objectives that optimize use of water, groundwater management, water as a means of protection for ecosystems, and runoff (Objectives 1 through 6). There are multiple supporting policies to support these water resource objectives. The Delta Protection Element contains water quality objectives related to water quality in the Delta (Policies DP-48, DP-49) and flood management (Policy DP-50). The Hazardous Materials Element seeks to prevent contamination of water resources by controlling the disposal of harmful materials (Policies HM-8, HM-9). The Open Space Element includes an implementation measure to support and protect watershed programs and advocacy groups which help protect water quality in local creeks and rivers.

***Yolo County General Plan***

The *Yolo County 2030 Countywide General Plan* (Yolo County 2009) Land Use and Community Character Element contains policies related to groundwater recharge, preservation of water resources, and flood protection (Policies CC-1.4, CC-1.5, CC-1.10, CC-1.12, CC-1.13, CC-1.16). The Conservation and Open Space Element has an entire section dedicated to the safety and sustainability of water resources (Goal CO-5) with many supplemental policies. (Policies CO-5.1 through CO-5.34).

***Placer County General Plan***

The *Placer County Countywide General Plan* (Placer County 2013) Natural Resources Element contains policies related to the preservation of water resources. Section 6 is entirely dedicated to the protection and enhancement of Placer County's rivers, streams, creeks and groundwater (Policies 6.A.1 through 6.A.15).

***Amador County General Plan***

The *Amador County General Plan* (Amador County 2016) Conservation Element contains policies related to water quality protection (Policies C-3.1 through C-4.4, C-5.1, C-5.2).

***San Joaquin County General Plan***

The *San Joaquin County General Plan* (San Joaquin County 2016) Public Facilities and Services, Public Health and Safety, and Natural and Cultural Resources Elements contain policies related to groundwater management, stormwater, water quality, and the Delta. The Public Facilities and Services Element contains policies related to groundwater and stormwater (Policies IS-4.9, IS-4.10, IS-4.11, IS-4.15, IS-4.16, IS-7.1, IS-7.2). The Public Health and Safety Element includes policies related to flooding (Policies PHS-2.1 through PHS-2.23). The Natural and Cultural Resources Element contains policies related to water quality for municipal, industrial, agriculture, recreation, fish and wildlife uses

(Policies NCR-3.1 through NCR-3.10). In addition, there is an entire section dedicated specifically to the preservation of the Delta.

### ***City General Plans***

In addition to county general plans, the cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, Folsom, and Roseville all have general plan policies related to hydrology and water quality. Similar to the county general plans, these policies are related to water quality, hydrology, and floodplains. These policies are applicable to residential, commercial, and industrial development, not to implementation of the Conservation Strategy and Covered Activities.

#### *3.10.2 Environmental Setting*

### **Climate and Precipitation**

As described in Section 3.2.5 of the proposed HCP, the climate in the Permit Area consists of hot, dry summers and cool, wet winters. The Sierra Nevada to the east shield the area from the extremes of the continental climate, and the Coast Ranges to the west block the cool ocean air in the summer. Daily summer temperature maximums average 87–93 degrees Fahrenheit and winter minimums average 37–50 degrees Fahrenheit. An average of 17 inches of rain falls each year.

### **Surface Hydrology**

#### ***Regional Drainage***

The Central Valley Basin Plan includes the Sacramento River Basin and San Joaquin River drainage basins, which stretch across 400 miles. The Sacramento River and San Joaquin River cover over 30 percent of the state's irrigable land and furnish approximately 51 percent of the state's water supply. The surface waters from these two drainage basins meet and form the Delta, which ultimately drains to San Francisco Bay (Central Valley RWQCB 2018). A portion of the Permit Area is also within the Bay-Delta Estuary (SWRCB 2018)

As described in Section 3.2.4 of the proposed HCP, waterways subject to tidal influence include numerous sloughs and channels in the Delta region, as well as the mouth of the Cosumnes River and the Sacramento River as far north as the city of Sacramento. Upstream dams provide flood protection along the Sacramento and American Rivers but not the Cosumnes River. Human-made levees have also been constructed along many drainages for flood protection. The lower Sacramento Valley and Sierra Nevada foothills contain vernal pools in some areas of nearly level to gently sloping topography.

Natural drainages in the Permit Area generally flow east to west or southwest. The area is located predominantly within the Sacramento River Basin, which drains to the eastern slopes of the Coast Range, Mount Shasta, the western slopes of the southernmost region of the Cascades, and to the northern portion of the Sierra Nevada. The Permit Area is

located within 8 subbasins (Upper Putah, Lower Sacramento, Lower American, South Fork American, Upper Coon-Upper Auburn, North Fork American, Upper Cosumnes, and Upper Mokelumne), and within 20 watersheds. A *watershed* is generally described as an area located within a basin that is entirely drained by a common watercourse. Watersheds are generally mapped and discussed in terms of hydrologic units. A *hydrologic unit* describes the area of land upstream from a specific point on the stream (generally the mouth or outlet) that contributes surface water runoff directly to this outlet point. Every hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of 2 to 12 digits based on the levels of classification in the hydrologic unit system. Within or intersecting with the Permit Area, there are 20 watersheds derived from the Federal Standard for Delineation of Hydrologic Unit Boundaries (10-digit hydrologic units [HUC-10] watersheds) and 8 HUC-8 watersheds. Table 3-1 in the proposed HCP lists the subbasins and watersheds within or intersecting with the Permit Area, with their affiliated acreages.

### ***Watercourses***

Major waterways within the Permit Area are shown in Figure 3-2 of the proposed HCP. The major rivers in the Permit Area include the Sacramento, American, Mokelumne, and Cosumnes Rivers, which are generally perennial (small portions of the Cosumnes River may be dry in low rainfall years). Based on SMUD's geographic information system (GIS) data, there are approximately 1,150 miles of intermittent streams and approximately 122.4 miles of perennial streams in the Permit Area. Most creeks in the Permit Area are intermittent. However, Dry Creek in the northern part of Sacramento County, Arcade Creek, Willow Creek, Morrison Creek, Buffalo Creek, and portions of Deer Creek flow throughout the year. Other creeks may contain water for the majority of the year but are supplemented by urban runoff and agricultural and residential irrigation.

### ***Surface Water Quality***

Urbanization of the Central Valley has reduced the quality of surface water as a result of wastewater and industrial discharges, loss of wetlands, widespread stream modification for flood control projects and urban development, sedimentation from construction activities, and contamination from pollutants. Modifications to the natural hydrology can affect water quality as a result of increased impervious surfaces, which leads to higher levels of pollutants in surface runoff and a reduction in wetlands and riparian areas, which help filter pollutants and improve water quality. Agricultural activities in rural areas can also degrade water quality from pollutants in agricultural discharges, onsite sewage systems, and land conversions.

The SWRCB and RWQCBs have developed WQCPs that provide overall guidance for state agencies to regulate discharges and protect water quality in the basins. For the Permit Area, Sacramento and San Joaquin River Basin Plan, and the Bay-Delta Plan have been developed. Each plan identifies beneficial uses of surface waters and contains water quality objectives that are used to set effluent discharge limits in permits. Examples of beneficial uses are agricultural supply, cold and warm freshwater habitat, municipal

and domestic supply, recreation, and wildlife habitat. Existing and potential beneficial uses have been identified for major waterbodies in these plans; the designated uses also apply to tributaries of the identified waterbodies. To protect the beneficial uses of surface waters, the basin plans also describe water quality objectives to monitor and control pollutant concentrations, physical and chemical conditions of the water, and the toxicity of the water to aquatic organisms. The Permit Area contains numerous waterbodies that have a range of beneficial uses and applicable water quality objectives; information on individual waterbodies can be found in the applicable basin plans.

For waterbodies that do not meet the water quality standards identified in the basin plans, the State has a water quality control policy for developing California's CWA Section 303(d) list of impaired waterbodies. Each RWQCB develops its own listing recommendations for review by SWRCB. The policy ensures a consistent approach to developing recommendations. After the SWRCB finalizes the list, it is submitted to EPA Region 5 for approval. Waters are listed if they do not meet, or are not expected to meet by the next listing cycle, applicable water quality standards after the application of certain technology-based controls. Through the listing process, these waters are scheduled for development of TMDLs or other actions to ensure that appropriate actions are taken to meet water quality standards. The TMDLs establish pollutant limits to reduce the amount of pollutants entering the waterbody and enable the waterbody to meet water quality standards. The state reviews and updates the 303(d) list of impaired waterbodies as needed; the current CWA Section 303(d)/305(b) list is the 2014/2016 Integrated Report. SWRCB has listed several major waterbodies within the Permit Area as impaired for various pollutants, such as diazinon, mercury, polychlorinated biphenyls (PCBs), indicator bacteria, copper, and more (see Table 3.10-1). Only major waterways are listed below.

**Table 3.10-1 303(d) Impairments for Major Waterways in the Permit Area**

<b>Stream Name</b>	<b>Pollutant/Stressor</b>	<b>Source</b>	<b>TMDL Completion Date</b>
Steelhead Creek	Diazinon	Agriculture	
	Mercury	Unknown Source	2027
	Polychlorinated biphenyls (PCBs)	Unknown Source	2020
Dry Creek	Indicator Bacteria	Unknown Source	2027
Arcade Creek	Chlorpyrifos	Urban Runoff/Storm Sewers	2004
	Copper	Unknown Source	2021
	Diazinon	Urban Runoff/Storm Sewers	2004
	Malathion	Unknown Source	2021
	Pyrethroids	Unknown Source	2021
	Toxicity	Unknown Source	2021
American River, Lower (Nimbus Dam to confluence with Sacramento River)	Bifenthrin	Unknown Source	2027
	Indicator Bacteria	Unknown Source	2027
	Mercury	Unknown Source	2010
	PCBs	Unknown Source	2021
	Pyrethroids	Unknown Source	2027
	Toxicity	Unknown Source	2021

Stream Name	Pollutant/Stressor	Source	TMDL Completion Date
Morrison Creek	Diazinon	Urban Runoff/Storm Sewers	2004
	Pentachlorophenol (PCP)	Unknown Source	2027
	Pyrethroids	Unknown Source	2021
	Toxicity	Unknown Source	2021
Dry Creek (Placer and Sacramento Counties)	Indicator Bacteria	Unknown Source	2027
Sacramento River (Knights Landing to the Delta)	Chlordane	Unknown Source	2021
	Dichlorodiphenyltrichloroethane (DDT)	Unknown Source	2027
	Dieldrin	Unknown Source	2022
	Mercury	Unknown Source	2012
	PCBs	Unknown Source	2021
	Toxicity	Unknown Source	2027
Mokelumne River Lower (in Delta Waterways, eastern portion)	Chlorpyrifos Copper Mercury	Agriculture	2007
		Unknown Source	2020
		Agricultural Return Flows	2011
		Atmospheric Deposition	2011
		Highway/Road/Bridge Runoff	2011
		Industrial Point Sources	2011
		Municipal Point Sources	2011
		Natural Sources	2011
		Resource Extraction	2011
		See TMDL documentation	2011
		Urban Runoff/Storm Sewers	2011
		Unknown Source	2011
		Oxygen, Dissolved	Unknown Source
	Toxicity	Unknown Source	2021
Zinc	Unknown Source	2027	

Source: SWRCB 2017.

## Groundwater

The Permit Area is located within the Sacramento River and San Joaquin hydrologic region, which contain multiple groundwater basins.

The Sacramento River hydrologic region covers approximately 17.4 million acres and the San Joaquin Valley hydrologic region covers approximately 9.7 million acres. The groundwater basins underlying the Permit Area in the Sacramento River hydrologic region contains four groundwater basins including: Yolo, Solano, North American, and South American. The portion of the San Joaquin Valley hydrologic region in the Permit Area is located within the Cosumnes, Yosemite Valley, and the Eastern San Joaquin basins (DWR 2003).

Groundwater recharge typically occurs from runoff infiltrating permeable sediments of a valley floor, either at the basin margins or through streambeds where the water table is lower than the water level in the stream. In some of the basins that are hydraulically connected to other basins, water enters as lateral subsurface flow from an adjacent basin.

Groundwater quality in the Sacramento River hydrologic region provides approximately 31 percent urban and agricultural uses water supply. Although water quality is generally good, there are areas with contamination. There are natural water quality impairments concerns that occur from sediments, total dissolved solids, hydrogen sulfide, and heavy metals. There is also human-caused contamination that originates from individual septic system development in areas where there is not enough soil layer for filtration prior to draining into an aquifer (DWR 2003).

Groundwater in the San Joaquin Valley hydrologic region provides approximately 41 percent of the water supply for the region's urban and agriculture uses. The area uses about 10 percent of the state's overall supply of groundwater for agricultural and urban uses. Groundwater quality through the region is generally suitable for most urban and agricultural uses with only local impairments. The primary constituents of concern include: high total dissolved solids, nitrate, arsenic, and organic compounds (DWR 2003).

## **Flooding**

The Permit Area contains many major waterways including, but not limited to the Sacramento, American, Mokelumne, and Cosumnes Rivers, which heightens the Permit Area's risk of flooding. As defined by FEMA, Special Flood Hazard Areas (SFHA) are areas that will be inundated by a flood event having a 1-percent chance of annual flood that will be equal or exceeded in any given year. This area, also known as the 100-year flood area, covers approximately 28 percent of the Permit Area. Approximately 4 percent of the Permit Area is located within a minimal flood hazard zone. This area is between the limits of the 100-year and 500-year floods, and is used to designate base floodplains of lesser hazards (areas of 0.2 percent annual chance of flood), such as shallow flooding areas with average depths of less than 1 foot or drainage areas less than 1 square mile or areas with 100-year levee protection. The remainder of the Permit Area consists of areas with reduced risk due to levees (approximately 6 percent), regulatory floodways (approximately 2 percent) and the remaining 60 percent of the Permit Area is outside of mapped SFHAs (FEMA 2019).

## **Tsunami and Seiche**

The Permit Area is located in the lower Sacramento Valley, with the western portion of the area of the Permit Area located approximately 60 miles east of the Pacific coastline. There are no tsunami inundation maps that have been prepared for Sacramento County due to its distance from the coastline; the closest areas that have inundations maps are located in Benicia, at least 30 miles southwest of the Permit Area (California Department of Conservation 2019).

Large enclosed or partially enclosed waterbodies, such as Lake Natoma and Folsom Lake, are susceptible to seiches, which are large standing waves. However, there is no history of seiches in the Permit Area.

### 3.10.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by CDFW and the U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under the California Environmental Quality Act (CEQA), which can range from exemptions to EIRs.

Impacts associated with SMUD's Nature Preserve Mitigation Bank (SMUD Bank) Oak Tree Planting (C1) and SMUD Bank Management (C2) were analyzed in the 2010 Initial Study and Mitigated Negative Declaration document for the SMUD Bank (SMUD 2010; SCH #2008022151), and will not be discussed in this document.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

#### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, the proposed Project would result in a potentially significant impact related to hydrology and water quality if it would do the following. Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed Project may impede sustainable groundwater management of the basin
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation onsite or offsite
- Substantially alter the existing drainage pattern of a site or area or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff which would result in flooding onsite or offsite
- Substantially alter the existing drainage pattern of a site or area or through the addition of impervious surfaces, in a manner which would create runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
- Substantially alter the existing drainage pattern of a site or area or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows
- In a flood hazard, tsunami, or seiche zone, risk release of pollutants due to proposed Project inundation
- Conflict with or obstruct implementation of a WQCP or sustainable GMP.

## Impact Analysis

### ***Impact 3.10-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would result in minimal soil disturbance and would have **no impact** on water quality.

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There are numerous major waterways and intermittent streams within the Permit Area. Some Covered Activities, specifically those entailing new construction such as substation expansion (E15) and construction (E16) would involve earthmoving and construction activities that would use water, potentially cause erosion, and may pollute surface and groundwater features.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would be implemented using hand tools only and would not require any heavy construction or equipment that might affect water quality. Although enhancement and introduction of these grasses would disturb soil, it would not need coverage under the General Construction Permit because no construction would be involved. Thus, soil disturbance would be minimal and there would be no change in impervious surface area. Therefore, there would be **no impact** on surface water or groundwater quality.

### ***Indirect Actions***

#### Operation and Maintenance

Operation and maintenance (O&M) Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. O&M activities could result in short-term impacts on water quality resulting from minor ground disturbance from activities including wood pole testing (E6a), wood pole treatment (E6b), pole replacement (E8), pad-mounted transformer repair and replacement (E9b), internal pipeline inspection (G4), pipeline maintenance and repair (G5a, G5b), pipeline cathodic protection test station installation (G6), and electrical telecommunication replacement (T3). There would be potential for erosion and pollutant runoff, which could seep into waterways and percolate into groundwater aquifers. SMUD would be required to comply with federal, state, and local stormwater management regulations. Where more than 1 acre of land disturbance would occur during construction activities, coverage under the State of California General Construction Storm Water Permit (CGP, Order No. 2009-0009-DWQ as modified by Order No. 2010-0014-DWQ) would be required. SMUD would comply with all applicable laws and regulations related to hazardous materials, as discussed in Section 3.9.1, Regulatory Setting. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by the Certified Unified Program Agency (CUPA) and the California Division of Occupational Safety and Health (Cal/OSHA), thereby reducing the potential for inadvertent release of these materials.

Other activities such as Wood Pole Testing and Treatment (E6), Pole Replacement (E8) and Underground Component Repair and Replacement (E9) would involve the handling of hazardous waste in the form of treated wood waste (TWW) in wooden poles and PCBs associated with pad-mounted transformers. TWW is considered a low-risk hazardous waste. As such, sampling is not required, and it may be disposed of in either a hazardous waste landfill or in a composite-lined portion of a solid waste landfill approved by the RWQCB to accept TWW. The handling and disposal of TWW would be in accordance with all applicable laws.

Hazardous materials associated with pad-mounted transformers and switchgear equipment that include mineral oil and PCBs could be encountered during maintenance or replacement activities. Generally, these materials are confined to a containment system to avoid inadvertent release and would not pose a serious threat to human health or the environment.

Internal Pipeline Inspection (G4) workers would test for and could encounter hazardous materials in pipelines. Any hazardous material would be disposed of in accordance with state and federal law.

SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. Implementation of AMMs in the HCP listed below and similar measures would further minimize potential adverse effects related to water quality.

- G-AMM2 (Minimize work area footprint)
- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM8 (Clean up any hazardous materials spills)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)
- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- When in SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover:
  - VP-AMM3 (Avoid trenching in vernal pools, seasonal wetlands, and swales)
  - VP-AMM6 (Restrict Covered Activities within 250 feet of vernal pools, seasonal wetlands, and swales to the dry season)
  - VP-AMM7 (Retain a biologist to monitor construction within vernal pools, seasonal wetlands, and swales)

The installation of new facilities is addressed under *New Construction*, below.

### New Construction

New construction Covered Activities constituting a change from baseline conditions would include new construction activities for new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. New construction activities could result in short-term and long-term impacts on water quality resulting from ground disturbance from the following activities: subtransmission line construction (E13), trenching (E14) drilling (E14b), substation expansion (E15), new substation construction (E16), valve stations construction (G9), trenching (G10a), drilling (G10b), boring (G10c), and telecommunication towers (T2). Construction activities could involve short-term impacts on water quality due to ground disturbance, and activities, such as trenching, drilling, hydrostatic testing and potential dewatering, using and disposing water.

Construction activities such as clearing, grubbing, and grading would disturb soil and leave areas susceptible to erosion. Equipment used would include but not be limited to backhoes, excavators, and welding equipment. Construction activities would include vehicle movement, vehicle and equipment noise, human presence, dust generation (from off-road travel and construction activities), lay down of vegetation, temporary vegetation removal, temporary ground disturbance within work areas, ground vibration, and temporary or permanent changes in hydrology or runoff. Many of these activities would also involve use of a large amount of water, which would be disposed of consistent with local water quality considerations, and any necessary water quality permits would be obtained when disposing of test water. SMUD would discharge only clean water, and the water would not be released under pressure.

As described above for O&M Covered Activities, SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. Implementation of AMMs in the HCP listed above and similar measures would minimize measures similar to those above for O&M Covered Activities and G-AMM19 would further minimize potential adverse effects related to water quality.

### Vegetation Management

Vegetation management Covered Activities constituting a change from baseline conditions would include activities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Vegetation management activities could result in short-term impacts on water quality through sediment disturbance and any associated pollutants from an accidental discharge from materials or equipment that may be introduced into drainage structures or other waterbodies. The removal of elderberry shrub by transplantation (V5b) and vegetation management (V7) would result in temporary ground disturbance. However, given the limited extent of vegetation management activities and that vegetation is currently being maintained in many of the areas that would be affected by these activities, disturbance of water quality would likely not be substantial. Implementation of AMMs in the HCP listed below and similar measures could further avoid impacts from vegetation management activities on the landscape.

- G-AMM2 (Minimize work area footprint)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### Miscellaneous Covered Activities

Miscellaneous Covered Activities constituting a change from baseline conditions would include activities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Cathodic protection installation (M2a) and water pipeline segment replacement (M2c) would feature temporary ground disturbance. Replacing water pipeline would require draining or removing all the water from the pipeline, excavation around the damaged pipeline segment(s), removal and replacement of the damaged section, backfilling the excavated area, and restoring the site to preconstruction contours. As described above for other activities, short-term impacts from ground disturbance that could affect soil filtration and erosion would be minimized through the implementation of BMPs to reduce pollutant discharge. All movement of water and any groundwater encountered would be properly treated prior to disposal.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. As no construction involving heavy equipment would be involved, soil disturbance and thus water quality impacts would be minimal. In addition, there would be no change in impervious surface area. Therefore, there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M Covered Activities, vegetation management for new facilities, conservation and enhancement activities, and miscellaneous Covered Activities could result in short- and long-term impacts on water quality. Construction activities, specifically substation expansion (E15) and construction (E16), could result in short- and long-term adverse effects on water quality due to soil disturbance and water movement. Compliance with local and state stormwater requirements and disposal regulations, and measures similar to those identified above, as refined as part of project-specific CEQA review, would minimize impacts. For these reasons it is unlikely that adverse water quality impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or

analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.10-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not use groundwater resources during planting or for management. Therefore, there would be **no impact**.

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No groundwater resources use would be associated with enhancing Sacramento Orcutt grass population and introducing slender Orcutt grass at the SMUD Bank. Other construction activities could encounter groundwater and may require dewatering.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. There would be no change in impervious areas that could inhibit groundwater recharge. Therefore, there would be no impact.

***Indirect Actions***

Operation and Maintenance

As discussed under Impact 3.10-1 above, O&M of new facilities would constitute a change from baseline conditions. O&M activities including wood pole testing (E6a), wood pole treatment (E6b), pole replacement (E8), pad-mounted transformer repair and replacement (E9b), internal pipeline inspection (G4), pipeline maintenance and repair (G5a, G5b), pipeline cathodic protection test station installation (G6), and electrical telecommunication replacement (T3), would not utilize groundwater supplies related to construction activities. However, in the event that groundwater is encountered during soil excavation, it would be properly treated prior to disposal per Central Valley RWQCB dewatering requirements. If permitted, discharges would likely take place into existing trenches for percolation or pumped into storage tanks for proper offsite treatment and disposal, ensuring that impacts would be minimized.

## New Construction

New construction Covered Activities constituting a change from baseline conditions would include new construction activities for new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Construction activities would include: subtransmission line construction (E13), trenching (E14) drilling (E14b), substation expansion (E15), new substation construction (E16), valve stations construction (G9), trenching (G10a), drilling (G10b), boring (G10c), and telecommunication towers (T2). Although construction activities such as new substation construction (E16) would require water usage, this water would originate from municipal sources and not groundwater supplies, and since this water would not be consumed by the activity but be sprayed for dust suppression, it would generally provide supplemental water for groundwater recharge. As construction of new facilities may also require trenching and boring along existing or new gas pipelines or subtransmission and distribution line easements, trench dewatering may be necessary. However, groundwater would be discharged properly, in most cases into existing trenches, for percolation. Newly constructed facilities (E16) would add impervious areas. SMUD assumes there would be four new transmission substations constructed over the 30-year Permit Term, and each substation would permanently affect approximately 11 acres of land. Although the exact quantity of additional impervious area is unknown, it is expected to be minimal, less than 1 acre, as the areas would be covered in crushed gravel and the only impervious areas would consist of concrete foundations for equipment. In addition, implementation of AMMs in the HCP listed below and similar measures would assist with soil percolation and amplify groundwater discharge, further minimizing impacts.

- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)
- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)
- When in SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover:
  - VP-AMM3 (Avoid trenching in vernal pools, seasonal wetlands, and swales)
  - VP-AMM6 (Restrict covered activities within 250 feet of vernal pools, seasonal wetlands, and swales to the dry season)
  - VP-AMM7 (Retain a biologist to monitor construction within vernal pools, seasonal wetlands, and swales)

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree removal (V4), trimming (V5a), and vegetation clearing (V6) and maintenance (V7) and routine vegetation management actions within newly constructed overhead subtransmission and distribution line easements (V1 and V2), as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. In addition, implementation of the proposed HCP would enable trimming, transplanting, and removing elderberry shrubs (V5a, V5b, V5c). Groundwater is not anticipated to be used for vegetation management or for long-term maintenance.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions would include activities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Cathodic protection installation (M2a) and water pipeline segment replacement (M2c) would feature temporary ground disturbance. Construction activities for O&M of the new facilities (i.e., cathodic protection test stations, pipeline valve, two new segments of pipeline) may encounter groundwater which would be properly handled prior to discharge. Therefore, these activities would not deplete or inhibit groundwater reserves.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. There would be no change in impervious area and any water needed for irrigation would be pumped from Rancho Seco Lake. Thus, there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M Covered Activities, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term groundwater impacts, but the impacts would be negligible. Short-term impacts would primarily occur from dewatering activities as groundwater supplies are not anticipated to be used for the covered activities mentioned above. Construction activities such as trenching could require dewatering which would require proper treatment and disposal to groundwater percolation areas. Measures similar to those identified above, as refined as part of project-specific CEQA review if required, could reduce impacts. For these reasons it is unlikely that adverse groundwater impacts would occur. However, the detailed potential environmental effects of these Indirect

Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.10-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in: 1) substantial erosion or siltation on- or off-site; 2) substantially increase the rate or amount of surface runoff which would result in flooding on- or off-site; 3) create runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; 4) impede or redirect flood flows***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would involve minimal soil disturbance. No impervious area would be added so these activities would not affect long-term drainage, and in fact would likely produce a minor long-term net enhancement. Thus, there would be **no impact**.

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Generally, Covered Activities would result in short-term, temporary impacts on drainage patterns but would not likely have long-term impacts. Construction activities would include activities such as clearing, grubbing, and grading, which could temporarily alter drainage patterns through ground disturbance that would expose soil and could result in accelerated erosion. The long-term additional impervious area added throughout the Permit Area would be relatively minor and therefore unlikely to permanently alter drainage patterns and increase runoff.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would be implemented with hand tools only and would not require any heavy construction or equipment that might affect water quality. Soil disturbance would be minimal and there would be no changes in impervious area. Therefore, there would be no impact.

### ***Indirect Actions***

#### Operation and Maintenance

As discussed under Impact 3.10-1 above, O&M of new facilities would constitute a change from baseline conditions. These O&M activities could result in short-term, temporary drainage changes related to maintenance of newly constructed or relocated facilities.

Construction activities, including wood pole testing (E6a), wood pole treatment (E6b), pole replacement (E8), pad-mounted transformer repair and replacement (E9b), internal pipeline inspection (G4), pipeline maintenance and repair (G5a, G5b), pipeline cathodic protection test station installation (G6), and electrical telecommunication replacement (T3), would introduce the potential for increased erosion and sedimentation, with subsequent effects on drainage. During construction, trenching, site preparation, excavation, and other construction activities would create areas of bare soil that could be exposed to erosive forces. Bare soils are much more likely to erode than vegetated areas because of the lack of dispersion, infiltration, and retention properties created by covering vegetation. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading could result in increased erosion and sedimentation that can increase sediment discharge to surface waters, if proper BMPs are not used. Erosion control measures as described in the discussion of Impact 3.10-1 would be put into effect to minimize these types of impacts.

### New Construction

New construction activities that would constitute a change from baseline conditions would include new construction activities for new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Construction activities would include subtransmission line construction (E13), trenching (E14) and drilling (E14b), substation expansion (E15), new substation construction (E16), valve station construction (G9), trenching (G10a), drilling (G10b), boring (G10c), and telecommunication towers (T2). As construction of new facilities may require trenching (G10a) and boring (G10c) along existing or new gas pipelines or subtransmission and distribution line easements, trench dewatering may be necessary. See *Operation and Maintenance* above for impacts of construction on erosion and related measures.

In the event that dewatering is needed, SMUD would use a pump to transfer the water and dispose of it in accordance with state and federal law.

New and expanded facilities would add additional impervious area in the Permit Area. However, the increase would be minimal and is not anticipated to increase surface water runoff. SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1 and Impact 3.10-1. In addition, implementation of AMMs in the HCP listed below and similar measures would help ensure no increase in the rate of surface runoff.

- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)
- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)

- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)
- GGS-AMM3 (Minimize vegetation clearing within giant garter snake modeled habitat)

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions are described in Table 2-10 and Sections 2.3.3 and 2.3.4. As discussed in Section 3.10.2, *Environmental Setting*, various portions of the Permit Area are located within a FEMA 100-year floodplain (see Figure 3.10-1). Vegetation management activities such as tree removal (V4), trimming elderberry stems (V5a), removal and transplantation of elderberry shrubs (V5b), pole vegetation clearing (V6), and vegetation management on pipeline easement (V7) could have short-term impacts on the potential for pollutant discharge release from flooding due to construction activities and construction equipment onsite. Long-term impacts are expected to be minimal as areas of vegetation management in most cases would result in removal of hazard trees and/or thinning of vegetation rather than complete vegetation removal. SMUD would comply with all applicable laws and regulations, as discussed in Section 3.9.1 And Impact 3.10-1. The transportation, handling, and disposal of these materials would be compliant with regulations enforced by CUPA and Cal/OSHA. Implementation of measures similar to those above for New Construction Covered Activities and AMMs in the HCP listed below and similar measures could further avoid impacts from vegetation management activities related to drainage.

- G-AMM2 (Minimize work area footprint)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions would include activities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. The Cosumnes Power Plant (CPP) water pipeline, cathodic protection installation (M2a) and water pipeline segment replacement (M2c) would feature temporary ground disturbance and runoff. The CPP water pipeline would be an approximately 5-mile-long water pipeline conveying surface water from the Folsom South Canal to Rancho Seco Lake. As the pipeline would be located underground, the impact, if any, would be temporary and would only occur during construction of replacing segments of pipe and would not inhibit drainage patterns long term.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. No heavy construction equipment would be used, and there would be no change in impervious area. Therefore, there would be **no impact**.

### ***Mitigation Measures***

No mitigation is required.

### Indirect Actions

O&M Covered Activities, vegetation management for new facilities, and miscellaneous Covered Activities could result in minor localized short-term, changes to drainage through construction ground-disturbing activities, and the presence of equipment onsite for limited periods of time. New construction activities, specifically the expansion (E15) and construction (E16) of new substations could also result in long-term adverse effects through the addition of impervious area. However, the added impervious area is expected to be minimal. Measures similar to those identified above, as refined as part of project-specific CEQA review if required, would minimize impacts during construction and operation by reducing erosion and surface runoff due to new facilities. For these reasons it is unlikely that adverse impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

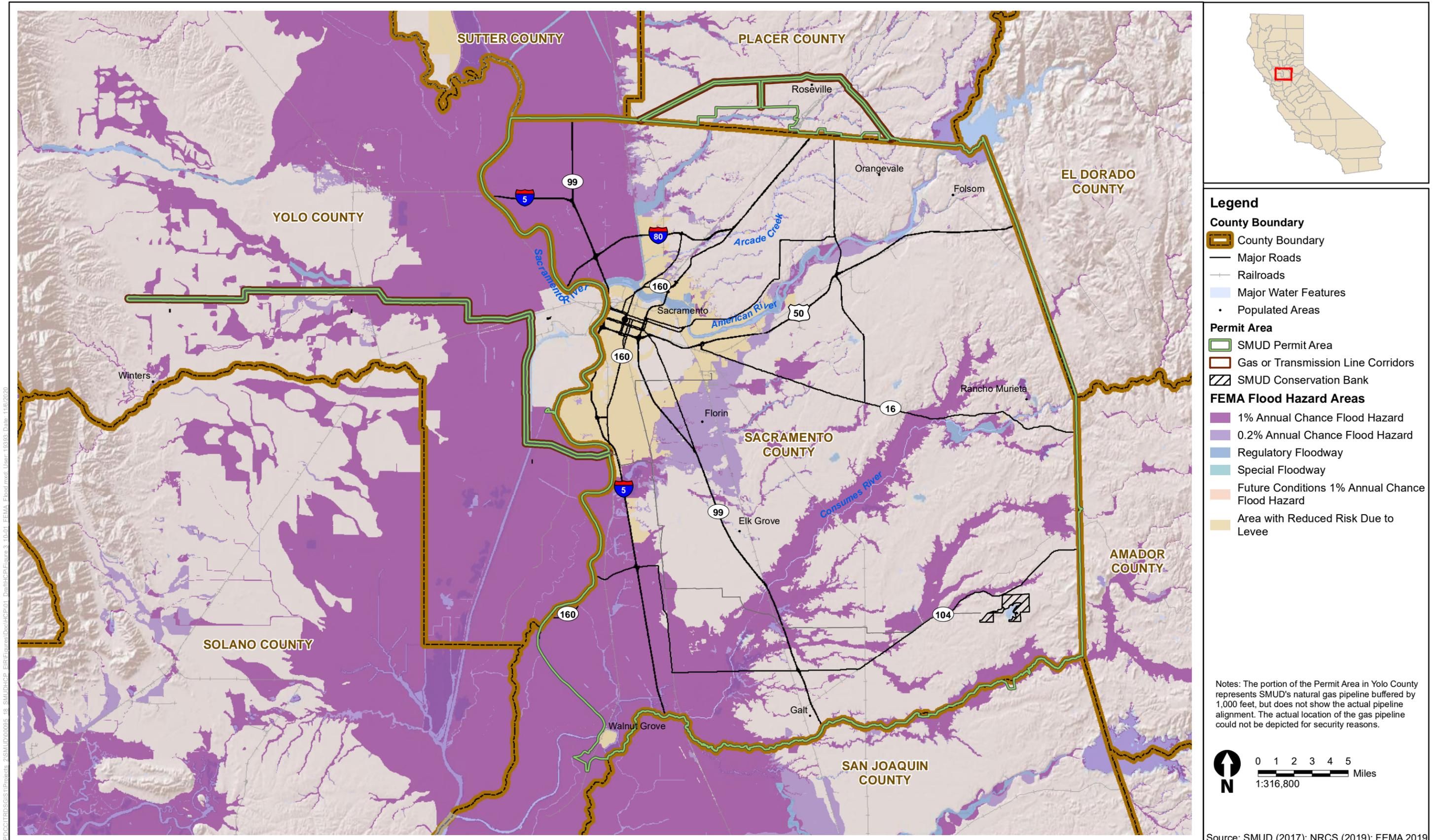
### ***Impact 3.10-4: In a flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not occur directly in a flood hazard, tsunami, or seiche zone. There are no tsunamis or areas with a history of seiches within close proximity to the Permit Area. Therefore, there would be **no impact**.

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As discussed under *Flooding*, in Section 3.10.2, various portions of the Permit Area are located within a FEMA 100-year floodplain, and minimal flood hazard zones (see Figure 3.10-1). The SMUD Bank area where the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would occur is not located



I:\Projects\2018\SMUD\00095\_18\_SMUDHCP\_EIR\Figures\Doc\HCP\01\_DraftHCP\Figure 3.10-1 FEMA Flood.mxd User: 193933 Date: 11/6/2020



**Figure 3.10-1**  
**Flood Hazard Areas within the Permit Area**  
**SMUD HCP**



within a flood zone. However, Covered Activities could result in short-term, temporary impacts on the risk of pollutant release should a flood event occur during minor ground disturbance, removal of vegetation, and the presence of equipment, personnel, and supplies. Some Covered Activities, specifically those entailing new construction, could result in long-term risks due to proposed Project inundation by introducing new facilities (e.g., new substation (E16)).

Due to the Permit Area's distance from the coastline and the San Francisco Bay, the low risk of surface rupture (see Section 3.7, *Geology, Soils, and Paleontological Resources*, for further information), and no history of seiches in the Permit Area at large lakes such as Folsom Lake, Lake Natoma, and Rancho Seco Recreational Park, the Permit Area is not at any risk for a tsunami and has a very low risk for a seiche. Thus, tsunami or seiche risk is not analyzed further in this section.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Although the SMUD Bank surrounds Rancho Seco Recreational Park, which contains a 160-acre lake, it is not subject to flooding according to FEMA. Furthermore, the SMUD Bank and vicinity have not historically been prone to flooding and are not likely to flood even under heavy rainfall (SMUD 2010). The closest SFHA zone is located north of State Route (SR) 104, approximately 1,000 feet north of the SMUD Bank. SR 104 serves as an additional buffer to flooding, separating the SMUD Bank from the nearest flood zone area. Therefore, there would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

As discussed under Impact 3.10-1 above, O&M of new facilities would constitute a change from baseline conditions. The installation of new facilities is addressed under *New Construction*, below. Maintenance of existing facilities that may be located in flood zones would not change whether these facilities would affect flood flows.

#### New Construction

New construction activities enabled by the proposed HCP are shown in Table 2-10 and Sections 2.3.3 and 2.3.4. As described under Impact 3.10-1, new construction activities may include new or expanded facilities such as substations. New construction activities would include: subtransmission line construction (E13), trenching (E14) drilling (E14b), substation expansion (E15), new substation construction (E16), valve stations construction (G9), trenching (G10a), drilling (G10b), boring (G10c), and telecommunication towers (T2). The only structures that could potentially be located in a flood hazard zone would be new substations. SMUD would comply with regulations

related to flood hazard, including elevation of building pads as required in flood zones. Further, new construction site location would be designed to avoid floodways. These types of measures would ensure that impacts related to flood hazards would be minimized.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include removal of up to nine additional trees annually (V4), removal and transplantation of elderberry shrubs (V5b), pole vegetation clearing (V6), and vegetation management on pipeline easement (V7). These activities would not result in construction of any structures.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include cathodic protection installation (M2a) and water pipeline segment replacement (M2c) at the CPP pipeline. The CPP pipeline is not located within or near a flood zone.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not occur in a designated flood zone. Therefore, there would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

The only structures that could potentially be located in a flood hazard zone would be new substations. SMUD would comply with regulations related to flood hazard, including elevation of building pads as required in flood zones. Further, new construction site location would be designed to avoid floodways. These types of measures would ensure that impacts related to flood hazards would be minimized. For these reasons it is unlikely that adverse impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.10-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve irrigation and therefore would not use any groundwater. In addition, implementation would be done with hand tools and would not require any stormwater permits. Therefore, there would be **no impact**.

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The Permit Area is within the jurisdiction of the Region 5 Central Valley RWQCB and would adhere to subsequent basin plans. All Covered Activities that would take place throughout the Permit Area would adhere to the applicable GMP depending on location.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would be implemented using hand tools only and would not require any heavy construction or equipment that might affect water quality. Although enhancement and introduction of these grasses would disturb soil, it would not need coverage under the General Construction Permit as no construction would be involved. Thus, soil disturbance would be minimal and there would be no changes in impervious area. Furthermore, this Direct Action would not involve irrigation and therefore would not use any groundwater. Therefore, there would be **no impact** on conflicting with a WQCP or sustainable GMP.

***Indirect Actions*****Operation and Maintenance**

O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities, as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. O&M activities could result in short-term impacts on water quality resulting from minor ground disturbance and the presence of equipment, personnel, and supplies from the following activities: wood pole testing (E6a), wood pole treatment (E6b), pole replacement (E8), pad-mounted transformer repair and replacement (E9b), internal pipeline inspection (G4), pipeline maintenance and repair (G5a, G5b), pipeline cathodic protection test station installation (G6), and electrical telecommunication replacement (T3). There would be potential for erosion and pollutant runoff, which could seep into waterways and percolate into groundwater aquifers. No groundwater use is anticipated for construction or operational uses. Construction impacts would be temporary and SMUD would be required to comply with federal, state, and local stormwater management regulations. All construction activities would include erosion control and stormwater BMPs, as implemented by AMMs in the HCP listed below and similar measures to protect water

quality and beneficial uses as defined by the Central Valley Region's basin plan, the Bay-Delta Plan, and the North, Central, and South Basin GMPs.

- G-AMM6 (Implement erosion and sediment control measures to prevent construction runoff into sensitive aquatic habitats)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM12 (Avoid placing excess soil in vernal pools, seasonal wetlands, or swales)
- G-AMM13 (Avoid stockpiling soil in vernal pools, seasonal wetlands, or swales)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)
- When in SMUD HCP Vernal Pool, Seasonal Wetland, and Swale land cover:
  - VP-AMM3 (Avoid trenching in vernal pools, seasonal wetlands, and swales)
  - VP-AMM6 (Restrict covered activities within 250 feet of vernal pools, seasonal wetlands, and swales to the dry season)

The installation of new facilities is addressed under *New Construction*, below.

### New Construction

New construction activities are described above. Construction activities would involve short-term impacts on water quality due to ground disturbance, from construction activities such as subtransmission line construction (E13), trenching (E14), drilling (E14b), substation expansion (E15), new substation construction (E16), valve stations construction (G9), trenching (G10a), drilling (G10b), boring (G10c), and telecommunication towers (T2). Many of these activities would also involve a large amount of water use, although groundwater use is not anticipated, which would be disposed of consistent with local water quality considerations and obtain any necessary water quality permits when disposing of test water. SMUD would discharge only clean water, and the water would not be released under pressure. Measures such as those listed below would serve to minimize these impacts.

- G-AMM19 (Avoid discharging hydrostatic test water into vernal pools, seasonal wetlands, or swales)
- Erosion AMMs, as described under *Operation and Maintenance*
- Construction activities would also adhere to the applicable stormwater pollution prevention plan and would regulate discharges to ensure compliance with the basin plan's water quality standards, and the applicable GMP.

As several new and expanded facilities would be added to the Permit Area, impervious area is likely to increase. Increase in impervious areas is discussed in Impact 3.10-2.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include activities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Vegetation management activities, such as the removal of elderberry shrub by transplantation (V5b) and vegetation management (V7), could result in short-term impacts on water quality through sediment and any associated pollutants from an accidental discharge from materials or equipment may be introduced into drainage structures or other waterbodies. Given the limited extent of vegetation management activities and that vegetation is currently being maintained in many of the areas that would be affected by these activities, disturbance of water quality would likely not be substantial. Measures similar to those listed below could further avoid impacts from vegetation management activities on the landscape.

- G-AMM2 (Minimize work area footprint)
- G-AMM15 (Minimize vegetation clearing and grading for temporary vehicle access)
- All applicable erosion control and stormwater BMPs mentioned above under *Operation and Maintenance*

### Miscellaneous Covered Activities

Miscellaneous Covered Activities enabled by the proposed HCP that would constitute a change from baseline conditions include cathodic protection installation (M2a) and water pipeline segment replacement (M2c). Construction of new cathodic test stations, valve, or pipeline segments would require soil excavation up to 10 feet, disturbance, and the drainage and removal of all pipeline water. Replacing water pipeline would require draining or removing all the water from the pipeline, excavation around the damaged pipeline segment(s), removal and replacement of the damaged section, backfilling the excavated area, and restoring the site to preconstruction contours. As describe above in *Operation and Maintenance*, and *New Construction*, short-term impacts from ground disturbance that could affect water quality would be mitigated by AMMs. Thus, all activities would adhere to local basin plans and GMPs.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. There would be no

change in impervious area and no groundwater use. There would be minimal soil disturbance due to the hand tools involved in construction. Thus, there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M Covered Activities, vegetation management for new facilities, and miscellaneous Covered Activities could result in short- and long-term impacts on water quality. New construction activities, specifically substation expansion (E15) and new substations (E16), could result in short- and long-term adverse effects on water quality due to soil disturbance, water movement, and the increase in impervious area. However, in the event that groundwater is encountered during soil excavation, it would be properly treated prior to disposal per Central Valley RWQCB dewatering requirements. Measures similar to those identified above, as refined as part of project-specific CEQA review if required, could reduce impacts by compliance with local and state stormwater requirements and disposal regulations. All activities would comply with basin plan and GMP specifications. For these reasons it is unlikely that adverse impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### 3.11 Land Use and Planning

This section describes the land use characteristics of the Permit Area that are relevant to implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP) and applicable land use plans and regulations. This section evaluates the proposed Project's consistency with applicable land use regulations and plans and the proposed Project's potential to physically divide an established community.

Issues identified in response to the Notice of Preparation (NOP) were considered in preparing this analysis. The NOP comments pertaining to land use and planning include a comment letter from the Delta Stewardship Council (Council) discussing the applicability of the Delta Plan to the proposed HCP. The Delta Plan is described in the setting and considered among the relevant plans analyzed in Impact 3.11-2.

#### 3.11.1 *Regulatory Setting*

##### **Federal**

There is federal land in the Permit Area owned and managed by U.S. Fish and Wildlife Service and Bureau of Land Management. Each has its area has its own specific land use regulations.

##### **State**

There are state-owned and managed lands in the Permit Area, each with its own specific land use regulations. These include land under the jurisdiction of the California State Lands Commission, California Department of Parks and Recreation, and California Department of Fish and Wildlife.

##### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

***Delta Protection Act and Land Use and Resource Management Plan for the Primary Zone of the Delta***

The Delta Protection Act includes a series of findings and declarations related to the quality of the Delta environment and emphasizes the national, state, and local importance of protecting the unique resources of the Delta. The Delta Protection Commission (DPC) became a permanent state agency in 2000 and has planning jurisdiction over portions Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties, including portions of the Permit Area. The DPC's *Land Use and Resource Management Plan for the Primary Zone of the Delta* has eight policy areas, including Environment, Utilities and Infrastructure, Land Use and Development, Water and Levees, Agriculture, Recreation and Access, Marine Patrol, and Boater Education and Safety Programs (DPC 2010).

***Delta Reform Act of 2009 and Delta Plan***

The Council has a legally enforceable management framework for the Delta called the Delta Plan, which applies best available science to further the coequal goals of water supply reliability and ecosystem restoration. The Council was granted specific regulatory and appellate authority by the Legislature under the 2009 Delta Reform Act over certain actions that take place in whole or in part in the Delta. The Council exercises that authority through the development and implementation of the Delta Plan and regulations implementing the Delta Plan. The Delta Plan contains a policy related to land use and planning. This policy requires respect of land use when restoring habitats (Policy DP P2).

***General Plans***

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. A general plan is a comprehensive, long-term document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning. A general plan addresses a broad range of topics (e.g., land use, circulation, housing, conservation, open space, noise, safety, environmental justice). In addressing these topics, a general plan typically identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. SMUD complies with the requirements of local general plans.

**Sacramento County General Plan**

The *Sacramento County General Plan* (Sacramento County 2017) Conservation Element, Public Facilities Element, Land Use Element contains policies related to land use and planning. These include policies to ensure no net loss of wetlands, riparian woodlands, and oak woodlands (Policies CO-58, CO-63), design development to protect natural resources (Policy CO-71), limit land uses within established preserves (Policy CO-86), dictate development within the 100-year floodplain (Policy CO-95), promote habitat restoration adjacent to river floodways (Policy CO-102), and to coordinate with regional planning agencies to ensure land use and environmental policies and programs are consistent with the implementation of the General Plan policy (Policy LU-112), to ensure

that new transfer station facilities are located in industrially zoned areas at distances from residential area (Policy PF-22), ensure proposals to locate all new bulk substations and all other large scale energy transmission facilities equal to or greater than 115 kilovolts are submitted to Planning for review and comment in the form of a General Plan Conformity request (Policy PF-86), to locate subtransmission facilities entirely within a public utility easement or dedicated SMUD easements (Policy PF-103), and ensure consistency between land use and zoning designations (Policy LU-118).

### Yolo County General Plan

The *Yolo County 2030 Countywide General Plan* (Yolo County 2009) Land Use and Community Character Element contains policies related to land use and planning. These include a policy to allow for industrial growth (Policy LU-3.3).

### Placer County General Plan

The *Placer County Countywide General Plan* (Placer County 2013) Land Use Element and Natural Resources Element contain policies related to land use and planning. These include policies to designate and promote adequate land to develop industrial uses (Policies LU 1.E.1–LU 1.E.3), designate specific areas for industrial development (Policies LU 1.E.2 and LU 1.N.11), locate and design public facilities so that they do not adversely affect surrounding land uses (Policy LU 1.F.3), support the plans of other agencies to preserve and protect biological resources from incompatible land uses and development (Policy C 6.C.13), protect important natural communities from incompatible development (Policy C 6.C.14), preserve valuable vegetation (Policies C 6.D.1- 6.D.10, C 6.D.12–6.D.14, C 6.E.1), and preserve open space (Policies C 6.E.1–C 6.E.4).

### Amador County General Plan

The *Amador County General Plan* (Amador County 2016) Land Use Element contains policies related to land use and planning. These include a policy to protect existing land uses and public facilities from encroachment by incompatible land uses (Policy LU-1.1).

### San Joaquin County General Plan

The *San Joaquin County General Plan* (San Joaquin County 2016) Land Use Element and Natural and Cultural Resources Element contain policies related to land use and planning. These include policies to ensure compatible and complimentary development (Policy LU-2.1), to avoid the concentration of uses and facilities that disproportionately affects a particular community or area (Policy LU-2.7), evaluate proposed new development projects for their potential environmental impacts (Policy LU-2.8), require new industrial development provide adequate access, parking, landscaping, loading and storage areas, and buffers (Policy LU-6.7), and protect significant biological and ecological resources (Policy NCR-2.1)

### ***City General Plans***

In addition to county general plans, the Cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, Folsom, and Roseville all have general plan policies related to land use and planning. Similar to the county general plans, these policies are related to ensuring compatible land uses and preserving natural resources. These policies are applicable to residential, commercial, and industrial development, not to implementation of the Conservation Strategy and Covered Activities.

### ***Zoning***

The city or county zoning code is the set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. State law generally requires the city or county zoning code to be consistent with the jurisdiction's general plan (Government Code 65860).

#### *3.11.2 Environmental Setting*

### **Regional Setting**

The Permit Area and vicinity are within California's Central Valley, at the southern end of the Sacramento Valley. The valley region is generally characterized by agricultural land uses and open spaces, and populated with scattered towns and cities. Agricultural land uses consist of farmland and rangeland, orchards, and vineyards. Roadways throughout the area include Interstate 5, Interstate 80, U.S. Highway 50, State Route (SR) 99, SR 16, and SR 160/River Road. To the east, the Sierra Nevada and their foothills form a background, and the Coast Range provides a backdrop on the western horizon.

Urban areas are concentrated in the center and northern portions of the Permit Area and include the cities of Sacramento, Elk Grove, and Rancho Cordova. The city of Galt and other communities are scattered throughout the Permit Area. Cities and communities include residential, commercial, industrial, public uses, recreation, open space, and other lands.

Residential, commercial, and industrial uses in the Permit Area are primarily concentrated around major roadways in the Permit Area. Industrial facilities include the decommissioned Rancho Seco Nuclear Generating Station and the Cosumnes Power Plant (CPP), which dominate views in the areas surrounding these facilities. Existing SMUD facilities throughout the Permit Area include overhead electrical lines, substations, and natural gas transmission facilities.

In addition, the Permit Area includes agriculture and grazing areas, recreation areas, and urban, commercial, and industrial development. Recreation areas include county and city parks, the Rancho Seco Recreation Area, which contains an artificial lake, boating, and camping facilities, and the Amanda Blake Memorial Wildlife Refuge. The Permit Area also includes SMUD's Nature Preserve Mitigation Bank (SMUD Bank), which is a 1,132-acre

property located in southeastern Sacramento County. The SMUD Bank also provides hiking and wildlife viewing opportunities along the Howard Ranch Trail that passes through the northeastern area of the SMUD Bank.

Lands surrounding the SMUD Bank consist mostly of grazed annual grasslands with large vernal pool complexes. Adjacent developed areas include the decommissioned Rancho Seco Nuclear Generating Station (shut down in 1989), the CPP, the Rancho Seco solar installation, Rancho Seco Lake and associated recreational facilities, and the Amanda Blake Memorial Wildlife Refuge. Lands surrounding the SMUD Bank are zoned Permanent Agriculture, 80-acre minimum (Sacramento County 2010a). No known development is currently planned on private lands adjacent to the SMUD Bank (Sacramento County 2010b). The *Long-term Management Plan for the SMUD Nature Preserve Mitigation Bank* establishes objectives and tasks to monitor, manage, maintain, and report on the status of waters of the United States, including wetlands; Covered Species; and covered habitats at the SMUD Bank. The management plan is a binding and enforceable instrument, implemented by a permanent conservation easement covering the SMUD Bank (SMUD 2013).

### ***General Plan Designations and Zoning***

Because the Permit Area encompasses such a large area, the city and county general plan-designated land uses and zoning vary significantly depending upon the location within the Permit Area. In undeveloped and rural areas, the primary designated land uses and zoning allow for agriculture, low-density rural residential uses, and public lands and open space. Designated land uses and zoning in more urban areas include commercial, industrial, and medium- to high-density residential uses.

### ***Habitat Conservation Plan/Natural Community Conservation Plans***

The Permit Area overlaps six other regional HCPs and natural community conservation plans (NCCP). HCPs are developed pursuant to the federal Endangered Species Act, and NCCPs are prepared under the California Natural Community Conservation Planning Act. These regional HCPs and NCCPs include: Natomas Basin HCP, Metro Air Park HCP, the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (an HCP), Western Placer HCP/NCCP, South Sacramento HCP, and the Yolo HCP/NCCP. SMUD considered biological and land use information in these adjacent or overlapping HCPs and HCP/NCCPs in its planning process determine the scope of the SMUD HCP.

#### ***3.11.3 Environmental Impacts and Mitigation Measures***

### **Methodology and Assumptions**

This analysis of impacts is based on an evaluation of the potential changes to land use and planning that would result from implementation of the proposed HCP. Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under the California Environmental Quality Act (CEQA), which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, implementation of the proposed HCP would result in a potentially significant impact related to land use if it would do the following.

- Physically divide an established community.
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

#### ***Impact 3.11-1: Physically divide an established community***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would occur outside of any established community and would not result in the installation of physical structures that could physically divide an established community. There would be **no impact**.

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There are cities and communities scattered throughout Plan Area. Covered Activities would generally occur within dedicated easements or public utility easements that already contain existing SMUD infrastructure and facilities. New or relocated facilities that could be located outside of existing easements would not be of sufficient size to divide a community.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The SMUD Bank is located in a nonurbanized area that consists of suitable or desirable habitat for wildlife and plant species and does not encompass any established community. Due to the location of the SMUD Bank, this Direct Action would not result in a physical division of an established community. Therefore, there would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

SMUD has been operating and maintaining its electrical, natural gas, and telecommunication systems within the Permit Area for more than 75 years. O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. The installation of new facilities is addressed under *New Construction*, below. Maintenance of these new facilities would not entail the installation of any infrastructure that could physically divide an established community.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include the construction of new substations (E16) and the expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new and relocated overhead subtransmission and distribution lines (E13). Construction of new facilities may require trenching and boring along existing or new gas pipelines or subtransmission and distribution line easements and creating temporary access roads.

Construction could warrant the implementation of traffic control for safety purposes while working within or adjacent to a roadway. Certain projects, such as new underground subtransmission and distribution lines (E14) and gas pipeline realignment (G10), may require trenching, excavation, and material stockpiling to complete. These types of activities and the associated traffic control measures have the potential to temporarily constrain, but would not block access within a community. Construction-related impacts would be temporary as they would be limited to construction periods and would not constitute a barrier to access within a community.

Long-term impacts related to the installation of new facilities would not physically divide an established community. Aboveground structures would have relatively small footprints and would be consistent with existing overhead utilities (e.g., electrical distribution facilities). Covered Activities under the category of new construction may result in changing the type of facility present, such as upgrading wood utility poles to steel poles with a concrete foundation (E8), along an existing subtransmission and distribution line easements. A portion of Covered Activities would be located underground, which would not impede movement. Aboveground facilities, such as new towers and poles and their respective lines, would typically be located in areas that local planning documents have identified for near-term development. Underground utilities, including gas and electric utilities, and overhead subtransmission and distribution line easements would allow for access throughout and around the structures and would not, in any case, physically divide an established community.

New telecommunications towers (T2) would be located within the footprint of existing SMUD electrical transmission substations, or in a new transmission substation when it is constructed. New transmission substations and distribution substations (E16) would be up to 11 acres and 0.5 acres respectively. These facilities would typically be located in areas that local planning documents have identified for near-term development. Given these factors, they would not be a physical barrier that could divide an established community.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Vegetation management could not obstruct or physically divide an established community because activities related to vegetation removal would be temporary in nature and not involve permanent large-scale physical structures that would divide a community. Vegetation removal would improve access to SMUD infrastructure and facilities and reduce hazards related to power outages or wildfire from contact of vegetation with electrical infrastructure.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2a, M2b, M2c). As part these activities, a temporary access road would be constructed from Clay East Road to the work area to prevent blockage of the two-lane rural road. Maintenance of the CPP water pipeline, including the installation of the test stations, would occur along the existing pipeline alignment and could not result in the physical division of an established community.

## **Conclusion**

### Direct Impacts

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would occur outside of any established community and would not result in the installation of structures that could physically divide an established community. Therefore, there would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Impacts

O&M activities would be similar in nature and location to those that have occurred over the past 75 years and could not result in any impacts that would physically divide an established community. New construction activities could result in short-term impacts related to constricted access, but these construction-related impacts could not physically divide an established community. Because of their size and that they would typically be located in areas that local planning documents have identified for near-term development, new facilities installed under the Covered Activity category of new construction could not physically divide an established community. Vegetation removal would not result in installation of any physical structures that could divide a community. Rather, vegetation management would improve access to SMUD infrastructure and facilities and is primarily conducted to reduce hazards related to power outages or wildfire from contact of vegetation with electrical infrastructure. For these reasons it is unlikely that adverse land use impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Impact 3.11-2: Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would be implemented at the SMUD Bank and would be consistent with the Sacramento County General Plan and the provisions of the SMUD Bank Long-Term Management Plan. There would be **no impact**.

The cities and counties in the Permit Area have adopted a wide array of land use plans, policies, and regulations to prevent, reduce, and/or mitigate an environmental effect. Covered Activities may result in short-term effects that are typically associated with construction, such as noise impacts and erosion. As applicable, SMUD would adhere to the policies and regulations of other local agencies with land use jurisdiction in the areas where Covered Activities are implemented to avoid conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would be consistent with the objectives of the *Long-term Management Plan for the SMUD Nature Preserve Mitigation Bank* and the Bank Enabling Instrument (BEI), which were established to monitor, manage, maintain, and report on the status of sensitive resources within the SMUD Bank. Additionally, this Direct Action would be consistent with city and county policies that protect oak trees and suitable habitat for wildlife and plant species. Therefore, there would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

As shown in Table 2-10 and Sections 2.3.3 and 2.3.4, O&M of new facilities would constitute a change from baseline conditions. The installation of new facilities is addressed under *New Construction*, below. The associated O&M activities would be similar in nature to those that have occurred over the past 75 years in compliance with applicable land use plans, policies, and/or regulations, to the extent SMUD is subject to them. Therefore, O&M Covered Activities would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

#### New Construction

New construction that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead subtransmission and distribution lines (E13). New construction would not typically require a change in local land use designations or zoning. As described in Section 3.11.1, new construction of facilities for the production and transmission of electrical energy by a local agency like SMUD is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, the City of Sacramento and County of Sacramento require such projects to undergo a consistency determination. All of the Covered Activities, with the exception of transmission substations (E16), are exempt. Non-exempt

actions are reviewed by land use authorities for consistency with their respective general plans and policies. Regardless of exempt status, SMUD typically consults with local cities and counties in locating its projects to ensure that local concerns and issues are considered during the project planning process and implemented to be generally consistent with existing land use policies and regulations that are intended to reduce or avoid significant environmental impacts. Therefore, conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect is not anticipated.

### Vegetation Management

Vegetation management that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and long the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Vegetation management, especially vegetation removal, could conflict with policies protecting sensitive habitats. Implementation of the AMMs would minimize impacts on biological resources. Vegetation management would not require a change in local land use designations or zoning and, as a local agency, SMUD would adhere to the applicable policies and regulations of other local agencies with land use jurisdiction in the areas where Covered Activities are implemented. Therefore, conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect is not anticipated.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (i.e., M2a, M2b, M2c). These activities would have similar impacts as those discussed under *New Construction*. These activities are exempt from county and city zoning and building ordinances (Government Code 53091(d, e)). Therefore, conflicts with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect are not anticipated.

### **Conclusion**

#### Direct Actions

The Direct Action proposed to be implemented at the SMUD Bank would be consistent with the Sacramento County General Plan and the provisions of the SMUD Bank Long-Term Management Plan and BEI. There would be **no impact**.

#### Mitigation Measures

No mitigation is required.

### Indirect Actions

Indirect Actions would not require a change in local land use designations or zoning. As described in Section 3.11.1, new construction of facilities for the production and transmission of electrical energy by a local agency like SMUD is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, the City of Sacramento and County of Sacramento require such projects to undergo a consistency determination. Therefore, all of the Indirect Actions, with the exception of transmission substations (E16), are exempt. Non-exempt actions are reviewed by land use authorities for consistency with their respective general plans and policies. Regardless of exempt status, SMUD typically consults with local cities and counties in locating its projects to ensure that local concerns and issues are considered during the project planning process and implemented in such a way as to be generally consistent with existing land use policies and regulations that are intended to reduce or avoid significant environmental impacts. Therefore, conflicts with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect are not anticipated. While the detailed potential environmental effects of the Indirect Actions cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

## 3.12 Mineral Resources

This section summarizes regulations applicable to mineral resources, describes the environmental setting for mineral resources in the Permit Area, and analyzes potential impacts that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP). Regulations and guidelines established by federal, state, and local jurisdictions provide the regulatory background that guides the assessment of potential environmental effects on these resources.

No questions or concerns related to mineral resources were raised in the responses to the Notice of Preparation.

### 3.12.1 Regulatory Setting

#### **Federal**

No federal plans, policies, regulations, or laws pertaining to mineral resources are applicable.

#### **State**

##### ***Surface Mining and Reclamation Act of 1975***

The Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code [PRC] 2710–2796) encourages the production, conservation, and protection of the state’s mineral resources. PRC Section 2207 provides annual reporting requirements for all mines in the state, under which the State Mining and Geology Board is also granted authority and obligations. SMARA provides for the use of a system of Mineral Resource Zone (MRZ) classifications that reflect the known or inferred presence and significance of a given mineral resource. The MRZ classifications are based on available geologic information, including geologic mapping and other information on surface exposures, drilling records, and mine data, and on socioeconomic factors such as market conditions and urban development patterns.

#### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts (kV), a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

***Sacramento County General Plan***

The Sacramento County General Plan Conservation Element (Sacramento County 2017) contains policies related to mineral resources. These include policies that would protect known mineral resources from land uses which would preclude or inhibit their timely extraction to meet market demand (Policies CO-37 and CO-38), allow for the orderly extraction of minerals and subsequent reclamation of mined areas with minimal adverse impacts on aquifers, streams, scenic values, and surrounding residential uses (Policies CO-39, CO-40, CO-41, CO-42, and CO-43), and allow for sequential timing for mining of aggregate areas linked to the timing of urban development (Policy CO-44).

***Yolo County General Plan***

The Yolo County 2030 Countywide General Plan Open Space and Conservation Element (Yolo County 2009) contains policies related to mineral resources. These include policies to encourage the production and conservation of mineral resources, balanced by the consideration of important social values, including recreation, water, wildlife, agriculture, aesthetics, flood control, and other environmental factors (Policy CO-3.1), ensure that mineral extraction and reclamation operations are compatible with land uses both onsite and within the surrounding area, and are performed in a manner that does not adversely affect the environment (Policy CO-3.2), encourage the extraction of natural gas where compatible with both onsite and surrounding land uses, and when performed in a manner that does not adversely affect the environment (Policy CO-3.3), within the Delta Primary Zone, ensure compatibility of permitted land use activities with applicable, natural gas policies of the Land Use and Resource Management Plan of the Delta Protection Commission (Policy CO-3.4), and preserve and protect the county's unique geologic and physical features, which include geologic or soil "type localities," and formations or outcrops of special interest (Policy CO-3.5).

***Placer County General Plan***

The 2013 Placer County General Plan Update (Placer County 2013) provides an overall framework for development of the county and the protection of its natural and cultural resources. The General Plan contains a Land Use Element, which describes goals and policies designed to encourage commercial mining operations within areas designated for such extraction, where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately mitigated. Specifically, it contains policies which require new mining operations to be designed to provide a buffer between existing or likely adjacent uses, minimize incompatibility with nearby uses, and adequately mitigate their environmental and aesthetic impacts (Policy 1.J.1), require new non-mining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations (Policy 1.J.2.), discourage the development of any uses that would be incompatible with adjacent mining operations or would restrict future extraction of significant mineral resources (Policy 1.J.3.), discourage the development of incompatible land uses in areas that have been identified as having potentially significant mineral resources (Policy 1.J.4.), require that all mining operations

prepare and implement reclamation plans that mitigate environmental impacts and incorporate adequate security to guarantee proposed reclamation (Policy 1.J.5.), and require that plans for mining operations incorporate adequate measures to minimize impacts on local residents and county roadways (Policy 1.J.6.).

### ***Amador County General Plan***

The Amador County General Plan Economic Development Element (Amador County 2016) contains a goal and policies related to mineral resources. The plan contains a goal to maintain the viability of mineral and aggregate resources and encourage mineral and aggregate resource production in the county. The plan also contains policies that ensure extraction and processing of mineral resources and aggregate deposits may continue, encourage extraction and processing of mineral and aggregate resources (Policy E-13.1), promote the expansion or greater utilization of Amador County's mineral and aggregate resources (Policy E-13.2), promote value-added manufacturing and processing of Amador County's minerals (Policy E-13.3), and guide development away from areas where mineral and aggregate extraction is currently occurring and where resources are known to exist (Policy E-13.4).

### ***San Joaquin County General Plan***

The San Joaquin County General Plan (San Joaquin County 2016) Natural and Cultural Resources Element contains a goal and policies related to mineral resources. The goal (NCR-4) is to provide for the production of mineral resources while protecting people, property, and the environment from hazards caused by resource extraction. The policies address mineral resource protection (Policy NCR-4.1), discretionary permits to protect mineral resources (Policy NCR-4.2), land use compatibility (Policy NCR-4.3), concurrent reclamation (Policy NCR-4.4), and reclamation planning (Policy NCR-4.5).

### ***City General Plans***

In addition to county general plans, the cities of Sacramento and Folsom have general plan policies related to mineral resources. Similar to the county general plans, these policies are related to maintaining the viability of mineral and aggregate resources and encouraging mineral and aggregate resource production in the city. These policies are applicable to residential, commercial, and industrial development, not to implementation of the Conservation Strategy and Covered Activities. The following cities do not have general plan policies related to mineral resources: West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, and Roseville.

### ***3.12.2 Environmental Setting***

#### **Mineral Resources in the Permit Area**

The Permit Area has been a valuable source of mineral resources dating back to 1848, when gold was discovered in El Dorado County. Between 1850 and World War II, the Permit Area has produced a variety of minerals including gold, silver, copper, lead, zinc,

chromite, platinum, iridium, and osmium, as well as sand and gravel. Table 3.12-1 shows the minerals and construction aggregates that have been located and mined in each of the five counties encompassed by the Permit Area (Amador County, Placer County, Sacramento County, San Joaquin County, and Yolo County).

**Table 3.12-1 Known Mineral Resources in the Permit Area by County**

County	Commodity
Amador County	Pumice, Gold, Kaolin, Clay, Stone, Sand and Gravel
Placer County	Gold, Silver, Sand and Gravel, Stone
Sacramento County	Gold, Silver, Platinum, Iridium, Osmium, Sand and Gravel, Granite, Electrum, Lithium, Quartz, Clay, Stone (Crushed/Broken)
San Joaquin County	Sand and Gravel
Yolo County	Sand and Gravel, Calcium

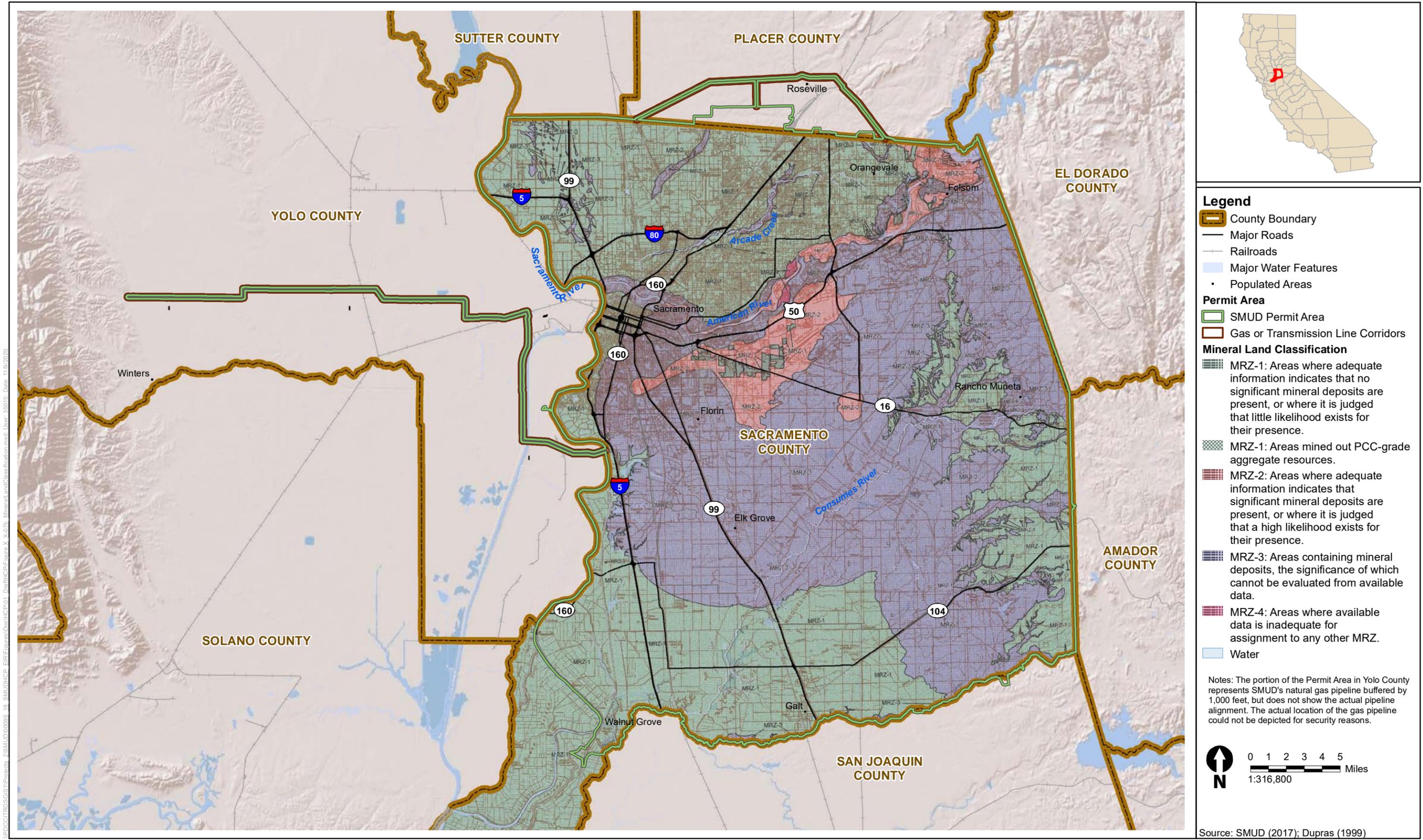
Source: U.S. Geological Survey 2020.

Pursuant to SMARA, the California State Mining and Geology Board oversees the MRZ classification system. The MRZs characterize varying degrees of mineral potential within an area. MRZ-1 indicates there is no mineral potential. MRZ-2 and MRZ-3 indicate varying degrees of known or inferred resources present. MRZ-4 indicates there is not enough information to conclude whether or not mineral resources are present.

As shown on Figure 3.12-1, a majority of the Permit Area, ranging from the American River in the north and west, to the El Dorado County border in the east, to Elk Grove in the south, is zoned MRZ-3, indicating that the area contains mineral deposits. The rest of the Permit Area is zoned MRZ-1, indicating that no significant mineral deposits are present or are likely to be present. Small pockets of MRZ-2, where information indicates minerals are likely to be present, are located in the area east of the city of Sacramento and south of U.S. Highway 50. Small pockets of MRZ-4, where available data is inadequate to assign an MRZ zone, are located along the American River.

As shown in Figure 3.12-2, a large variety of minerals have been mined within the Permit Area, including precious metals and construction aggregates. The highest concentration of mineral resource mining has been in the northeastern portion of the Permit Area, south of the cities of Folsom and Orangevale, closely followed by a concentration south of Rancho Murieta, near the Amador County border.

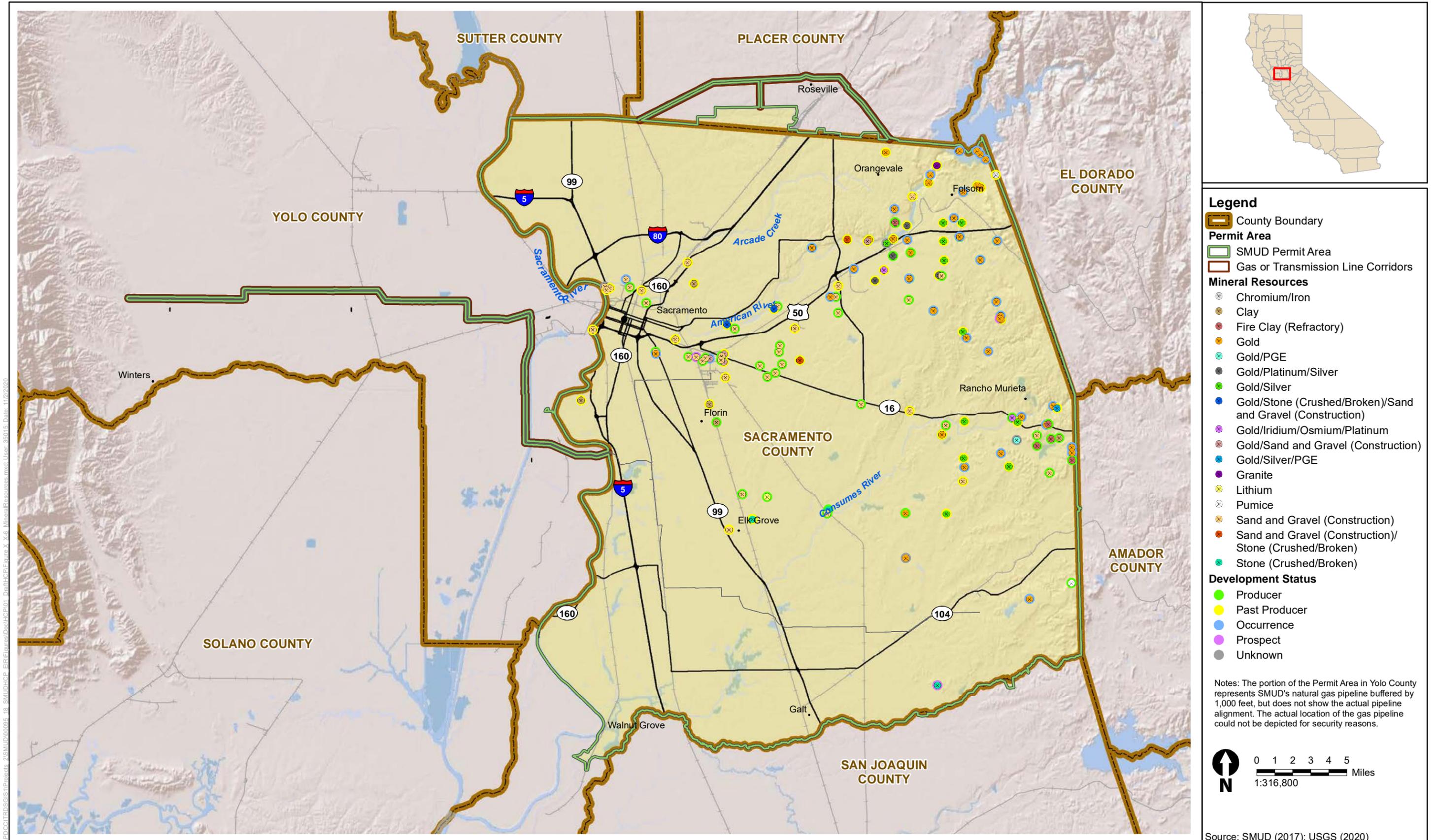
The SMUD Nature Preserve Mitigation Bank (SMUD Bank) Initial Study and Mitigated Negative Declaration (IS/MND) presented information on mineral resources at the SMUD Bank and concluded that the SMUD Bank site “is not located in a State Aggregate Resource Area or in an area of known mineral resources” and that it “is located outside of the production/consumption region boundary (SMUD 2010).” The SMUD Bank IS/MND further noted that a “review of the title report for the Proposed Project site identified two oil and gas exploration leases that encompass the Proposed Project site and surrounding lands”, that the “leases were recorded in 1934 and 1935” and that “historical petroleum exploration efforts in the general area have not been successful and did not result in information that would encourage future exploration efforts (SMUD 2010).”



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**Figure 3.12-1**  
**Mineral Land Classification Map of PCC-Grade Aggregate Resources within the Permit Area SMUD HCP**



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**Figure 3.12-2**  
**Mineral Resources within the Permit Area**  
**SMUD HCP**

### 3.12.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

As explained in Chapter 2, *Project Description*, the proposed Project considered in this EIR consists of:

- Issuance of take authorizations by CDFW and USFWS; and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with ESA, and CDFW's issuance of the state take authorizations would comply with CESA. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under the California Environmental Quality Act (CEQA), which can range from exemptions to EIRs.

Impacts associated with SMUD Bank Oak Tree Planting (C1) and SMUD Bank Management (C2) were analyzed in the 2010 IS/MND document for the SMUD Bank (SMUD 2010; SCH #2008022151), and will not be discussed in this document.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy*, Section 2.3.4, *Covered Activities*, and the summary in Table 2-7 for details

Criteria from Appendix G of the State CEQA Guidelines were used to determine whether the proposed Project would have a significant impact related to mineral resources. Impacts were assessed qualitatively based on review of applicable data from the Natural Resources Conservation Service, United States Department of Agriculture, Soil Survey Geographic database, U.S. Geological Survey, National Hydrography Dataset, as well as applicable area general plans and other available reports and studies. Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

#### **Thresholds of Significance**

In accordance with Appendix G of the State CEQA Guidelines, the proposed Project would be considered to have a significant effect if it would do the following.

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

## Impact Analysis

### ***Impact 3.12-1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank grass activity. Implementation of this Direct Action would not result in the loss of availability of a known mineral resource of value to the region and the residents of the state; therefore, the Direct Actions would result in **no impact**.

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The majority of the Permit Area is zoned MRZ-3, indicating that the area contains mineral deposits. In addition, as shown on Table 3.12-1, nearly every county within the Permit Area contains either minerals or construction aggregates of value to the state and the region.

Covered Activities that involve ground disturbance, including excavation, have the potential to uncover mineral resources, potentially exposing them to erosion and thus loss to the region and state. Additionally, activities which place structures on potentially mineral-rich areas can also result in the loss of availability to minerals by limiting future access.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions. The only Direct Action that would involve a change to baseline would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity.

The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity involves physical actions that would affect the environment. Specifically, enhancing Sacramento Orcutt grass habitat would involve invasive plant management, which could involve ground-disturbing activities such as removal of underground plant roots on potentially erodible soils. While ground-disturbing activities could potentially lead to the exposure and loss through erosion of mineral resources, because ground disturbance associated with this activity would be minor, such activities would not likely be large enough to expose mineral resources in a such a way as to make them susceptible to erosion. In addition, general AMMs in the HCP listed below would further minimize impacts related to erosion.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)

In addition, mining is a prohibited use in the conservation easement covering the SMUD Bank. Therefore, there would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

Operation and maintenance (O&M) activities that would constitute a change from baseline conditions would include the replacement of new structures and facilities (E7, E8, E9a, E9b, G6, T3). The replacement of new structures and facilities would also require inspections and testing (E1a, E2a, E4, E6a, G1a, G1b, G1c, G2, G3, G4). It is possible for new structures to be placed as a result of the activities over areas with mineral resources, thus preventing future access to valuable minerals, although most replacements will be in the same or similar location as existing facilities.

In addition, O&M Covered Activities constituting a change from baseline conditions would involve excavation, grading, and ground disturbance. Excavation and grading work can potentially expose valuable mineral resources to erosion. However, while some O&M activities would require excavation, the excavation is generally minor in nature, would be backfilled upon completion of the activities, and is unlikely to lead to the loss of mineral resources through erosion.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include new substation construction (E16), existing distribution substation expansion (E15), new construction of telecommunication tower(s) (T2), pipeline realignment, and new and relocated overhead subtransmission and distribution line construction (E13). Construction of new facilities may also require trenching (E14a) and directional boring (G10) along existing or new natural gas transmission pipelines or subtransmission and distribution line easements and creating temporary access roads. Construction would involve grading, excavation, and/or other ground-disturbing activities. It is possible for new structures to be placed as a result of the activities over areas with mineral resources, thus preventing future access to valuable minerals.

In addition, new construction activities constituting a change from baseline conditions would require excavation, grading, and ground disturbance. Excavation and grading work can potentially expose valuable mineral resources to erosion. However, while some activities would require excavation, the excavation is generally minor in nature, would be backfilled upon completion of the activities, and is unlikely to lead to the loss of mineral resources through erosion.

The construction and placement of new structures could be subject to project-specific CEQA review as well as County of Sacramento review for projects equal to or greater than 115kV (to determine siting consistency with the County General Plan). Cities or counties may also require that transmission projects equal to or greater than 100kV undergo a consistency determination if provided for under a local ordinance. CEQA analysis, if required, would evaluate the potential impacts on mineral resources and could provide mitigation measures which would further reduce impacts on mineral resources.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include inspection within and adjacent to newly constructed overhead subtransmission and distribution lines (V1) and routine vegetation management actions within easement (V2). This inspection and management may also require tree removal (V4); elderberry shrub trimming, removal, or replanting (V5a, V5b, V5c); vegetation clearing for new poles (V6); and vegetation maintenance near pipelines (V7). Vegetation removal would occur at SMUD facilities throughout the Permit Area. Vegetation removal and vegetation planting and transplanting would involve ground disturbance as a result of removing underground plant roots and digging holes to plant or replant. This ground disturbance could occur in areas where known mineral resources are present; however, because ground disturbance associated with vegetation management would be minor, such activities would not likely be large enough to expose mineral resources in a such a way as to make them susceptible to erosion.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions comprise activities related to Cosumnes Power Plant Water Pipeline management (M2) including the installation of 17 cathodic protection test stations (M2a), water pipeline valve installation (M2b), and water pipeline segment replacement (M2c). Installation of the new valve would involve construction of a temporary access road to the work area, grading the work area, and excavating both sides of the existing water pipeline to install the new valve components. Repair and/or replacement of pipeline segments is expected to include draining or removing water from the pipeline, excavation around the damaged pipeline segment(s), backfilling the excavated area, and restoring the site to preconstruction contours. All of these activities except for installation of a subset of cathodic protection test stations, which would be installed into existing vaults, would involve ground disturbance.

Ground-disturbing activities associated with O&M of the CPP water pipeline would pose little risk in terms of the loss of availability of a known mineral resources of value to the state or regions. The CPP is in an area zoned MRZ-3, indicating that the area contains mineral deposits, and, as shown on Figure 3.12-2, gold deposits have been located in the general area, but not in the immediate vicinity, of the CPP water pipeline. However, while some O&M activities would require excavation, the excavation is generally minor in

nature, would be backfilled upon completion of the activities, and is unlikely to lead to the loss of mineral resources through erosion.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity and management could result in physical environmental effects. While ground-disturbing activities could potentially lead to the exposure and loss through erosion of mineral resources, there are no known mineral resources in the area and the area is not located in a State Aggregate Resource Area. In addition, the purpose of conservation banks is to permanently protect land that contains natural resources and therefore, by design, would not preclude any mineral mining or extraction activities. There would be **no impact** on mineral resources.

#### **Mitigation Measures**

No mitigation is required.

#### Indirect Actions

Some Indirect Actions could include the placement of structures in areas potentially underlain by mineral resources and the excavation of areas. Additionally, grading and ground-disturbing activities may be required for some of the above activities. In most cases, the area of disturbance would be small, would be backfilled upon completion of the activities, and is unlikely to lead to the loss of mineral resources through erosion. Some of these activities could be subject to project-specific CEQA review, which would be required to evaluate their potential impacts on mineral resources, and provide mitigation measures which could reduce any impacts related to the availability of mineral resources. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.12-2: The proposed project would be considered to have a significant effect if it would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank grass activity. There are no locally important mineral recovery sites as designated by local jurisdiction general plan, specific plan, or

other planning document. Therefore, implementation of this Direct Action would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. There would be **no impact**.

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Construction of facilities for the production and transmission of electrical energy and water by a local agency like SMUD is exempt from county and city zoning and building ordinances; however, for projects equal to or greater than 100kV, the County of Sacramento reviews projects to determine if project siting is consistent with the County General Plan. In addition, SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

Covered Activities that involve ground disturbance, including excavation, have the potential to uncover locally important mineral recovery sites, potentially exposing them to erosion and thus loss of availability of a mineral resource delineated on a local plan. Additionally, activities which place structures on potentially mineral-rich areas can also result in the loss of availability of a locally important mineral resource by limiting future access.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. There are no locally important mineral recovery sites as designated by local jurisdiction general plan, specific plan, or other planning document. Therefore, the Direct Actions would not preclude access to mineral resource exploration and recovery. There would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

O&M Covered Activities constituting a change from baseline conditions would include the replacement of new structures and facilities. Activities that could require the placement of new structures or facilities include pole replacement (E8); pad-mounted transformer repair and replacement (E9a); pipeline cathodic protection test station installation (G6); and electrical telecommunications overhead fiber-optic replacement and new installation (T3). It is possible that new structures might be placed in areas where locally important mineral resources have been delineated on a local general plan, specific plan, or other land use plan, thus preventing future access to valuable minerals.

While SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts, most SMUD Covered Activities are exempt from county and city zoning and building ordinances. In addition, the construction and placement of new structures could be subject to project-specific CEQA review. CEQA analysis if required would evaluate the potential impacts on mineral resources and could provide mitigation measures which would further reduce impacts on mineral resources.

### New Construction

New construction activities that would constitute a change from baseline conditions would include new substation construction (E16), existing distribution substation expansion (E15), new construction of telecommunication tower(s) (T2), pipeline realignment, and new and relocated overhead subtransmission and distribution line construction (E13). Construction of new facilities may also require trenching (E14a) and directional boring (G10) along existing or new natural gas transmission pipelines or subtransmission and distribution line easements and creating temporary access roads. Construction would involve grading, excavation, and/or other ground-disturbing activities. It is possible that new structures might be placed in areas where locally important mineral resources have been delineated on a local general plan, specific plan, or other land use plan, thus preventing future access to valuable minerals.

While SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts, most SMUD Covered Activities are exempt from county and city zoning and building ordinances. In addition, the construction and placement of new structures could be subject to project-specific CEQA review. CEQA analysis if required would evaluate the potential impacts on mineral resources and could provide mitigation measures which would further reduce impacts on mineral resources.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include inspection within subtransmission and distribution line easements and adjacent to newly constructed overhead subtransmission and distribution lines (V1) and routine vegetation management actions within easement (V2). This inspection and management may also require tree removal (V4); elderberry shrub trimming, removal, or replanting (V5a, V5b, V5c); vegetation clearing for new poles (V6); and vegetation maintenance near pipelines (V7). Vegetation removal would occur at SMUD facilities throughout the Permit Area. However, vegetation management by its nature would not interfere with future access to any valuable minerals that might be present.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions comprise activities related to Cosumnes Power Plant Water Pipeline management (M2), including the installation of 17 cathodic protection test stations (M2a), water pipeline valve installation (M2b), and water pipeline segment replacement (M2c). Installation of the new valve would involve construction of a temporary access road to the work area, grading the work area, and excavating both sides of the existing water pipeline to install the new valve components. Repair and/or replacement of pipeline segments is expected to include draining or removing water from the pipeline, excavation around the damaged pipeline segment(s), backfilling the excavated area, and restoring the site to preconstruction contours. It is possible that new structures might be placed in areas

where locally important mineral resources have been delineated on a local general plan, specific plan, or other land use plan, thus preventing future access to valuable minerals.

While SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts, most SMUD Covered Activities are exempt from county and city zoning and building ordinances. In addition, the construction and placement of new structures could be subject to project-specific CEQA review. CEQA analysis if required would evaluate the potential impacts on mineral resources and could provide mitigation measures which would further reduce impacts on mineral resources.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Because there are no locally important mineral recovery sites as designated by local jurisdiction general plan, specific plan, or other planning document, the Direct Actions would not preclude access to mineral resource exploration and recovery. There would be **no impact** on mineral resources.

#### ***Mitigation Measures***

No mitigation is required.

#### Indirect Actions

Some Indirect Actions could include the placement of structures in areas potentially underlain by mineral resources identified on a local general plan, specific plan, or other land use plan, as well as the excavation of areas. Additionally, grading and ground-disturbing activities may be required for some of the above activities. However, these activities could be subject to project-specific CEQA review, which would be required to evaluate their potential impacts on mineral resources, and provide mitigation measures that could reduce any impacts related to the availability of mineral resources. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### 3.13 Noise

This section summarizes regulations applicable to noise and vibration, describes ambient noise conditions, and analyzes the potential noise-related impacts associated with implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP). Mitigation measures are recommended as necessary to reduce significant noise-related impacts. Calculations that support this analysis are provided in Appendix D, *Noise Modeling Calculations*.

No questions or concerns related to noise were raised in the responses to the Notice of Preparation.

#### 3.13.1 Acoustic Fundamentals

Background information about sound, noise, vibration, and common noise descriptors is presented below to provide context and a better understanding of the technical terms referenced throughout this section.

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). The audible frequency range for humans is generally between 20 Hz and 20,000 Hz. Sound pressure amplitude is measured in micro-Pascals (mPa). Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this large range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB).

#### **Addition of Decibels and A-Weighted Decibels**

Because dBs are logarithmic units, SPLs expressed in dB cannot be added or subtracted through ordinary arithmetic. Under the dB scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness at the same time, the resulting sound level at a given distance would be 3 dB higher than if only one of the sound sources was producing sound under the same conditions. Under the dB scale, three sources of equal loudness together produce a sound level approximately 5 dB louder than one source.

The dB scale alone does not adequately characterize how humans perceive noise. Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within this range better than sounds of the same amplitude with frequencies outside of this range. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an “A-weighted” sound level (expressed in units of A-weighted decibels [dBA]) can be computed based on this information. All

sound levels discussed in this section are expressed in dBA. From the California Department of Transportation (Caltrans), Table 3.13-1 summarizes typical A-weighted noise levels for various noise sources.

**Table 3.13-1 Typical A-Weighted Noise Levels**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock band
Jet fly-over at 1,000 feet	—100—	
Gas lawn mower at 3 feet	—90—	
Diesel truck at 50 feet at 50 miles per hour	—80—	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, daytime, Gas lawn mower at 100 feet	—70—	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	—60—	
Quiet urban daytime	—50—	Large business office, Dishwasher next room
Quiet urban nighttime	—40—	Theater, large conference room (background)
Quiet suburban nighttime	—30—	Library, Bedroom at night
Quiet rural nighttime	—20—	
	—10—	Broadcast/recording studio
Lowest threshold of human hearing	—0—	Lowest threshold of human hearing

Source: Caltrans 2013a:Table 2-5.

### Human Response to Changes in Noise Levels

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear can discern 1-dB changes in sound levels when exposed to steady, single-frequency. In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness (Caltrans 2013a:2-10).

### Ground Vibration

Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Ground-borne vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) or in millimeters per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (Federal Transit Administration [FTA] 2018:110; Caltrans 2013b:6).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. As with airborne sound, the RMS velocity

is often expressed in dB notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2018:110, 199; Caltrans 2013b:7).

Ground vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2018:120; Caltrans 2013b:27). Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur to fragile buildings. Construction activities can generate sufficient ground vibrations to pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2018:113).

Table 3.13-2 summarizes the general human response to different ground vibration-velocity levels.

**Table 3.13-2 Human Response to Different Levels of Ground Noise and Vibration**

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: FTA 2018:120.

VdB = vibration decibels referenced to 1 microinch/second and based on the root mean square (RMS) velocity amplitude.

### Common Noise Descriptors

Noise in our daily environment fluctuates over time. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors used throughout this section.

**Equivalent Continuous Sound Level ( $L_{eq}$ ):**  $L_{eq}$  represents an average of the sound energy occurring over a specified period. In effect,  $L_{eq}$  is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period (Caltrans 2013a:2-48). For instance, the 1-hour equivalent sound level, also referred to as the hourly  $L_{eq}$ , is the energy average of sound levels occurring during a 1-hour period and is the basis for noise abatement criteria used by Caltrans and FTA (Caltrans 2013a:2-47; FTA 2018:210).

**Percentile-Exceeded Sound Level ( $L_x$ ):**  $L_x$  represents the sound level exceeded for a given percentage of a specified period (e.g.,  $L_{10}$  is the sound level exceeded 10 percent of the time, and  $L_{90}$  is the sound level exceeded 90 percent of the time) (Caltrans 2013a:2-16).

**Maximum Sound Level ( $L_{max}$ ):**  $L_{max}$  is the highest instantaneous sound level measured during a specified period (Caltrans 2013a:2-48; FTA 2018:207–208).

**Day-Night Sound Level ( $L_{dn}$ ):**  $L_{dn}$  is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB “penalty” applied to sound levels occurring during nighttime hours between 10 p.m. and 7 a.m. (Caltrans 2013a:2-48; FTA 2018:214).

**Community Noise Equivalent Level (CNEL):** CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dBA penalty applied to sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m. and a 5-dBA penalty applied to the sound levels occurring during evening hours between 7 p.m. and 10 p.m., to account for added human sensitivity to noise during these periods (Caltrans 2013a:2-48).

## Sound Propagation

When sound propagates over a distance, it changes in level and frequency content and is affected as distance from the source increases, by atmospheric conditions such as wind direction, ground material (i.e., hardscape reflects sound and soft ground absorbs sound), or the presence of a sound barrier (e.g., human-made structure or elevated topography).

### 3.13.2 Regulatory Setting

#### Federal

##### ***Federal Transit Administration Standards for Exposure to Ground Vibration***

To address the human response to ground vibration, the FTA has guidelines for maximum-acceptable vibration impact criteria for different types of land uses. These guidelines are presented in Table 3.13-3.

#### State

##### ***California Department of Transportation Standards for Exposure to Ground Vibration***

In 2013, Caltrans published the *Transportation and Construction Vibration Manual* (Caltrans 2013b). The manual provides general guidance on vibration issues associated with construction and operation of projects in relation to human perception and structural damage. Table 3.13-4 presents recommendations for levels of vibration that could result in damage to structures exposed to continuous vibration.

**Table 3.13-3 Groundborne Vibration Impact Criteria for General Assessment**

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 microinch/second)		
	Frequent Events <sup>1</sup>	Occasional Events <sup>2</sup>	Infrequent Events <sup>3</sup>
<i>Category 1:</i> Buildings where vibration would interfere with interior operations.	65 <sup>4</sup>	65 <sup>4</sup>	65 <sup>4</sup>
<i>Category 2:</i> Residences and buildings where people normally sleep.	72	75	80
<i>Category 3:</i> Institutional land uses with primarily daytime uses.	75	78	83

Source: FTA 2018.

VdB re 1 microinch/second = vibration decibels referenced to 1 microinch/second and based on the root mean square (RMS) velocity amplitude.

<sup>1</sup> “Frequent Events” is defined as more than 70 vibration events of the same source per day.

<sup>2</sup> “Occasional Events” is defined as between 30 and 70 vibration events of the same source per day.

<sup>3</sup> “Infrequent Events” is defined as fewer than 30 vibration events of the same source per day.

<sup>4</sup> This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define acceptable vibration levels.

**Table 3.13-4 Caltrans Recommendations Regarding Levels of Vibration Exposure**

PPV (in/sec)	Effect on Buildings
0.4–0.6	Architectural damage and possible minor structural damage
0.2	Risk of architectural damage to normal dwelling houses
0.1	Virtually no risk of architectural damage to normal buildings
0.08	Recommended upper limit of vibration to which ruins and ancient monuments should be subjected
0.006–0.019	Vibration unlikely to cause damage of any type

Source: Caltrans 2013b.

in/sec = inches per second; PPV = peak particle velocity.

## Regional and Local

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

***Sacramento County General Plan and Municipal Code***

The Noise Element of the *Sacramento County General Plan* (Sacramento County 2011) contains goals, policies, and standards related to noise. Policy NO-6 addresses non-transportation noise sources and establishes noise standards for various land uses. There are no construction-related noise standards in the General Plan.

Section 6.68.070 of the Sacramento County Code contains exterior noise standards for specific zoning districts consistent with standards established in the General Plan. In addition, Section 6.68.090 of the Sacramento County Code provides the exemption to the exterior noise standards. Applicable noise standards are summarized below in Table 3.13-5.

***Yolo County General Plan***

The Health and Safety Element of the *2030 Countywide General Plan* (Yolo County 2009) contains policies and implementation programs regarding noise that are applicable to the proposed Project. Specifically, Policy HS-7.1 establishes exterior noise compatibility standards for existing and planned land uses. There are no construction-related noise standards in the General Plan. The municipal sets construction maximum noise levels for mining/extraction activities but not countywide. However, these activities do not apply to the proposed HCP, and therefore, are not summarized herein.

***Placer County General Plan and Municipal Code***

Section 9, Noise, of the *Placer County General Plan* (Placer County 2013) contains goals and policies related to noise. Policy 9.A.2 sets noise exposure limits for sensitive receptors affected by new nontransportation noise sources. There are no construction-related noise standards in the General Plan.

The Placer County Noise Ordinance (Article 9.36.060, Sound limits for sensitive receptors of the Placer County Code) defines sound level performance standards for sensitive receptors. In addition, Article 9.36.030, Exemptions, exempts certain activities such as construction and emergency-related utility personal and equipment. Applicable noise standards are summarized below in Table 3.13-5.

***Amador County General Plan***

The Noise Element of the *Amador County General Plan* (Amador County 2016) includes goals and policies related to noise. Specifically, nontransportation performance-based standards are established in the General Plan that would apply to sensitive land uses affected by operation of SMUD facilities. There are no construction-related noise standards in the General Plan or municipal code. Applicable noise standards are summarized below in Table 3.13-5.

***San Joaquin County General Plan and Municipal Code***

The Public Health and Safety Element of the *San Joaquin County General Plan* (San Joaquin County 2016) contains noise goals, policies, and noise level standards for nontransportation noise sources, applicable to the proposed Project. There are no construction-related noise standards in the General Plan.

Chapter 9-1025.9 of the San Joaquin County Code establishes exterior nontransportation noise level standards for historic-designated places in the County. Noise standards are summarized below in Table 3.13-5.

***City General Plans and City Codes*****City of Sacramento**

The Noise section of the City of Sacramento General Plan (City of Sacramento 2015) contains goals, policies, and standards related to noise. Policy EC 3.1.1 sets exterior noise compatibility levels for land use types within the city. Policy EC 3.1.2 also sets exterior incremental noise increase standards that apply to new development projects. There are no construction-related noise standards in the General Plan.

Section 8.68.060 of the Sacramento City Code sets exterior noise standards and Section 8.68.080 provides certain exemptions from the code for various equipment and activities, provided they occur during certain hours of the day. Applicable noise standards are summarized below in Table 3.13-5.

**City of West Sacramento**

The City of West Sacramento's General Plan (City of West Sacramento 2016) contains goals, policies, and standards related to noise. Policy S-7.1 sets exterior noise compatibility standards for new land use development and Policy S-7.2 establishes exterior incremental noise standards that apply to new development's effects on existing sensitive receptors and Policy S-7.4 establishes noise limits that apply to new stationary sources. Policy S-7.6 adopts FTA's guidance for evaluating impacts from vibration. There are no construction-related noise standards in the General Plan.

Section 17.28.110 of the municipal code establishes interior noise standards that apply to new noise-sensitive land uses. There are no construction or other daytime exemptions for noise in the municipal code. Applicable noise standards are summarized below in Table 3.13-5.

**City of Citrus Heights**

Chapter 4, Community Health, of the Citrus Heights General Plan (City of Citrus Heights 2020) contains goals, policies, and noise standards. Specifically, Policy 52.1 establishes noise compatibility standards used when siting new development. There are no construction-related noise standards in the General Plan.

Section 34-86 of the municipal code establishes exterior noise standards for various zoning districts that are consistent with standards in the General Plan. Section 34-88 exempts various activities and equipment types from the noise standard, provided they occur during certain hours of the day. Applicable noise standards are summarized below in Table 3.13-5.

#### City of Elk Grove

Chapter 8, Services, Health, and Safety, of the Elk Grove General Plan (City of Elk Grove 2019) contains noise goals, policies, and noise level standards for nontransportation noise sources, applicable to the proposed Project. Table 8-4 establishes daytime and nighttime noise standards that apply to operational stationary sources that affect sensitive receptors. There are no construction-related noise standards in the General Plan. Policy N-1-7 exempts construction noise from the exterior noise standards, provided that it occurs between 7:00 a.m. and 7:00 p.m. Monday through Friday and 8:00 a.m. and 5:00 p.m. on weekends.

Section 6.32.080 of the municipal code sets exterior noise standards for sensitive receptors that are consistent with General Plan standards. Section 6.32.100 exempts construction noise and other various activities from the noise standards for certain hours of the day. Applicable noise standards are summarized below in Table 3.13-5.

#### City of Folsom

The Safety and Noise Element of the Folsom 2035 General Plan (City of Folsom 2018) contains noise goals, policies, and noise level standards for nontransportation noise sources, applicable to the proposed Project. Table 8-4 establishes daytime and nighttime noise standards that apply to operational stationary sources that affect sensitive receptors. Table SN-3 adopts FTA's guidance for evaluating impacts from vibration. There are no construction-related noise standards in the General Plan.

Section 8.42.040 of the municipal code sets exterior noise standards for sensitive receptors that are consistent with General Plan standards. Section 8.42.060 exempts construction noise and other activities from the noise standards for certain hours of the day. Applicable noise standards are summarized below in Table 3.13-5.

#### City of Galt

The City of Galt General Plan (City of Galt 2009) contains goals, policies, and standards related to noise. Table 10.3 establishes noise performance standards for residential areas affected by nontransportation noise sources. There are no construction-related noise standards in the General Plan.

Section 8.40.040 of the municipal code sets exterior noise standards for various zoning districts that are consistent with standards in the General Plan. Section 8.40.060 exempts various activities and equipment types from the noise standard, provided they occur

during certain hours of the day. Applicable noise standards are summarized below in Table 3.13-5.

#### City of Rancho Cordova

The Noise Element of the Rancho Cordova General Plan (City of Rancho Cordova 2006) contains goals, policies, and standards related to noise. Policy N.1.1 establishes daytime and nighttime noise standards that apply to operational stationary sources that affect sensitive receptors. There are no construction-related noise standards in the General Plan.

Section 6.68.070 of the municipal code sets exterior noise standards for various zoning districts that are consistent with standards in the General Plan. Section 6.68.90 exempts various activities and equipment types from the noise standard, provided they occur during certain hours of the day. Applicable noise standards are summarized below in Table 3.13-5.

#### City of Roseville

The Noise Element of the City of Roseville General Plan (City of Roseville 2020) contains goals, policies, and standards related to noise. Table IX-1 establishes noise compatibility standards for uses affected by transportation noise sources. Stationary noise sources are governed by the municipal code. There are no construction-related noise standards in the General Plan.

Section 9.24.100 of the municipal code establishes sound limits for sensitive receptors that are consistent with General Plan standards. Section 9.24.030 provides exemptions to the noise code for various activities, provided they occur during certain hours of the day. Applicable noise standards are summarized below in Table 3.13-5.

#### ***Summary of Applicable Local Noise Standards***

A summary of applicable local noise standards from jurisdictions within the Permit Area is provided below in Table 3.13-5. The most stringent standard was included, which, for all jurisdictions, is the nighttime noise standard for a single-family residence. Therefore, compliance with nighttime standards for residential land uses would ensure compliance with all other noise standards.

**Table 3.13-5 Summary of Applicable Local Noise Standards for Residential Land Uses**

Jurisdiction	Exterior Nontransportation Noise Standard		Construction Noise Exemptions
	Daytime (7 a.m.–10 p.m.)	Nighttime (10 p.m.–7 a.m.)	
<b>Counties in the Permit Area</b>			
Amador County	60 dBA L <sub>eq</sub>	45 dBA L <sub>eq</sub>	Not Applicable
Placer County	55 dBA L <sub>eq</sub>	45 dBA L <sub>eq</sub>	<ul style="list-style-type: none"> <li>• Construction from 6:00 a.m. to 8:00 p.m. Monday through Friday and 8:00 a.m. to 8:00 p.m. Saturday and Sunday</li> <li>• Emergency response and utility personnel</li> </ul>
Sacramento County	55 dBA L <sub>50</sub>	50 dBA L <sub>50</sub>	<ul style="list-style-type: none"> <li>• Construction from 6:00 a.m. to 8:00 p.m. Monday through Friday and 7:00 a.m. to 8:00 p.m. Saturday and Sunday</li> <li>• Emergency response and utility personnel</li> </ul>
San Joaquin County	50 dBA L <sub>eq</sub>	45 dBA L <sub>eq</sub>	Not Applicable
Yolo County	75 dBA L <sub>dn</sub>	75 dBA L <sub>dn</sub>	Not Applicable
<b>Cities in the Permit Area</b>			
City of Citrus Heights	55 dBA L <sub>eq</sub>	50 dBA L <sub>eq</sub>	<ul style="list-style-type: none"> <li>• Construction from 6:00 a.m. to 8:00 p.m. on weekdays and 7:00 a.m. to 8:00 p.m. Saturday and Sunday.</li> <li>• Equipment/activities related to emergencies.</li> </ul>
City of Elk Grove	55 dBA L <sub>eq</sub>	45 dBA L <sub>eq</sub>	<ul style="list-style-type: none"> <li>• Construction from 7:00 a.m. and 7:00 p.m. Monday through Friday and 8:00 a.m. and 5:00 p.m. on weekends.</li> <li>• Equipment/activities related to emergencies.</li> </ul>
City of Folsom	55 dBA L <sub>eq</sub>	45 dBA L <sub>eq</sub>	<ul style="list-style-type: none"> <li>• Construction from 7:00 a.m. to 6:00 p.m. any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday.</li> <li>• Equipment/activities related to emergencies.</li> </ul>
City of Galt	50 dBA L <sub>eq</sub>	45 dBA L <sub>eq</sub>	<ul style="list-style-type: none"> <li>• Construction from 6:00 a.m. to 8:00 p.m. on weekdays and 7:00 a.m. to 8:00 p.m. Saturday and Sunday.</li> <li>• Equipment/activities related to emergencies.</li> </ul>
City of Rancho Cordova	55 dBA L <sub>eq</sub>	45 dBA L <sub>eq</sub>	<ul style="list-style-type: none"> <li>• Construction from 6:00 a.m. to 8:00 p.m. on weekdays and 7:00 a.m. to 8:00 p.m. Saturday and Sunday.</li> <li>• Equipment/activities related to emergencies.</li> </ul>

Jurisdiction	Exterior Nontransportation Noise Standard		Construction Noise Exemptions
	Daytime (7 a.m.–10 p.m.)	Nighttime (10 p.m.–7 a.m.)	
City of Roseville	50 dBA $L_{eq}$	45 dBA $L_{eq}$	<ul style="list-style-type: none"> <li>Construction from 7:00 a.m. to 7:00 p.m. Monday through Friday and between 8:00 a.m. and 8:00 p.m. Saturday and Sunday</li> <li>Equipment/vehicles for utility personal during emergencies</li> </ul>
City of Sacramento	55 dBA $L_{eq}$	50 dBA $L_{eq}$	<ul style="list-style-type: none"> <li>Construction from 7:00 a.m. to 6:00 p.m. on Monday through Saturday and between 9:00 a.m. and 6:00 p.m. on Sunday</li> <li>Equipment/activities related to emergencies.</li> </ul>
City of West Sacramento	50 dBA $L_{eq}$	45 dBA $L_{eq}$	Not Applicable

Sources: Amador County 2016; Placer County 2013; Sacramento County 2011; San Joaquin County 2016; Yolo County 2009; City of Sacramento 2015; City of West Sacramento 2016; City of Citrus Heights 2020; City of Elk Grove 2019; City of Folsom 2018; City of Galt 2009; City of Rancho Cordova 2006; City of Roseville 2020

dBA= A-weighted decibel;  $L_{eq}$ = hourly average noise level;  $L_{50}$ = noise level that occurs 50 percent of the time during measurement duration;  $L_{dn}$ = day-night average noise level.

### 3.13.3 Environmental Setting

#### Existing Noise-Sensitive Land Uses

Noise-sensitive land uses (also called sensitive receptors) are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and because of the potential for nighttime noise to result in sleep disruption. Additional land uses such as schools, transient lodging, historic sites, cemeteries, and places of worship are also generally considered sensitive to increases in noise levels. These land use types are also considered vibration-sensitive land uses, as are commercial and industrial buildings where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

Portions of the Permit Area are adjacent to developed areas, including residential communities, commercial and industrial parks, roadways, and freeways and highways. Residences and other buildings are present in some more developed areas of the treatable landscape. Scattered residences exist in the more rural areas of the Permit Area. No noise-sensitive receptors exist at SMUD's Nature Preserve Mitigation Bank (SMUD Bank).

## **Existing Noise Sources**

### ***Traffic Noise Sources***

Traffic noise is typically the predominant noise source in a community. Traffic noise levels are primarily a function of the volume of vehicles per day, traffic speed, the type of vehicle on the road (i.e., automobile, medium truck, heavy truck), and the distribution of traffic during daytime and nighttime hours. Traffic noise exposure depends on the proximity of noise-sensitive receivers to the roadway and the prevalence of existing intervening topography or noise barriers.

Typically, highways accommodate the most traffic at highest speeds, and therefore, generate the most noise with major arterials, collectors and smaller local roads generally producing lower noise levels. Major highways within the Permit Area include U.S. Highway 50, Interstate 80, Interstate 5, State Route 99, and State Route 160. Noise levels on these highways range from 77.6 dBA CNEL to 86.1 dBA CNEL within the city of Sacramento (City of Sacramento 2014). Noise levels on other highways within the Permit Area, with similar traffic volumes, would be expected to result in similar noise levels, with other less traveled highways and smaller roadways experiencing lower noise levels.

### ***Rail Noise Sources***

Another noise source in the Permit Area is rail noise from freight and passenger rail operations. Although these operations can generate substantial noise levels in the immediate vicinity of the railways, train operations are intermittent and area railways are widely dispersed. The contribution of rail noise to the overall ambient noise environment in the Permit Area is relatively minor compared with other sources such as traffic. Train operations are also a source of ground vibration near the tracks.

### ***Aircraft Noise Sources***

The Sacramento International Airport is the only major airport within the Permit Area. Other smaller airports in the Sacramento County portion of the Permit Area include Sacramento Executive, Mather, and McClellan. In Yolo County, the Yolo County Airport is partially within the Permit Area, and there are no airports within the Permit Area in any of the other surrounding counties (i.e., Amador, Placer, San Joaquin). There are also small private airstrips in the Permit Area that are used for personal, agricultural, and other uses that contribute much less to the ambient noise levels than the aforementioned airports. In addition to the aircraft operations originating and terminating at these facilities, aircraft not utilizing these airports also fly over the Permit Area, with aircraft noise more dominant in the Sacramento and Yolo County portions of the Permit Area. The proximity of the receiver to the airport and aircraft flight path determines the noise exposure, but noise levels from aircraft activity are generally higher in close proximity to airports.

### ***Construction Noise Sources***

Noise associated with heavy equipment, including equipment with diesel engines, often dominates the noise environment in the vicinity of construction sites, which exist throughout the Permit Area for projects unrelated to this proposed Project. Stationary sources such as generators, pumps, and compressors also contribute to the overall noise environment. However, the noisiest construction operations are those requiring the use of impact equipment (e.g., pile driving, pavement breaking); these types of activities generally produce the highest noise levels of any construction equipment, and may also produce vibration that can be perceptible in the vicinity of the construction areas. According to the Federal Highway Administration (FHWA), noise from construction equipment can range from 73 dBA to 101 dBA (FHWA 2006) but generally occurs in short bursts throughout the day.

### ***Industrial and Other Nontransportation Sources***

A variety of industrial and other nontransportation noise sources are located within the Permit Area. These types of facilities include manufacturing plants, landfills, water and wastewater treatment plants, power generation facilities, food packaging plants, lumber mills, and aggregate mining facilities. The noise levels generated by these sources can vary, but generally contribute to the noise environment in the immediate vicinity of the noise source.

#### ***3.13.4 Environmental Impacts and Mitigation Measures***

### **Methodology and Assumptions**

Impacts were determined based on methods and reference noise levels from FTA, FHWA, and Caltrans. Reference noise levels are those noise levels documented for specific equipment or activity types and their use is common practice in the field of acoustics.

Noise-related impacts were evaluated for those activities that would result in any increase in noise in comparison to existing conditions. Impacts are categorized in this analysis as *temporary* for construction activities and *permanent* for facility operation. For the purposes of this analysis, *construction* refers to the temporary activities necessary to implement a Direct or Indirect Action. Ongoing maintenance activities that would involve short-term construction work were evaluated as temporary construction. This includes operation and maintenance (O&M) activities and other types of Covered Activities. Construction-noise levels were modeled based on conservative assumptions, known construction methods used by SMUD, and based on anticipated equipment type that would be used for each activity.

*Operation* is the permanent operation of any facility upon which a Covered Activity was implemented. Long-term operational noise associated with Covered Activities would include stationary sources such as equipment noise inside substations (e.g., transformers) and corona noise associated with new and relocated overhead electrical

lines. Operational noise was modeled using reference noise levels based on available literature and conservative propagation calculations.

Modeling to support this impact analysis (presented in Appendix D) does not account for any natural or human-made shielding (e.g., the presence of vegetation, berms, walls, or buildings) and, consequently, represents worst-case noise levels.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. The following analysis discloses the impacts of the Conservation Strategy (Direct Actions) and the Covered Activities (Indirect Actions), specifically those that have the potential to result in a direct or indirect physical change in the environment and would result in a change in baseline conditions.

Significance conclusions are identified for the impacts of Direct Actions because this EIR entitles implementation of those actions. Impacts of Indirect Actions are described to provide a complete analysis of the whole of the action consistent with California Environmental Quality Act (CEQA) Guidelines Section 15378(a), but significance conclusions are not identified because the causal connection between implementation of the proposed Project and impacts from implementation of Covered Activities is too attenuated. Additionally, the detailed potential environmental effects of Indirect Actions cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration are not known. As part of SMUD's standard environmental screening process, SMUD will determine whether implementation of individual Covered Activities are subject to CEQA and the appropriate CEQA document that is required for compliance.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical change in the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

Significance determinations consider the implementation of applicable avoidance and minimization measures, which are incorporated into the design and specifications of each Covered Activity.

### Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, implementation of the proposed HCP would result in a potentially significant impact related to noise if it would do the following.

- Generate a substantial temporary or permanent increase in ambient noise levels near the location of the Covered Activity in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, as summarized in Table 3.13-5 above.
- Generate excessive groundborne vibration or groundborne noise levels in excess of Caltrans-recommended levels of 0.2 in/sec PPV for structural damage and FTA-recommended levels of 80 VdB for impacts on sensitive receptors.
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the area to excessive noise levels.

### Impact Analysis

***Impact 3.13-1: Substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action could result in short-term noise from the use of vehicles. However, the activity would be located more than 1,000 feet from any existing sensitive receptor, and therefore, would not result in excessive noise exposure to any sensitive land uses. This impact would be **less than significant**.

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Generally, Covered Activities could result in intermittent, short-term elevated noise levels. Some Covered Activities, such as those requiring construction, would result in short-term but greater noise levels during construction activities. Noise impacts associated with a specific construction activity would depend on the type and duration of the activity, and the types and number of pieces of equipment in use at a given time. Other factors, such as the distance between the activity and any noise-sensitive receivers and any shielding effects that might result from local topography, vegetation, or buildings, also affect the level of potential noise impacts from construction activities.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would result in short-term noise increases during implementation. Orcutt grass enhancement and introduction sites would be accessed by pickup trucks and utility vehicles, which generate minor vehicular noise. This Direct Action would be located more than 1,000 feet from any existing sensitive receptor. Excessive noise would not occur from the use of vehicles; therefore, sensitive receptors would not be exposed. This impact would be **less than significant**.

### ***Indirect Actions***

Covered Activities that would constitute a change to baseline conditions are shown in Table 2-10 and Sections 2.3.3 and 2.3.4; noise-generating activities include inspections, maintenance, repair, and replacement of new SMUD-owned electrical and natural gas facilities, construction of new facilities, vegetation management such as tree and bush trimming, and miscellaneous activities that would involve minor maintenance activities at existing SMUD-owned power plant and properties. Noise levels from these activities would vary depending on the specific activity, but all activities would be short-term in nature (i.e., less than a day at each location in many cases) and periodic throughout the 30-year Permit Term (e.g., quarterly or biannually at any one location). Thus, noise associated with the Covered Activities would be similar to construction-related noise, rather than long-term permanent noise, typically associated with traffic noise increases or other permanent nontransportation sources. Therefore, short-term, temporary noise associated with use of various heavy-duty equipment and maintenance vehicle operation to implement Covered Activities over the 30-year Permit Term is evaluated as a short-term temporary noise source. Because noise levels would vary depending on activity, temporary noise is discussed by Covered Activity category below.

### **Operation and Maintenance**

O&M Covered Activities that would constitute a change to baseline conditions include O&M activities associated with new SMUD facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These include visual and physical inspections of facilities (e.g., underground and overhead facilities, substations), testing, repair and replacement of underground and overhead components and poles, and reconductoring. New construction activities are discussed below under *New Construction*. This analysis focuses on those O&M activities that would take place on newly constructed facilities.

Inspection of newly constructed facilities (e.g., subtransmission and distribution lines [E1a, E2a], substations [E4]), would involve maintenance crews conducting ground-based inspections or drive-by inspections in work trucks. These activities would not involve noise-generating heavy-duty equipment.

Maintenance of newly constructed facilities could result in new trips of maintenance vehicles on existing roads that would be used to access the new facilities. As described above, a doubling of a noise source would result in a 3-dB increase in noise, which is considered barely perceptible to the human ear. Thus, the addition of few maintenance vehicles on existing roads would likely not result in a doubling in traffic volumes and noise increases would not be audible.

Other minor activities such as repairs and replacements of transformers, poles, and other components (E6 through E9) would require some minor work at the facilities, but these activities would generally be completed using work trucks and hand tools. In urban settings, these activities would be indistinguishable from current O&M activities and other typical existing ambient noise sources (e.g., traffic, ambulance sirens). In rural areas, these activities are less likely to be located in close proximity to existing sensitive land uses; however, specific locations are unknown.

### New Construction

Of all the potential new construction, new substations (E16) and trenching for relocated gas pipelines (G10) and new underground subtransmission and distribution lines (E14) would involve the greatest use of heavy-duty equipment and associated activities that would generate the loudest noise levels. These activities may involve the use of excavators, graders, drill rigs, jackhammers, delivery trucks, cranes, and paving equipment.

Substation construction (E16) would require site clearing and excavation, foundation pouring, and building construction. Of these activities, the site preparation/excavation phase typically generates the loudest noise levels. Thus, conservatively assuming that three pieces of equipment were operating in the same location at the same time, combined noise levels of a truck, excavator, and backhoe could reach 79.3 dBA  $L_{eq}$  and 83.3 dBA  $L_{max}$  at 50 feet from the substation construction activities.

Trenching methods could vary depending on site-specific circumstances. Thus, for purposes of this analysis, the activities and equipment that could generate the most noise were assumed. Assuming simultaneous operation of a jackhammer, compressor, and drill rig, noise levels of 81.9 dBA  $L_{eq}$  and 88.2 dBA  $L_{max}$  at 50 feet from the trenching activities could result.

Generally, construction activities that occur during daytime hours are either exempt from local noise ordinances (Table 3.13-5) or otherwise not considered to substantially increase noise due to their short-term duration and transient nature. Most short-term construction activities discussed above would occur during the daytime, when people are less likely to be sleeping or otherwise disturbed due to existing elevated ambient noise levels. Due to the short-term and temporary nature of construction activities and their occurrence during daytime hours, Covered Activities would likely not expose any single receptor to substantial temporary increases in noise.

## Vegetation Management

Equipment used during vegetation management activities that would generate the loudest noise levels could include a backhoe/loader, work trucks, a chipper, a chainsaw, and small mowers. Of these, the use of a chainsaw for tree removal (V4) would result in the highest noise levels. Thus, conservatively assuming that a chainsaw and a truck were operating in the same location at the same time, combined noise levels could reach 77.8 dBA  $L_{eq}$  and 84.4 dBA  $L_{max}$  at 50 feet from the tree trimming or tree removal activity. These activities could occur at various locations throughout the Permit Area and could potentially expose existing sensitive receptors to these noise levels, depending on the exact location of vegetation management work and proximity to sensitive receptors.

## Miscellaneous Covered Activities

Covered Activities that would constitute a change to baseline conditions include activities related to operation of the Cosumnes Power Plant (CPP) water pipeline (M2). Noise-generating activities would include installing 17 cathodic protection test stations on the water pipeline (M2a), installing a valve (M2b) that would increase reliability, and repair and/or replacement of pipeline segments (M2c). Installation of the test stations and new valve would require some ground disturbance and earth movement, stockpiling, and the construction of a temporary access road, which may require the use of heavy-duty noise-generating equipment such as an excavator, backhoe, work trucks, and a crane.

Conservatively assuming that three pieces of equipment were operating in the same location at the same time, combined noise levels of a truck, excavator, and backhoe could reach 79.3 dBA  $L_{eq}$  and 83.3 dBA  $L_{max}$  at 50 feet from the excavation activities. Noise-generating activities associated with the CPP water pipeline (M2) would occur along the existing pipeline between Rancho Seco Lake and the Folsom South Canal, located in a rural part of southeast Sacramento County. Thus, construction activities here would be subject to Sacramento County Noise Code Section 6.68.090, which exempts construction-related equipment noise that occurs during Sacramento County–defined daytime hours (see Section 3.13.2, *Regulatory Setting*). Further, due to the rural nature of this area, it is highly unlikely that construction activities would be located close to existing receptors. Nonetheless, these activities would comply with Sacramento County daytime hours, thus exempt from noise standards, and would not expose people residing nearby to excessive noise levels during the day.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any short-term noise generated from this Direct Action would not be substantial and would not be located close to existing sensitive receptors. Therefore, this impact would be **less than significant**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

A variety of construction and O&M activities would occur over the 30-year Permit Term that could result in varying degrees of noise exposure depending on the type and duration of activity and proximity to existing sensitive land uses. Of all Covered Activities, it is anticipated that construction noise associated with trenching could result in the highest noise levels, which would be 81.9 dBA  $L_{eq}$  and 88.2 dBA  $L_{max}$  at 50 feet from the trenching activities. Noise levels from all other construction and maintenance activities would be lower and, in some cases, noise-generating activity would not be located in close proximity to any existing sensitive land uses. For these reasons it is unlikely that adverse impacts from noise would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and noise reduction measures would be required if potentially significant noise impacts were identified.

### ***Impact 3.13-2: Substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Due to the temporary nature of this activity, implementation of this Direct Action would not result in any permanent increase in noise. **No impact** would occur.

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Generally, most of the Covered Activities would be intermittent and short term in nature and would not generate any permanent noise.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not result in any permanent increase in noise. **No impact** would occur.

### ***Indirect Actions***

Covered Activities that would constitute a change to baseline conditions and generate a permanent source of noise are corona discharge from new aboveground distribution and subtransmission (E13) lines and substation noise associated primarily with onsite operation of transformers, cooling fans, and other substation equipment (E16). Noise from these new construction Covered Activities is discussed by source, below. No other Covered Activity would result in a permanent increase in noise.

### **Substation Noise**

Covered Activities would involve the construction of new substations (E16) within the Permit Area. Specific locations and substation components cannot be determined at this time, but SMUD assumes any new substation would be located in Sacramento County. Therefore, this analysis considers Sacramento County’s applicable noise standards as well as all cities located within Sacramento County (Table 3.13-5).

A reference noise level for a SMUD substation, including a 12.5 megavolt amperes transformer, is 55 dBA  $L_{eq}$  at 50 feet from the source, under operational load conditions with fans operating (SMUD 2018). Using this reference noise level and typical attenuation rates, conservatively assuming no intervening topography or sound barriers, substation noise was estimated at the distance from the source (i.e., setback) that would be required to achieve the Sacramento County and all cities within the County’s most stringent nontransportation noise standard (i.e., nighttime standard). Compliance with the more stringent nighttime standard would also ensure compliance with the respective daytime noise standard. Setback distances (from source to receptor) for each jurisdiction are shown below in Table 3.13-6.

**Table 3.13-6 Operational Substation Noise Summary**

<b>Jurisdiction</b>	<b>Most Stringent Applicable Standard</b>	<b>Distance from Source to Meet Standard (feet)</b>
City of Elk Grove	45 dBA $L_{eq}$ (10 p.m. to 7 a.m.)	120
City of Folsom		
City of Galt		
City of Rancho Cordova		
City of Citrus Heights	50 dBA $L_{eq}$ <sup>1</sup> (10 p.m. to 7 a.m.)	80
City of Sacramento		
Sacramento County		

Source: Modeled by Ascent Environmental, Inc. 2020.

dBA= A-weighted decibel;  $L_{eq}$ = hourly average noise level; L50= noise level exceed 50 percent of the time.

<sup>1</sup> City and County of Sacramento use L<sub>50</sub> standards; however, an L<sub>50</sub> value of 50 dBA means that 50 dBA would occur 50 percent of the time, similar to an hourly average level (i.e.,  $L_{eq}$ ); therefore, treated as an  $L_{eq}$  standard.

Based on the modeling conducted, noise from new substations could potentially exceed applicable noise standards depending on the location of new substations, applicable noise standards, specific equipment that would be constructed, and substation proximity

to existing sensitive receptors. To achieve applicable noise standards for stationary sources such as substations, setback distances, equipment enclosures, or soundwalls could be required. Depending on the anticipated noise levels, proximity to receptors, and the necessary noise reduction to achieve noise standards, one or a combination of these measures could be required to ensure compliance with applicable noise standards. Thus, if new substations would result in noise levels that exceed standards at sensitive receptors, appropriate mitigation would reduce impacts.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Orcutt grass enhancement and introduction at the SMUD Bank would not result in any permanent noise source. **No impact** would occur.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

Some Covered Activities under new construction could result in long-term noise increases associated with corona and substation noise. Corona noise associated with new overhead lines could result in noise levels of up to 30 dBA, which would not exceed daytime or nighttime noise standards for any county within the Permit Area. In addition, ambient noise levels in urban areas are generally much higher than 30 dBA, in which case operational corona noise would be inaudible compared to existing levels in these areas. New substations could potentially exceed applicable noise standards, depending on actual location and proximity to sensitive receptors. Measures similar to those identified above, as refined as part of project-specific CEQA review, could achieve compliance with applicable noise standards. For these reasons it is unlikely that adverse impacts from noise would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Impact 3.13-3: Groundborne vibration and groundborne noise***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action

would not result in long-term operational groundborne noise or vibration or short-term vibration, and would not be located close to existing sensitive receptors. **No impact** would occur.

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Impacts from vibration can result when vibration-generating activities occur in proximity to fragile structures (e.g., historic structures) or near noise-sensitive receptors (e.g., places where people sleep). Generally, vibration impacts occur from impact construction equipment such as pile drivers and blasting or from operational vibration sources such as transit facilities (e.g., train stations, bus stations, roadways). No operational vibration sources would occur from any Covered Activity, and therefore, this analysis focuses on construction-related vibration-inducing activities.

Construction activities generate varying degrees of temporary ground vibration, depending on the specific construction equipment used and activities involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. No pile driving or blasting would occur, so the activities that would generate vibration include routine construction equipment and activities such as tamping of ground surfaces, the passing of heavy trucks on uneven surfaces, and drilling/trenching. The level of groundborne vibration that could reach sensitive receptors depends on the distance to the receptor, the equipment type that is creating vibration (e.g., the frequency being produced), and the soil conditions surrounding the site.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Implementation of this Direct Action would not result in long-term operational groundborne noise or vibration or short-term vibration. Utility vehicles and pickup trucks would be used to access the sites and hand tools would be used for enhancement and introduction activities. Further, no sensitive receptors exist at the SMUD Bank. **No impact** would occur.

### ***Indirect Actions***

The only Covered Activities that would constitute a change to baseline conditions and include construction that could involve vibration-inducing equipment are New construction activities. Groundborne vibration would not occur during O&M, vegetation management, or miscellaneous Covered Activities; therefore, the following analysis addresses new construction. Based on reference vibration levels for construction equipment and anticipated Covered Activities that could occur, vibration levels from drilling associated with trenching activities (E14 and G10) and the use of heavy graders/dozers associated with various activities (e.g., substation construction, vegetation clearing) would result in the highest vibration levels. According to FTA, vibration levels associated with drilling and dozers are 0.089 in/sec PPV and 87 VdB at 25 feet. Based on FTA's recommended

procedure for applying a propagation adjustment to these reference levels, vibration levels from these activities could exceed the Caltrans-recommended level of 0.2 in/sec PPV with respect to the structural damage within 15 feet and could exceed FTA's maximum acceptable level of 80 VdB with respect to human response within 50 feet of trenching or excavation activities.

Regarding the potential for structural damage, pile driving and blasting, activities normally associated with having the potential to result in structural damage, would not occur. Further, vibration levels would dissipate to below recommended thresholds for normal structures at 15 feet from the source, which would likely be imperceptible beyond the construction site. Therefore, damage to structures from groundborne vibration would not occur. Regarding the potential for construction activities to disturb sensitive receptors, it is highly unlikely that dozer use or drilling would occur within 50 feet of an existing sensitive receptor. However, if dozer use or drilling did occur within 50 feet of an existing receptor, construction activities would occur during the daytime hours, would be short-term and temporary, and only occur in any one location for a very limited period of time.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any short-term vibration generated from SMUD Bank enhancement, management, and monitoring would not be substantial and would not be located close to existing sensitive receptors. Therefore, this impact would be **less than significant**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

New construction activities would occur over the 30-year Permit Term that could result in varying degrees of vibration exposure depending on the type and duration of activity and proximity to existing sensitive land uses. However, it is unlikely that vibration-generating activities would take place within distances to receptors that could result in impacts. Nonetheless, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and vibration reduction measures would be required if potentially significant noise impacts were identified.

***Impact 3.13-4: Aircraft-related noise for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the area to excessive noise levels.***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. The SMUD Bank is not located within 2 miles of a public airport or public use airport. **No impact** would occur.

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***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The SMUD Bank is not located within 2 miles of a public airport or public use airport. **No impact** would occur.

***Indirect Actions***

Several airports and smaller private airstrips exist within the Permit Area. As O&M activities, new construction, vegetation management, and miscellaneous Covered Activities are implemented throughout the Permit Area over the next 30 years, construction and maintenance crew members may temporarily be working in areas near existing airports and be exposed to aircraft noise. However, impacts from aircraft operations typically occur when people are exposed to excessive levels over long periods of time or if sleep disturbance occurs. Construction and maintenance crews would be working at each facility site for short periods of time. Therefore, crews would not be exposed to aircraft noise for extended periods of time and sleep disturbance would not be a consideration for construction and maintenance crew members.

***Conclusion***

Direct Actions

The SMUD Bank is not located within 2 miles of a public airport or public use airport. **No impact** would occur.

Mitigation Measures

No mitigation is required.

Indirect Actions

Construction and maintenance crews would be working at each facility site for short periods of time. Therefore, crews would not be exposed to aircraft noise for extended periods of time and sleep disturbance would not be a consideration for construction and maintenance crew members.

### 3.14 Population and Housing

This section describes the regulatory and environmental setting for population and housing in the Permit Area, and analyzes effects on population and housing that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

No questions or concerns related to population and housing were raised in the responses to the Notice of Preparation.

#### 3.14.1 *Regulatory Setting*

There is no regulatory background information that is relevant to addressing impacts of the proposed Project on population and housing.

#### 3.14.2 *Environmental Setting*

The Permit Area, which encompasses 577,554 acres, includes the Sacramento Municipal Utility District's (SMUD) territory. The Permit Area is largely made up of a portion of Sacramento County (566,547 acres) but also encompasses smaller segments of Placer (4,000 acres), Yolo (4,495 acres), Amador and San Joaquin counties, as shown in Figure 2-1. SMUD's service area covers a population of approximately 1.5 million people, and SMUD employs almost 2,300 people (SMUD 2019). The distribution of population within the Permit Area is shown in Figure 3.14-1.

#### 3.14.3 *Environmental Impacts and Mitigation Measures*

### **Methodology and Assumptions**

This analysis of the proposed Project's effects on population and housing is based on professional standards and on information cited throughout the section. Impacts were identified and evaluated based on the environmental characteristics of the Permit Area and the magnitude, intensity, and duration of activities related to implementation of the proposed HCP.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act.

SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under the California Environmental Quality Act (CEQA), which can range from exemptions to EIRs.

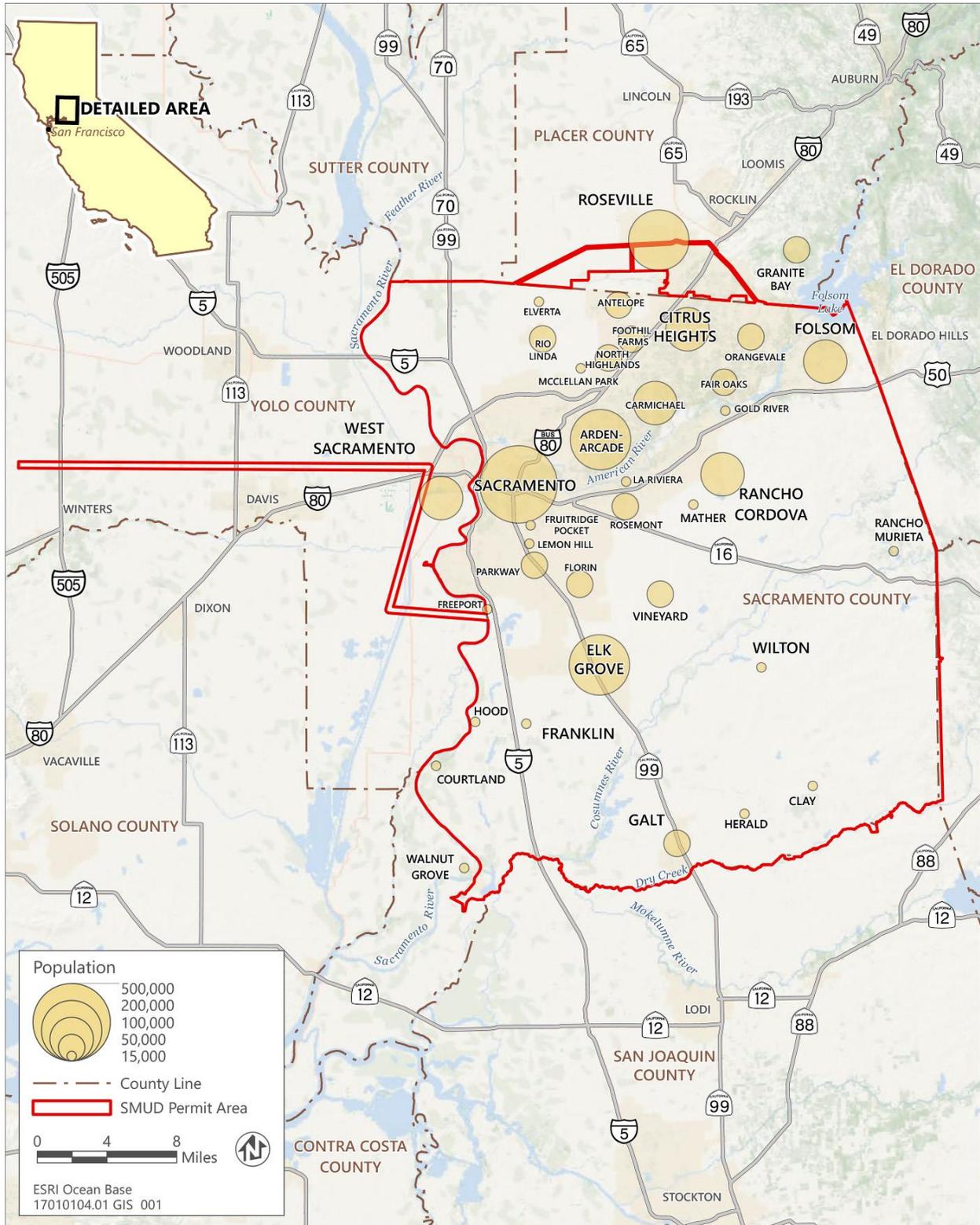
Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

Significance determinations consider the implementation of applicable avoidance and minimization measures, which are incorporated into the design and specifications of each Covered Activity.

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, implementation of the proposed HCP would result in a potentially significant impact related to population and housing if it would do the following.

- Create substantial unplanned 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 a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere.



Source: data downloaded from U.S. Census Bureau in 2020 and adapted by Ascent Environmental in 2020.

**Figure 3.14-1 Population Dot Map**

## Impact Analysis

***Impact 3.14-1: Create substantial unplanned 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)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not create businesses or homes or extend infrastructure in a manner that would induce unplanned population growth. Therefore, unplanned population growth would not occur; there would be **no impact**.

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Generally, Covered Activities could result in intermittent, short-term activities that use a mix of existing SMUD staff and contractors over the life of the proposed HCP. Some Covered Activities, such as those requiring new construction, could also require out-of-area contractors, while others would be undertaken using SMUD staff. Contractors may temporarily relocate to the area to conduct a Covered Activity but, as explained in the sections below, this relocation would not result in unplanned population growth. Refer also to Section 6.3, *Growth-Inducing Impacts*.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would require small crews periodically at the SMUD Bank. Existing SMUD staff or contractors could be used for this activity, and neither would require relocation of employees to the area, given the limited staffing needs. Implementation of this Direct Action would not require construction of infrastructure that could result in unplanned population growth. As a result, there would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

Operation and maintenance (O&M) Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These activities could be conducted using SMUD staff and contractors. Crews for O&M would be limited in size and therefore would not require relocation of people from other areas to staff these short-term, intermittent activities.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations

(E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead subtransmission and distribution lines (E13). Construction of new facilities may also require trenching and boring along existing or realigned gas pipelines or subtransmission and distribution line easements and creating temporary access roads. These kinds of projects can often require workers to relocate from outside the immediate region due to specialization of certain trades. However, the number of workers would be limited and relocation would be temporary; therefore, population growth would not occur.

New construction activities would also be implemented to increase SMUD's electrical system capacity to meet the increased customer electrical load growth resulting from future development in the region. The Indirect Actions would not induce population growth; rather, they would be implemented to accommodate the electrical service needs of growth as result of planned development. Therefore, Covered Activities are not considered to be "growth inducing".

### Vegetation Management

Vegetation management Covered Activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). These activities could be conducted using SMUD staff and contractors. Crews for vegetation management would be limited in size and therefore likely would not require relocation from other areas for staffing these short-term, intermittent activities.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the Cosumnes Power Plant water pipeline. These activities would include installation of cathodic protection test stations (M2a), installation of a new pipeline valve (M2b), and replacement of pipeline segments (M2c). Installation of these elements would involve construction similar to that described for *New Construction*, above, in that there could be a need to temporarily relocate crews to the construction area. However, the relocation would be temporary and, therefore, would not result in population growth.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Existing SMUD staff or contractors could be used to implement this Direct Action, and neither would require

relocation of employees to the area given the limited staffing needs. Therefore, unplanned population growth would not occur; there would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

New construction activities and miscellaneous Covered Activities could result in temporary relocation of people to the construction area to staff projects, while vegetation management and O&M activities would use workers from the area and likely would not require relocation. For these reasons it is unlikely that unplanned population growth would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Impact 3.14-2: Displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere.***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would be implemented within the SMUD Bank, where there are no people or housing. Therefore, there would be no displacement of people or housing; **no impact** would occur.

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Generally, Covered Activities would be implemented on existing facilities or involve construction of new facilities which would be sited to avoid displacement of people and housing.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would occur within the SMUD Bank, where there are no people or housing. As a result, this Direct Action would not displace people or housing; there would be **no impact**.

## ***Indirect Actions***

### Operation and Maintenance

O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Displacement effects of new construction are addressed below. O&M of these constructed facilities would not displace people or housing.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead subtransmission and distribution lines (E13). Construction of new facilities may also require trenching and boring along existing or realigned gas pipelines or subtransmission and distribution line easements and creating temporary access roads. SMUD sites its new facilities within existing communities to avoid displacement of people and housing; some new construction could occur in planned development areas where there are not yet people or housing. Therefore, displacement of people or housing is not anticipated to occur.

### Vegetation Management

Vegetation management that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). This vegetation could occur among housing and people, but removing, trimming, and pruning vegetation could not displace them.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the Cosumnes Power Plant water pipeline (M2), which is not located adjacent to people or housing. As a result, implementation of this Covered Activity would not displace people or housing.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action

would occur within the SMUD Bank, where there are no people or housing. As a result, this Direct Action would not displace people or housing; there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Indirect Actions such as O&M, vegetation management, and miscellaneous Covered Activities would not displace people or housing because they involve facilities or vegetation that exist among people and housing or would not occur near people or housing. New construction is unlikely to displace people or housing, because SMUD sites its facilities to avoid displacement of people or housing. While the detailed potential environmental effects of these indirect actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### 3.15 Public Services

This section summarizes regulations applicable to public services, describes the environmental setting for public services in the Permit Area, and analyzes effects on utilities that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

No questions or concerns related to public services were raised in the responses to the Notice of Preparation.

The Permit Area, which encompasses 577,554 acres, includes the Sacramento Municipal Utility District's (SMUD) territory. The Permit Area is largely made up of a portion of Sacramento County (566,547 acres) but also encompasses smaller segments of Placer (4,000 acres), Yolo Counties (4,495 acres), a smaller portions of Amador and San Joaquin counties, as shown in Figure 2-1. The segments of counties other than Sacramento County in the Permit Area do not contain substantial population centers. As a result, no significant impacts related to public services would be expected in these areas. Furthermore, of the areas in Sacramento County, unincorporated areas comprise the majority of the Permit Area. Therefore, this discussion largely focuses on public services in unincorporated Sacramento County, and includes information on the two counties with the next highest acreage amounts in the Permit Area: Placer and Yolo Counties. The Direct Action would occur in Sacramento County.

#### 3.15.1 Regulatory Setting

##### **Federal**

No federal regulations pertaining to public services are applicable to the proposed Project.

##### **State**

##### ***California Fire Code***

Title 24 of the California Code of Regulations contains the California Building Standards Code, most recently updated July 1, 2019, with an effective date of January 1, 2020. The code contains complete regulations and general construction building standards of state adopting agencies, including administrative, fire and life safety, and field inspection provisions, with the goal of safeguarding public health, safety, and welfare. Chapter 9 of the California Building Code outlines fire protection and life safety system requirements for buildings, including fire sprinklers, automatic fire-extinguishing systems, and standpipe systems.

##### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like SMUD is exempt from county and city zoning and building ordinances

(Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### ***Sacramento County General Plan***

Various policies of the Safety Element and Public Facilities Element of the Sacramento County General Plan (Sacramento County 2017) are relevant to public services, including provisions to improve EMS response system that includes first responder emergency care and transportation services (Policy SA-30), show the location of future school sites based upon adopted school district master plans and criteria in the General Plan in specific plans (Policy PF-39), incorporate planned libraries into community and specific plans for new development (Policy PF-46), plan and develop law enforcement facilities in keeping with overall needs and the distribution of growth (Policy PF-51), and allow that mitigation fees may be established by the Board of Supervisors or Fire Districts for the purpose of funding adequate fire protection and emergency medical response facilities provided they find that such fees are critical and necessary to meet the facility funding needs of the fire district and that existing methods of financing are inadequate (Policy PF-61).

### ***Placer County General Plan***

The Public Facilities and Services section of the Placer County General Plan (Placer County 2013) includes policies relevant to public services. The General Plan specifies adequate response plans for police services (Policy 4.H.1) and fire protection services (Policy 4.I.1) which are maintained through coordination with the Sheriff's Department and local fire protection agencies within Placer County. In order to maintain adequate school services, Placer County's General Plan includes policies to coordinate with school districts to monitor enrollment needs (Policy 4.J.3). The maintenance of library facilities is regulated through Policy 4.A.5, which requires new development to fund its share of use of these types of facilities.

### ***Yolo County General Plan***

The Public Facilities and Services Element of the Yolo County General Plan (Yolo County 2009) outlines policies to maintain and improve public services in pace with planned development within Yolo County. A community park threshold that must be maintained with future development in the county is established through Policy PF-3.1, which requires 5 acres of park for every 1,000 people. Policy PF-4.1 institutes law enforcement response times and Policy PF-4.3 establishes a required police officers to service population ratio, both of which must be maintained with future growth in the county through coordination with local law enforcement agencies. Policy PF-5.9 requires a will-serve letter from the appropriate fire district/department confirming the ability to provide fire protection services

to new development. Collaboration with school districts to ensure adequate school facilities are available for planned growth within the county is required through Policies PF-6.2 and PF-6.3. Library service needs with growth within the county are met through enforcement of Policy PF-7.1.

### *City General Plans*

In addition to county general plans, the cities of Sacramento, West Sacramento, Folsom, Citrus Heights, Elk Grove, Galt, Rancho Cordova, and Roseville have general plan policies related to public services. Similar to the county general plans, these policies are related to the provision of adequate public services in the city. These policies are applicable to residential, commercial, and industrial development.

### *3.15.2 Environmental Setting*

The Permit Area comprises several counties, but the majority of the Permit Area is located in the counties of Sacramento, Placer, and Yolo. This section provides information on public services within these three counties. The Direct Action would occur in Sacramento County.

#### **Fire Protection**

Sacramento County's fire protection needs are served by the Sacramento Metropolitan Fire District (Metro Fire). Sixteen smaller fire departments make up Metro Fire, which has 192 on-duty personnel active on any given day to serve the unincorporated county (Metro Fire 2012).

Fire protection services within Placer County is provided by the Placer County Fire Department in coordination with California Department of Forestry and Fire Protection (CAL FIRE) through a Cooperative Fire Protection Agreement initiated in 1974. Eight career and five volunteer fire stations are used to provide risk fire and emergency medical services to a 475-square-mile territory in unincorporated Placer County (Placer County n.d. a).

Yolo County's fire protection, rescue, and emergency medical service needs are provided by several fire districts and the Rumsey Tribe. In addition to these local districts, CAL FIRE has equipment and staff available in Yolo County during fire season, which is May through October. CAL FIRE maintains one engine, a minimum of three firefighters, and a battalion chief in the unincorporated community of Brooks (Yolo County 2009).

#### **Police Protection**

Sacramento County Sheriff's Department provides the county with law enforcement services. The Sheriff's department has nearly 1,600 sworn deputies and eight service centers throughout the county (Sacramento County Sheriff's Department 2018, 2020).

Police protection in Placer County is provided by the Placer County Sheriff's Office. In addition to police protection, the sheriff's office provides jail services, coroner's services, court security, and marshal duties to the entire county (Placer County n.d. b).

Law enforcement services in Yolo County are provided by the county Sheriff-Coroner. This department patrols the county, administers the county jail and work program, provides animal control services, and serves as the County Coroner. The Sheriff-Coroner department has 276 full-time employees, plus 28 extra help employees (Yolo County 2009).

### **Schools**

Sacramento City Unified School District (SCUSD) serves public school needs in Sacramento County. SCUSD serves almost 43,000 students on 75 campuses (SCUSD 2020).

The Placer County Office of Education (PCOE) provides public education services within the county in coordination with 16 local school districts and one community college district. PCOE also operates special education programs and alternative education programs (PCOE n.d.).

Yolo County is served by seven public school districts: Davis Joint Unified School District, Esparto Unified School District, Pierce Joint Unified School District, River Delta Unified School District, Washington Unified School District, Winters Joint Unified School District, and Woodland Joint Unified School District. In addition, the Yolo County Office of Education runs eight special education schools and three alternative education schools (Yolo County 2009).

### **Parks**

Sacramento County Department of Regional Parks maintains and operates parks in the County, totaling more than 15,000 acres of facilities. Facilities include open space, trails, river access, picnic areas, and sports facilities (Sacramento County 2020).

The Placer County Parks Division operates and manages 21 active park properties, 15 passive parks/open space areas, 7 beaches, and 44 miles of off-street trails, which comprise 1,818.2 acres within the county (Placer County 2021).

Two existing community parks are located in Yolo County: the Esparto Community Park and the Dunnigan Community Park. Local elementary schools also provide space used as community parks for the areas of Clarksburg and Knights Landing; and the community of Madison has a park that is owned and maintained by the Madison Community Services District (Yolo County 2009).

### 3.15.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

This analysis of the effects of implementation of the proposed HCP on public services are based on service ratios, capacities, response times, or other performance objectives and whether implementation of the proposed HCP would result in an exceedance of an existing, permitted, or acceptable performance objective.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under the California Environmental Quality Act (CEQA), which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

Significance determinations consider the implementation of applicable avoidance and minimization measures, which are incorporated into the design and specifications of each Covered Activity.

#### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, implementation of the proposed HCP would result in a potentially significant impact related to public services if it would do the following.

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered

governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

### **Impact Analysis**

***Impact 3.15-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not result in a population increase or activities that would require new government facilities or lead to the physical alteration of existing facilities, including fire and police protection, schools, parks, or other public facilities. There would be **no impact**.

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Generally, Covered Activities could result in intermittent, short-term activities that would require additional SMUD and associated contractors that could increase the need for police and fire protection services. However, there would be no population increase, and increased need for services would be temporary.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Implementation of this Direct Action would result in periodic, limited staffing needs for planting, invasive plant removal, monitoring, and management activities. Existing SMUD staff or contractors could be used, and neither would require relocation of employees to the area, given the limited staffing needs. As a result, there would be no population growth requiring an increase in any governmental facilities. The likelihood of potential for increase in injuries and accidents that require emergency services due to the use of motorized and non-motorized equipment is negligible, and would not require additional physical governmental facilities to maintain service ratios. There would be **no impact**.

## ***Indirect Actions***

### Operation and Maintenance

Operation and maintenance (O&M) Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These activities could be conducted using SMUD staff and contractors. Crews for operation would be limited in size and therefore unlikely to require that staff relocate from other areas. The likelihood of potential for increase in injuries and accidents that require emergency services is negligible, and would not require additional physical governmental facilities to maintain service ratios.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. Construction of new facilities may also require trenching and boring along existing or realigned gas pipelines or subtransmission and distribution line easements and creating temporary access roads. These kinds of projects can often require relocation of workers from outside the immediate region due to specialization of certain trades. However, the relocation would be temporary and would not result in permanent population growth. These activities may also temporarily increase the potential for injuries and accidents that require emergency services due to the hazardous nature of some activities, but the activities would be temporary and short-term and likely would not require additional physical governmental facilities to maintain service ratios.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). These activities could be conducted using SMUD staff and contractors. Crews for vegetation management would be limited in size and therefore likely would not require relocation from other areas for staffing these activities. The likelihood of potential for increase in injuries and accidents that require emergency services is negligible, and would not require additional physical governmental facilities to maintain service ratios.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the Cosumnes Power Plant water pipeline (M2). These activities would include installation of cathodic protection test stations (M2a), installation of a new pipeline valve (M2b), and replacement of pipeline segments (M2c). Installation of these

elements would involve construction similar to that described for *New Construction*, above, in that there could be a need to temporarily relocate crews to the construction area. However, the relocation would be temporary and would not result in population growth. These activities may temporarily increase the potential for injuries and accidents that require emergency services due to the dangerous nature of some activities, but the activities are temporary and short-term. As a result, these activities would not require additional physical governmental facilities to maintain service ratios.

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Existing SMUD staff or contractors could be used, and neither would require relocation of employees to the area given the limited staffing needs for SMUD Bank activities. The likelihood of potential for increase in injuries and accidents that require emergency services due to the use of motorized and non-motorized equipment is negligible, and would not require additional physical governmental facilities to maintain service ratios. Therefore, there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

New construction activities and miscellaneous Covered Activities could result in temporary relocation of people to the construction area to staff projects, while vegetation management and O&M activities would use workers from the area and likely would not require relocation. Some activities may increase the potential for injuries and accidents, though highly unlikely to be to the level that new physical governmental facilities would be required. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### 3.16 Recreation

This section summarizes regulations applicable to recreation, describes existing recreational facilities and opportunities in the Permit Area, and analyzes effects on recreation that could result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan (HCP)*.

No questions or concerns related to recreation were raised in the responses to the Notice of Preparation.

#### 3.16.1 Regulatory Setting

##### **Federal**

No federal plans, policies, regulations, or laws related to recreation are applicable to the proposed Project.

##### **State**

No state plans, policies, regulations, or laws related to recreation are applicable to the proposed Project.

##### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

General plans of counties and cities in the Permit Area have policies related to preserving, expanding, and increasing parkland and recreational facilities. These policies are applicable to residential, commercial, and industrial development.

### 3.16.2 *Environmental Setting*

#### **Regional Setting**

The Permit Area encompasses areas within Sacramento, Yolo, Placer, Amador, and San Joaquin Counties. The recreational setting considers all federal, state, and local recreational facilities within the Permit Area.

Parks and open space are generally categorized according to their size and amenities. Smaller parks such as pocket parks, neighborhood parks, community parks, urban forests, and community gardens serve local communities, typically are located in urbanized areas, and often include a wide range of improvements ranging from playing fields and picnic areas to playgrounds and fitness trails. These parks are most often managed by local park districts or municipalities, which typically set minimum standards for park acreage based on their population. Larger open-space areas such as regional parks, greenbelts, trails and pathways, natural and wildlife preserves, some private farmlands, and some public rangelands typically are located outside of major urbanized areas, and generally include fewer improvements. Management of these parks is divided among a range of organizations and agencies including regional park districts, private individuals, and nonprofit land trusts.

Examples of recreation facilities in the Permit Area include those listed below.

- Rancho Seco Recreational Area
- Nimbus Dam Recreation Area
- Lower Sunrise Recreational Area
- Elk Grove Regional Park
- Granite Regional Park
- North Natomas Regional Park
- Cosumnes River Preserve
- Dunmore Park Preserve Area
- Stone Lakes National Wildlife Refuge
- Lake Natoma
- Camden Park
- Riverfront Park

The Rancho Seco Recreational Area, also known as the Rancho Seco Recreational Park (Park), is surrounded on three sides by the SMUD Nature Preserve Mitigation Bank (SMUD Bank). The Rancho Seco Recreational Area is a 400-acre park that provides recreational opportunities such as boating, swimming, fishing, hiking, picnicking, camping, and RV camping. The Howard Ranch Trail is the only recreation opportunity that extends from the Park into the SMUD Bank. The Howard Trail is a 7-mile trail that follows the northern edge of the Rancho Seco Lake, through the northeastern segment of the SMUD Bank, and into a portion of the Howard Ranch, which borders the SMUD bank on the east. Approximately 0.6 mile of the trail passes through the SMUD Bank.

### 3.16.3 *Environmental Impacts and Mitigation Measures*

#### **Methodology and Assumptions**

This analysis of the proposed HCP's effects on recreation is based on standard professional practice and the information resources cited herein. Effects were identified and evaluated qualitatively based on the environmental characteristics of the Permit Area and the magnitude and duration of activities related to implementation of the proposed HCP. Significance determinations consider the implementation of applicable avoidance and minimization measures, which are incorporated into the design and specifications of each Covered Activity.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under the California Environmental Quality Act (CEQA), which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

## Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the proposed Project would result in a potentially significant impact related to recreation if it would do the following.

- Increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

## Impact Analysis

### ***Impact 3.16-1: Increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would be implemented using existing SMUD staff or contractors, and would neither require relocation of employees to the area nor result in unplanned population growth that could increase the use of existing parks and recreational facilities. Substantial physical deterioration of recreational facilities would not occur; there would be **no impact**.

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Covered Activities would generally occur within dedicated easements or public utility easements that already contain existing SMUD infrastructure and would be implemented by existing SMUD staff or contractors that would not need to relocate to the Permit Area. Covered Activities would not result in unplanned population growth or loss of recreational facilities, such that the use of existing recreational facilities would increase.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The existing SMUD Bank provides hiking and wildlife viewing opportunities along the Howard Ranch Trail that passes through the northeastern area of the SMUD Bank. The Direct Action would be implemented using existing SMUD staff or contractors, and would neither require relocation of employees to the area nor result in unplanned population growth that could increase the use of this recreational facility. Substantial physical deterioration of recreational facilities would not occur; therefore, there would be **no impact**.

## ***Indirect Actions***

### Operation and Maintenance

SMUD has been conducting most of the Covered Activities, specifically those pertaining to operation and maintenance (O&M) of SMUD's electrical, natural gas, and telecommunication systems, within the Permit Area for more than 75 years. O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Maintenance of new facilities would be similar to existing O&M activities. O&M Covered Activities would be implemented using existing SMUD staff or contractors and would neither require relocation of employees to the area nor result in unplanned population growth that could increase the use of recreational facilities. The installation of new facilities is addressed under *New Construction*, below.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. It is anticipated that new construction would be implemented using existing SMUD staff or contractors, but could require the temporary relocation of people to the construction area to staff projects. However, any temporary increase would be minor and would not result in increased use of existing recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Currently, vegetation is being maintained throughout the Permit Area by existing SMUD staff or contractors. Implementation of the proposed HCP would not require relocation of additional employees to the area or result in unplanned population growth that could increase the use of existing recreational facilities. Substantial deterioration of recreation facilities is not anticipated.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the Cosumnes Power Plant water pipeline (M2). Miscellaneous Covered Activities would result in similar land uses and impacts to those discussed under *New Construction* and would not result in substantial deterioration of existing recreational facilities.

## **Conclusion**

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The Direct Action would be implemented using existing SMUD staff or contractors, and would neither require relocation of employees to the area nor result in unplanned population growth that could increase the use of existing recreational facilities at the SMUD Bank. Substantial physical deterioration of recreational facilities would not occur; there would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M activities would be similar in nature and location to those that have occurred over the past 70 years and similarly, vegetation management would be implemented by existing SMUD staff or contractors. Minor construction activities and miscellaneous Covered Activities could result in temporary relocation of people to the construction area to staff projects, while vegetation management and O&M activities would use workers from the area and likely would not require relocation. None of the Covered Activities would result in any short-term or long-term unplanned growth that would result in the substantial deterioration of recreation facilities. For these reasons it is unlikely that adverse impacts on recreation would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Impact 3.16-2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action does not require the construction or expansion of recreational facilities; there would be **no impact**.

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### **Direct Actions**

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only

the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The existing SMUD Bank provides hiking and wildlife viewing opportunities along the Howard Ranch Trail that passes through the northeastern area of the SMUD Bank. The proposed Project includes recreational facilities because the Direct Action would occur at the SMUD Bank; however, as described throughout the EIR, no significant adverse physical effects would occur to this recreational facility from implementation of the Direct Action. The Direct Action would not require the construction or expansion of recreational facilities; there would be **no impact**.

### ***Indirect Actions***

Indirect Actions do not include recreational facilities or require the construction or expansion of recreational facilities.

### ***Conclusion***

#### Direct Actions

The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity is the only Direct Action that could result in physical environmental effects. Construction or expansion of recreational facilities is not proposed with implementation of this Direct Action. There would be **no impact** on the environment from the development of recreational facilities.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

None of the proposed Indirect Actions include recreational facilities or involve the construction or expansion of recreational facilities. Therefore, **no impact** on the environment would occur from the development of recreational facilities.

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### 3.17 Transportation

This section describes the applicable federal, state, and local regulations and policies related to transportation; discusses the existing roadway network and transportation facilities in the Permit Area; describes existing transportation conditions in the Permit Area; and analyzes the potential impacts on transportation from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

No questions or concerns related to transportation were raised in the responses to the Notice of Preparation.

#### 3.17.1 Regulatory Setting

##### **Federal**

##### ***Transportation Improvement Program***

Under 49 U.S. Code (USC) Section 5303(j), each metropolitan planning organization (MPO) (in the Permit Area this is the Sacramento Area Council of Governments [SACOG] and San Joaquin Council of Governments [SJCOG], which are described further below in the discussion of Regional and Local Regulations) is required to develop a Transportation Improvement Program (TIP)—a list of upcoming transportation projects—covering a period of at least 4 years. The TIP must be developed in cooperation with the State and public transit providers. The TIP includes capital and non-capital surface transportation projects, bicycle and pedestrian facilities and other transportation enhancements, Federal Lands Highway projects, and safety projects included in the State’s Strategic Highway Safety Plan. The TIP should include all regionally significant projects receiving Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funds, or for which FHWA or FTA approval is required, in addition to non-federally funded projects that are consistent with a Metropolitan Transportation Plan (MTP).

##### **State**

The California Department of Transportation (Caltrans) is the state agency responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as segments of the Interstate Highway System that lie within California. Caltrans Districts 3 and 10 are responsible for the operation and maintenance (O&M) of State Routes (SR) 16, 84, 99, 104, 160, 244, Interstate (I-) 5, I-80, I-305, U.S. Highway (US) 50 and other State-administered facilities and State-maintained highways within the Permit Area. Caltrans requires a transportation permit for the transport of heavy construction equipment and/or materials that necessitate oversized vehicles on state highways. Additionally, an encroachment permit must be obtained for all proposed activities related to the placement of encroachments within, under, or over the state highway rights-of-way. Caltrans’s encroachment permits may include conditions or

restrictions on the timeframe for construction activities performed within or above roadways that are in Caltrans's jurisdiction.

### ***California Department of Transportation Statewide Transportation Improvement Program***

The California Statewide Transportation Improvement Program (STIP) is a multiyear, statewide, intermodal program of transportation projects that is consistent with the statewide transportation plan and planning processes and with metropolitan plans. The STIP is prepared by Caltrans in cooperation with the MPOs and regional transportation planning agencies (e.g., SACOG). The STIP contains all capital and noncapital transportation projects or identified phases of transportation projects for funding under the Federal Transit Act and USC Title 23.

### ***California Department of Transportation Interregional Transportation Improvement Program***

Caltrans's 5-year Interregional Transportation Improvement Program is prepared pursuant to Government Code Section 14526, Streets and Highways Code Section 164, and the California Transportation Commission's STIP Guidelines. Regional agencies work with Caltrans to identify projects that will address improvements to the interregional transportation system and improve the movement of people, vehicles, and goods between regions.

### ***Senate Bill 743***

Senate Bill (SB) 743, passed in 2013, required the Governor's Office of Planning and Research (OPR) to develop new California Environmental Quality Act (CEQA) guidelines that address transportation metrics under CEQA. The addition of Public Resources Code (PRC) Section 21099 to CEQA required OPR to develop new CEQA guidelines establishing criteria "for determining the significance of transportation impacts" that use vehicle miles traveled (VMT), or a similar metric, instead of measures of congestion or delay, such as level of service (LOS). As stated in the legislation (and PRC 21099(b)(2) of CEQA), upon adoption of the new guidelines, "automobile delay, as described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any."

OPR developed a new CEQA guideline, California Code of Regulations (CCR) Section 15064.3, "Determining the Significance of Transportation Impacts," which implemented PRC Section 21099. It focuses on VMT and includes the statement that, except for roadway capacity projects, "a project's effect on automobile delay shall not constitute a significant impact."

The Office of Administrative Law approved the updated CEQA Guidelines on December 28, 2018; according to the new CEQA Guidelines (CCR 15064.3) VMT will replace congestion as the metric for determining transportation impacts. The Guidelines state that

“lead agencies may elect to be governed by these provisions of this section immediately. Beginning July 1, 2020, the provisions of this section shall apply statewide.” As noted in the updated guidelines, agencies are directed to choose metrics that are appropriate for their jurisdiction to evaluate the potential impacts of a project in terms of VMT.

## **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

Following are the relevant plans and policies of local jurisdictions in the Permit Area. Consistent with PRC Section 21099 and CCR Section 15064.3, plans and policies of local jurisdictions related to congestion, LOS, and delay are not included because a project's effect on automobile delay no longer constitutes a significant impact under CEQA. Local jurisdictions with no plans or policies applicable to the Project are not included below.

### ***Sacramento Area Council of Governments***

SACOG is an association that includes the Counties of El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba, as well as 22 cities. As a metropolitan transportation organization, SACOG is required to prepare a long-range transportation plan (the MTP) for all modes of transportation, including public transit, automobile, bicycle, and pedestrian, every 4 years for the six-county area. In addition to preparing the region's long-range transportation plan, SACOG assists in planning for transit, bicycle networks, clean air, and airport land uses.

#### **Metropolitan Transportation Plan/Sustainable Communities Strategy**

SACOG is responsible for preparing and updating the MTP/Sustainable Communities Strategy (SCS) and the corresponding Metropolitan Transportation Improvement Program (MTIP) for the six-county Sacramento region. In response to this requirement, SACOG completed the 2020 MTP/SCS. The purpose of the 2020 MTP/SCS is to establish regional access and identify mobility goals; identify present and future transportation needs, deficiencies, and constraints within the transportation system; analyze potential solutions; estimate available funding; and propose investments. On November 18, 2019, the SACOG Board of Directors adopted the 2020 update to the MTP/SCS.

### Metropolitan Transportation Improvement Program

As the federally designated MPO, SACOG also prepares and adopts the MTIP approximately every 2 years. This federally required program (see discussion of the TIP above in *Federal*) is a short-term listing of surface transportation projects that receive federal funds, are subject to a federally required action, or are regionally significant. SACOG adopted the 2019/22 MTIP in December 2018 (SACOG 2018). The 2019/22 MTIP covers 4 years of programming—federal fiscal years 2018–19 through 2021–22. The project listing (Appendix 3) provides a detailed description for each individual project in the 2019/22 MTIP.

### ***San Joaquin Council of Governments***

SJCOG is a joint powers authority comprised of San Joaquin County and the cities of Stockton, Lodi, Manteca, Tracy, Ripon, Escalon, and Lathrop. SJCOG is overseen by a Board of Directors which makes allocations of funding to build transportation improvements and establishes regional transportation policies and programs. As a metropolitan transportation organization, SJCOG is required to prepare a long-range transportation plan (the regional transportation plan [RTP]) for all modes of transportation, including public transit, automobile, bicycle, and pedestrian.

### Regional Transportation Plan/Sustainable Communities Strategy

SJCOG is responsible for preparing and updating the RTP/SCS for the region. As the region's comprehensive long-range transportation planning document, the RTP/SCS serves as a guide for achieving public policy decisions that will result in balanced investments for a wide range of multimodal transportation improvements. The RTP/SCS reflects a region-specific, balanced multimodal plan that achieves the intent of SB 375.

### **Sacramento County General Plan**

The Circulation Element of the *Sacramento County General Plan* (Sacramento County 2011) outlines goals and policies related to transportation in Sacramento County. The Circulation Element contains goals applicable to the Project related to providing a balanced and integrated roadway system that maximizes the mobility of people and goods in a safe and efficient manner as well as providing a safe, continuous, efficient, integrated, and accessible bicycle and pedestrian systems that encourages the use of the bicycle and walking as a viable transportation mode and as a form of recreation and exercise.

### **Yolo County General Plan**

The Circulation Element of the *Yolo County General Plan* (Yolo County 2009) outlines goals and policies related to transportation in Yolo County. The Circulation Element contains goals and policies applicable to the Project related to prioritizing comfort, convenience, and safety of bicyclists and pedestrians (Policy CI-2.4), and promoting and

ensuring the provision of safe, convenient and attractive sidewalks, bikeways and trails where appropriate for local, regional and recreational travel (Goal CI-5).

### **Placer County General Plan**

The Transportation and Circulation Element of the *Placer County General Plan* (Placer County 2013) outlines goals and policies related to transportation in Placer County. The Transportation and Circulation Element contains goals applicable to the Project related to providing a safe, comprehensive, and integrated system of facilities for nonmotorized transportation (Goal 3.D) and maintaining a balanced freight transportation system to provide for the safe and efficient movement of goods (Goal 3.E).

### **Amador County General Plan**

The *Amador County General Plan* (Amador County 2016) Circulation and Mobility Element contains goals and policies related to transportation in Amador County. The Circulation and Mobility Element contains a goal applicable to the Project related to maintaining a safe, efficient, and comprehensive traffic circulation system (Goal CM-2).

### **San Joaquin County General Plan**

The Transportation and Mobility Section of the Public Facilities and Services Element of the *San Joaquin County General Plan* (San Joaquin County 2016) outlines goals and policies related to transportation in San Joaquin County. The Transportation and Mobility Section contains goals applicable to the Project related to maintaining a comprehensive and coordinated multimodal transportation system that enhances the mobility of people, improves the environment, and is safe, efficient, and cost effective (Goal TM-1); and maintaining and expanding a safe, continuous, and convenient bicycle system and pedestrian network (Goal TM-4).

### **City of Sacramento General Plan**

The Mobility Element of the *City of Sacramento General Plan* (City of Sacramento 2015) outlines goals and policies related to transportation in Sacramento. The Mobility Element contains a policy applicable to the Project related to ensuring that all new roadway projects and any reconstruction projects designate sufficient travel space for all users including bicyclists, pedestrians, transit riders, and motorists except where pedestrians and bicyclists are prohibited by law from using a given facility (Policy M 4.2.1).

### **City of Elk Grove General Plan**

The Mobility Element of the *City of Elk Grove General Plan* (City of Elk Grove 2019) outlines goals and policies related to transportation in Elk Grove. The Mobility Element contains policies applicable to the Project related to achieving state-mandated reductions in VMT (Policy MOB-1-1), implementing a balanced transportation system using a layered network approach to building complete streets that ensure the safety and mobility of all users (Policy MOB-3-1), and designing and planning roadways such that the safety of the

most vulnerable user is considered first using best practices and industry design standards (Policy MOB-3-11).

### **City of Folsom General Plan**

The Mobility Element of the *City of Folsom General Plan* (City of Folsom 2018) outlines goals and policies related to transportation in Folsom. The Mobility Element contains a goal applicable to the Project related to supporting and maintaining a comprehensive, safe, and integrated transit system that responds to the needs of all residents and allows frequent and convenient travel throughout the city and region (Goal M 3.1).

### **City of Galt General Plan**

The Circulation Element of the *City of Galt General Plan* (City of Galt 2009) outlines goals and policies related to transportation in Galt. The Circulation Element contains policies applicable to the Project related to minimizing high volume and high speed through traffic in residential areas through project design (Policy C-3.1), establishing a safe interconnected bicycle and pedestrian system throughout Galt (Policy C-6.1), encouraging a continuous, comprehensive, and safe system of recreational, commuter, and convenience bicycle routes and provide appropriate signage, in accordance with the California Manual of Uniform Traffic Control (Policy C-6.3), and developing safe and pleasant pedestrian ways and ensuring sidewalks are wide enough for pedestrian convenience and conform to Americans with Disabilities Act standards (Policy C-6.8).

#### *3.17.2 Environmental Setting*

This section describes the existing environmental setting, which is the baseline scenario upon which Project-specific impacts are evaluated. The environmental setting for transportation includes descriptions of roadway, bicycle, pedestrian, and transit facilities.

### **Roadway System**

#### ***Existing Roadway System***

The three basic types of roadways in the Permit Area include interstate highways, state routes, and local roadways. Roadways are generally classified according to FHWA Functional Classification Guidelines and the designed level of mobility and land access. Local roadways provide the greatest access to adjacent land via driveways and other roadways and are consequently generally smaller than interstate highways and SRs. Other roadway types in the treatable landscape are arterials and collectors. Arterials emphasize a high level of mobility for through movement and consequently have higher capacity and speed with relatively little accessibility to adjacent land. Collectors offer a combination of both functions. The Permit Area is served directly and/or indirectly by these roadway types.

The Permit Area has three Interstate routes: I-5, I-80, and I-305. Interstate Business Loop 80, also called the Capital City Freeway, is a business loop of I-80 through Sacramento.

US 50, which begins in West Sacramento, runs from Sacramento to the Nevada state line in South Lake Tahoe. State highways in the Permit Area include SRs 16, 84, 99, 104, 160, and 244, which are operated and maintained by Caltrans.

### ***Planned Roadway Improvements***

The Transportation Element or equivalent (e.g., Circulation Element, Transportation and Circulation Element, Mobility Element), in the General Plans for each of the jurisdictions within the Permit Area provide lists of roadway improvements anticipated to be needed in each jurisdiction. These may range from modest intersection improvements to road widenings; to “complete street” improvements that better balance roadway use between motorized vehicles, transit, bicycles, and pedestrians; to added lanes; to new roadways; to widening of highway segments under the jurisdiction of Caltrans. Some local roadway improvement plans also include rehabilitation, replacement, or improvement of existing bridges, and construction of new bridges.

### **Bicycle and Pedestrian Systems**

The bicycle and pedestrian network and the applicable plans, policies, and standards are highly variable across regional and local agencies within California. However, agencies typically conform to the Caltrans Highway Design Manual bikeway facility classification system, described as follows.

- Class I bikeways are facilities with exclusive right-of-way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized. In some areas, pedestrian facilities are separated from the bikeway.
- Class II bikeways are bike lanes established along streets and are defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel.
- Class III bikeways are shared routes for bicyclists on streets with motor traffic not served by dedicated bikeways to provide continuity to the bikeway network.

Bicycle and pedestrian facilities have been the focus on considerable planning and development in the Permit Area in recent years. SACOG developed the *Regional Bicycle, Pedestrian, and Trails Master Plan* in 2015, which integrates County and City efforts to improve bicycle and pedestrian access throughout the Sacramento region. The following jurisdictions within the Permit Area, including unincorporated counties, have adopted bicycle and pedestrian plans in addition to their general plans.

- Amador Countywide Pedestrian and Bicycle Plan (2017)
- Placer County Regional Bikeway Plan (2018)
- Sacramento County Bicycle Master Plan (2012)

- Yolo County Bicycle Transportation Plan (2013)
- City of Elk Grove, Bicycle, Pedestrian, and Trails Master Plan (2014)
- City of Folsom Bikeway Master Plan (2007)
- City of Folsom Pedestrian Master Plan (2014)
- City of Galt Bicycle Transportation Plan (2011)
- City of Sacramento Bicycle Master Plan (2018)
- City of Sacramento Pedestrian Master Plan (2006)

### **Public Transportation**

Public transit service is provided by various agencies throughout the Permit Area. Local and regional transit organizations offer a variety of transit options, including buses and light rail. Service is provided with varying frequency and cost. Passenger rail in the Permit Area is primarily provided by the Amtrak Sacramento Valley Station in downtown Sacramento. The Capitol Corridor train system has 18 stations in eight Northern California counties including Placer, Sacramento, Yolo, and Solano.

#### *3.17.3 Environmental Impacts and Mitigation Measures*

### **Methodology and Assumptions**

The Project does not propose any changes to the roadway network in the Permit Area. Therefore, the focus of the transportation analysis is on potential short-term, intermittent impacts associated with the Conservation Strategy and Covered Activities that are generally consistent with construction activities in terms of the temporary and/or intermittent nature of activities.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be

considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, further describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details.

Significance determinations consider the implementation of applicable avoidance and minimization measures, which are incorporated into the design and specifications of each Covered Activity.

### ***Methods for Determining VMT Threshold of Significance***

State CEQA Guidelines Section 15064.3 was added December 28, 2018, to address the determination of significance for transportation impacts, which requires that the analysis is based on VMT instead of congestion (such as LOS). The change in the focus of transportation analysis is the result of legislation (i.e., SB 743) and is intended to change the focus from congestion to, among other things, reduction in greenhouse gas emissions, encouraging mixed-use development, and other factors. Pursuant to CEQA Guidelines Section 15064.3(c) VMT must be used beginning July 1, 2020. Therefore, VMT is considered in the analysis of this Project.

State CEQA Guidelines Section 15064.3(b) identifies four criteria for analyzing the transportation impacts of a project. To determine how the proposed Project and the associated Covered Activities should be considered, each of the criteria is discussed below.

- **Section 15064.3(b)(1)** addresses land use projects. The proposed Project is analyzed based on the anticipated effect of the Covered Activities over the 30-year Permit Term. The Covered Activities under the proposed Project that could potentially be considered land use projects are limited to the replacement of SMUD-owned electrical and natural gas facilities and new construction activities. New facilities associated with new construction activities would be limited to new substations, telecommunication towers, and overhead subtransmission and distribution lines. These new land uses would not generate new operational vehicular trips as the facilities are unstaffed; and thus, would be more akin to renovation or construction projects and would not be considered new trip-generating land use projects. Therefore, the aforementioned Covered Activities would not be considered new trip-generating land use projects and this section does not apply.

- **Section 15064.3(b)(2)** addresses transportation projects. The Covered Activities do not include any transportation and/or roadway projects. Therefore, this section does not apply.
- **Section 15064.3(b)(3)**, Qualitative Analysis, states that if existing models or methods are not available to estimate the VMT for the particular project being considered, a lead agency may analyze the project's VMT qualitatively. Additionally, and of note for this EIR, this section notes that for many projects, a qualitative analysis of construction traffic may be appropriate.
- **Section 15064.3(b)(4)**, Methodology, explains that the lead agency (in this case, SMUD) has discretion to choose the most appropriate methodology to evaluate VMT subject to other applicable standards such as CEQA Guidelines Section 15151 (standards of adequacy for EIR analyses).

The *Technical Advisory on Evaluating Transportation Impacts* (OPR 2018) notes that projects generating or attracting fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact, absent substantial evidence indicating otherwise (OPR 2018). Individual Covered Activities would generate fewer than 110 trips per day. Therefore, using OPR guidance, individual Covered Activities that would generate fewer than 110 trips per day would result in a less-than-significant VMT impact.

Activities that would generate new vehicular trips are the Direct Action conducted at the SMUD Bank; O&M activities; new construction; vegetation management; and miscellaneous Covered Activities. These activities, and the associated vehicular trips, would be temporary, intermittent, and dispersed within the Permit Area. VMT is the distance that an automobile travels; and thus, at its most basic level VMT is the product of the number trips and the associated trip lengths. Due to the variability of the location, and the intermittent and infrequent nature of the trips generated by these activities, the number of new vehicle trips and trip lengths cannot be precisely predicted at this time, but would be negligible. Additionally, these Covered Activities are generally consistent with construction activities for small or minor projects in terms of the temporary nature of activities, trip generation characteristics, and types of vehicles and equipment required.

The Technical Advisory describes no scenario analogous to implementation of an HCP and managing trip length is not feasible for such a project because of the variability of location of individual activities and broad geography of the proposed Project. Therefore, qualitative analysis allowed by Section 15064.3(b)(3) provides the most applicable approach for analyzing the change in VMT resulting from implementation of the proposed Project. Additionally, as discussed above, Covered Activities are analogous to construction activities; and thus, a qualitative analysis is most appropriate.

As detailed in *Technical Advisory on Evaluating Transportation Impacts* (OPR 2018), the term *automobile* refers to on-road passenger vehicles, specifically cars and light trucks. Therefore, as defined in the OPR Technical Advisory, CCR Section 15064.3 is not intended to be applied to heavy vehicles including freight and haul trucks. Thus, the VMT

analysis herein pertains to VMT associated with on-road passenger vehicles and not heavy vehicles.

### Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, the Project would result in a potentially significant impact related to transportation if it would do the following.

- Conflict with a program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities
- Conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b)
- Cause a substantial increase in hazards because of a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access

### Impact Analysis

#### ***Impact 3.17-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities.***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not adversely affect any existing or planned transit, bicycle, or pedestrian facilities. Additionally, this Direct Action would not generate any pedestrian, bicycle, or transit demand. Thus, the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would not conflict with a program, plan, ordinance or policy addressing pedestrian, bicycle, transit, or roadway facilities. **No impact** would occur.

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#### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Implementation of this Direct Action would not require the construction, re-design, or alteration of any public roadways, and would not occur adjacent to or within portions of public roadway rights-of-way. No transit, bicycle, or pedestrian facilities, including existing trails at the SMUD Bank, would be permanently altered. Therefore, the Direct Action would not adversely affect any existing or planned transit, bicycle, or pedestrian facilities. Additionally, implementation of the Direct Action would not generate any pedestrian, bicycle, or transit demand. Thus,

the Direct Action would not conflict with a program, plan, ordinance or policy addressing pedestrian, bicycle, transit, or roadway facilities. **No impact** would occur.

### ***Indirect Actions***

Implementation of the proposed HCP would not require the construction, re-design, or alteration of any public roadways. Covered Activities that constitute a change in baseline conditions as shown in Table 2-10 and Sections 2.3.3 and 2.3.4, including inspections, maintenance, repair, and replacement of new SMUD-owned electrical and natural gas facilities; construction of new facilities; and vegetation management could potentially occur adjacent to or within portions of public roadway rights-of-way. New construction could also require the temporary closure of roads, sidewalks, transit stops, or bike lanes, but following construction, transportation facilities would be returned to their pre-project conditions. No transit, bicycle, or pedestrian facilities would be permanently altered with implementation of the Indirect Actions. Therefore, Indirect Actions would not adversely affect any existing or planned transit, bicycle, or pedestrian facilities. Additionally, implementation of the Indirect Actions would not generate any pedestrian, bicycle, or transit demand. Thus, the Indirect Actions would not conflict with a program, plan, ordinance or policy addressing pedestrian, bicycle, transit, or roadway facilities.

### ***Conclusion***

#### Direct Actions

The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity is the only Direct Action that could result in physical environmental effects. This Direct Action would not require the construction, re-design, or alteration of any public roadways, nor would it not occur adjacent to or within portions of public roadway rights-of-way. Furthermore, the Direct Action would not generate any pedestrian, bicycle, or transit demand. Thus, the Direct Action would not conflict with a program, plan, ordinance, or policy addressing pedestrian, bicycle, transit, or roadway facilities. **No impact** would occur.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Covered Activities would include a variety of O&M activities (inspections, maintenance, repair and replacement of facilities); construction of new facilities; and vegetation management. Implementation of Covered Activities would not require the permanent alteration of transit, bicycle, or pedestrian facilities or increase the demand of these facilities. Thus, the Indirect Actions would not conflict with a program, plan, ordinance, or policy addressing pedestrian, bicycle, transit, or roadway facilities. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures

would be required if a potentially significant conflict with a program, plan, ordinance or policy addressing pedestrian, bicycle, transit, or roadway facilities would occur.

***Impact 3.17-2: Conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Activities associated with this Direct Action would be short term, temporary, and periodic in nature throughout the 30-year Permit Term and would generate fewer than 110 trips per day. As described in the *Technical Advisory on Evaluating Transportation Impacts* (OPR 2018), if a project generates fewer than 110 trips per day it is generally assumed to cause a less-than-significant VMT impact. Therefore, this impact would be **less than significant**.

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Generally, Covered Activities would generate temporary and intermittent vehicular trips associated with personnel driving to and from work areas dispersed throughout the Permit Area. These Covered Activities are generally consistent with construction activities for small or minor projects in terms of the temporary nature of activities, trip generation characteristics, and types of vehicles and equipment required. Project-generated VMT would be dependent on factors such as location, the intermittent and infrequent nature of the trips generated by these activities, the number of new vehicle trips, and trip lengths which cannot be precisely predicted at this time, and are not meaningful for the analysis of Indirect Actions, as described below.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The existing SMUD Bank is located in a nonurbanized portion of Sacramento County. This Direct Action would generate minimal new vehicle trips, including several trucks and other vehicles traveling to and from the SMUD Bank occasionally during implementation. Additionally, these activities are temporary and would only generate vehicle trips to and from the SMUD Bank for a limited period of time. Therefore, the activities associated with this Direct Action are generally consistent with construction activities because they are temporary and/or intermittent. Because the origin of workers cannot be determined, and number of crew and vehicles are variable from day to day, month to month, and year to year, the combined daily VMT generated by this Direct Action cannot be meaningfully quantified at this time.

However, as described above, this Direct Action would be short term, temporary, and periodic in nature throughout the 30-year Permit Term. The trip-generating activities would require a workforce of approximately two crew members for each discrete Direct Action activity. Conservatively assuming that each crew member would commute to and from the SMUD Bank using a vehicle, a maximum of 24 trips could be generated per year during the first 5 years and two per year after the first 5 years.

Because of the negligible trip generation associated with the Direct Action, implementation would clearly generate fewer than 110 trips per day. As described under *Methods for Determining VMT Threshold of Significance*, and consistent with the *Technical Advisory on Evaluating Transportation Impacts* (OPR 2018), fewer than 110 trips per day it is assumed to cause a less-than-significant VMT impact. Therefore, increase in VMT attributable to implementation of the Direct Action would be **less than significant**.

### ***Indirect Actions***

Covered Activities that would constitute a change to baseline conditions would require vehicular trips for SMUD crews and contractors, which would result in negligible or minor increases in VMT. As described above under *Methods for Determining VMT Threshold of Significance*, because all activities would be short term (i.e., less than a day at each location in many cases) and periodic throughout the 30-year Permit Term (e.g., as needed, quarterly or biannually at any one location), Covered Activities can be analyzed as construction activities.

### Operation and Maintenance

Covered Activities that would constitute a change to baseline conditions include O&M of new SMUD facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These include visual and physical inspections of facilities (e.g., underground and overhead facilities, substations), testing, repair, and replacement of underground and overhead components and poles, and reconductoring.

Inspection of newly constructed facilities (e.g., subtransmission and distribution lines, substations) (E1a, E2a, E4), would involve maintenance crews conducting ground-based inspections or drive-by inspections in work trucks. Maintenance of newly constructed facilities could result in new trips of maintenance vehicles to access the new facilities. Other minor activities such as repairs and replacements of transformers, poles, and other components would require some minor work at, and the travel of workers to, these new facilities.

In all cases, the duration of these activities would be short (i.e., less than a day in each location), would be implemented by a limited crew, typically one or two trucks, and would result in fewer than 110 trips per day. Inherently, managing trip length is not feasible for O&M activities under the proposed Project because of the variability of location of individual activities, broad geography, and special skill set of workers carrying out the range of individual Covered Activities. Additionally, as detailed above, these activities would be short term and periodic throughout the 30-year Permit Term.

As described under *Methods for Determining VMT Threshold of Significance*, and consistent with the *Technical Advisory on Evaluating Transportation Impacts* (OPR 2018), fewer than 110 trips per day is assumed to cause a less-than-significant VMT impact. It is reasonably expected that O&M Covered Activities would require far less than 110 trips per day, even if multiple activities are conducted concurrently throughout the Permit Area.

The increase in VMT attributable to implementation of Indirect Actions associated with O&M activities under the proposed HCP would not be substantial. Changes in VMT associated with the installation of new facilities are addressed under *New Construction*, below.

### New Construction

Covered Activities that would constitute a change to baseline conditions include replacement/expansion of various existing facilities as well as construction of new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4.

The new construction activities associated with Indirect Actions would generate VMT during construction, replacement, or expansion of various facilities but would not result in permanent increases in VMT during operation of the facility. Therefore, these activities are temporary and would only generate vehicle trips at a particular location for a limited period of time. Managing trip length is not feasible for the new construction activities under the proposed Project because the exact location where individual Covered Activities within the Permit Area would be implemented are unknown. However, individual new construction activities are reasonably expected to generate fewer than 110 trips per day because of the limited scale and intensity of these activities. Additionally, as detailed above, these activities would be short term and periodic throughout the 30-year Permit Term. As described under *Methods for Determining VMT Threshold of Significance*, and consistent with the *Technical Advisory on Evaluating Transportation Impacts* (OPR 2018), fewer than 110 trips per day is assumed to cause a less-than-significant VMT impact.

### Vegetation Management

Covered Activities that would constitute a change to baseline conditions include elderberry shrub trimming/removal throughout SMUD's system as well as inspections, tree removal, and vegetation clearing within easements of newly constructed subtransmission and distribution lines, and gas pipelines as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These vegetation management activities would generate VMT associated with heavy-vehicle trips to haul equipment and materials, and trips associated with the workers commuting to and from the vegetation management areas. However, as explained above, the analysis herein pertains to VMT associated with on-road passenger vehicles only.

Due to the variability regarding the scale, location, and duration of vegetation management activities, the number of vehicle trips, trip lengths, number of employees, and a variety of other related details are unknown. Managing trip length is not feasible for the vegetation management activities because of the variability in the location of individual activities and the broad geography of the Permit Area. Additionally, individual vegetation management activities are reasonably expected to generate fewer than 110 trips per day because of the limited scale and intensity of these activities. Additionally, as detailed above, these activities would be short term and periodic throughout the 30-year Permit Term. As described under *Methods for Determining VMT Threshold of Significance*, and

consistent with the *Technical Advisory on Evaluating Transportation Impacts* (OPR 2018), fewer than 110 trips per day is assumed to cause a less-than-significant VMT impact.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the Cosumnes Power Plant (CPP) water pipeline. These activities would include installation of cathodic protection test stations (M2a), installation of a new pipeline valve (M2b), and replacement of pipeline segments (M2c). These individual miscellaneous Covered Activities would occur at the CPP and would vary in duration from less than 2 days for each cathodic protection test station installation to approximately 1 to 2 months to complete the water pipeline valve installation. Additionally, as detailed above, these activities would be short term and periodic throughout the 30-year Permit Term. However, individual miscellaneous Covered Activities are likely to generate fewer than 110 trips per day because of the limited scale and intensity of these activities. As described under *Methods for Determining VMT Threshold of Significance*, and consistent with the *Technical Advisory on Evaluating Transportation Impacts* (OPR 2018), fewer than 110 trips per day is assumed to cause a less-than-significant VMT impact.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would be short term, temporary, and periodic in nature. Because of the small scale of the Direct Action and as detailed above, it is reasonably expected that much fewer than 110 trips per day would be generated. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Due to the variability regarding the scale, location, and duration of individual Indirect Action activities it is not meaningful to quantify VMT. Individual Indirect Actions are reasonably expected to generate fewer than 110 trips per day because of the limited scale and intensity of these activities; and therefore, would not result in a substantial increase VMT. For these reasons it is unlikely that adverse transportation impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be

subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.17-3: Cause a substantial increase in hazards because of a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not result in the construction, re-design, or alteration of any public roadways and would not result in disruptions to the transportation network. Therefore, the Direct Action would not result in a substantial increase in roadway hazards due to a geometric design feature or incompatible uses. **No impact** would occur.

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Covered Activities would generate temporary and intermittent vehicular trips associated with the hauling of equipment and personnel driving to and from work areas dispersed throughout the Permit Area. All activities would be short term (i.e., typically less than a day at each location in many cases) and periodic throughout the 30-year Permit Term (e.g., quarterly or biannually at any one location). The potential for these activities to result in a roadway hazard related to geometric design or incompatible uses within the Permit Area would vary depending on the specific activity and location of that activity. Generally, if individual Covered Activities were to occur within or adjacent to public roadway rights-of-way such that temporary lane closures and/or slowing of vehicular traffic would become a possibility, an increase in roadway hazards could occur.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The existing SMUD Bank is located in a nonurbanized area in Sacramento County. The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would not require the construction, re-design, or alteration of any public roadways. Additionally, this Direct Action would not occur within or obstruct any public roadways. Therefore, the Direct Action would not result in a substantial increase in roadway hazards due to a geometric design feature or incompatible uses. **No impact** would occur.

***Indirect Actions***

The potential for these Indirect Actions to result in a roadway hazard related to geometric design or incompatible uses within the Permit Area would vary depending on the specific activity and location of that activity. However, most Covered Activities would be short term (i.e., typically less than a day at each location in many cases) and periodic throughout the 30-year Permit Term (e.g., quarterly or biannually at any one location).

### Operation and Maintenance

Covered Activities that would constitute a change to baseline conditions include O&M of new SMUD facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These include visual and physical inspections of facilities (e.g., underground and overhead facilities, substations), and testing. Inspection of newly constructed facilities (e.g., subtransmission and distribution lines, substations) would involve maintenance crews conducting ground-based inspections or drive-by inspections in work trucks. These activities would be minor and temporary (i.e., less than a day in each location) and would not typically occur within or obstruct any public roadways. Therefore, they are not reasonably expected to result in a substantial increase in roadway hazards due to a geometric design feature or incompatible uses.

Hazards associated with the installation of new facilities are addressed under *New Construction*, below. O&M Covered Activities comprising the repair and replacement of underground and overhead components and poles, and reconductoring may occur within or temporarily obstruct a public roadway. Impacts of these O&M activities would be similar to new construction, as described below.

### New Construction

Covered Activities that would constitute a change to baseline conditions include replacement/expansion of various existing facilities as well as construction of new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Such activities would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines.

The precise locations of new construction activities are unknown at this time. Due to the uncertainty related to the locations of these activities, disruptions to the transportation network within the Permit Area could potentially occur, particularly during transport of large equipment (e.g., poles or telecommunication tower components) or work that encroaches into public transportation pathways. Disruptions could include the possibility of temporary lane closures, street closures, sidewalk closures, and bikeway closures.

As described above, the effect on transportation facilities of new construction activities would be localized and temporary. However, these activities may potentially result in temporary lane closures and slowing of vehicular traffic. Therefore, potential new construction activities under the proposed HCP could result in a substantial increase in roadway hazards due to a geometric design feature or incompatible uses.

Measures similar to those listed below could be implemented to reduce the localized and temporary effects related to transportation hazards if an adverse effect due to a design feature or incompatible use associated with new construction activities occurred.

- Prepare and implement a temporary traffic control plan that includes construction traffic management best practices
- Retain partial roadway access, including emergency vehicle access to all surrounding parcels at all times
- Schedule activities outside of the a.m. and p.m. peak traffic conditions
- Delineate construction zones in a manner that protects vehicles, bicyclists, and pedestrians
- Repair damage to the roadway

### Vegetation Management

Covered Activities that would constitute a change to baseline conditions include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). These activities could occur at various locations throughout the Permit Area. However, implementation of the vegetation management activities is not anticipated to occur within, or obstruct any, public roadways. Vegetation management activities under the proposed HCP are not reasonably expected to result in a substantial increase in roadway hazards due to a geometric design feature or incompatible uses.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the CPP water pipeline (M2). These activities would not require the construction, re-design, or alteration of any public roadways; however, the construction of a temporary access road would be required.

Agencies with the responsibility for roadway design and operation within the Permit Area all enforce roadway design standards. These standards address a variety of roadway elements, including safety and hazards. The use and enforcement of these design standards prevents the development of transportation infrastructure that would substantially increase hazards because of a design feature. However, the new temporary construction road that would occur associated with the installation of the test stations and new valve would occur in a location under SMUD's jurisdiction; and thus, is not subject to the roadway design standards of the surrounding jurisdictions. Therefore, absent any applicable standards or guidelines pertaining to the construction of temporary roadways, the access road could result in hazards due to a design feature.

Measures similar to those listed below could be implemented to reduce potential hazards if an adverse effect due to a design feature or incompatible use associated with miscellaneous Covered Activities occurred.

- Design the roadway to be consistent with sound engineering principles and adequate for the class of vehicle, type of road, or use
- Adapt the gradient and horizontal alignment of the road to the intensity of use, mode of travel, and the type of equipment and load weights

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The Direct Action implemented at the existing SMUD Bank would not occur within or obstruct any public roadways; and thus, would not result in a substantial increase in roadway hazards due to a geometric design feature or incompatible uses. **No impact** would occur.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, new construction, and miscellaneous Covered Activities could result in short-term, temporary transportation hazards. Measures similar to those identified above, and refined as part of project-specific CEQA review, could reduce these temporary and localized impacts to the degree feasible and ensure that individual activities would not substantially increase hazards due to a design feature or incompatible use. For these reasons it is unlikely that adverse transportation impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures to reduce hazards would be required if a potentially significant impact were identified.

### ***Impact 3.17-4: Result in inadequate emergency access***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action at the SMUD Bank would not occur within portions of public roadway rights-of-way and would not result in

disruptions to the transportation network. Therefore, existing emergency access would be maintained and the Direct Actions would result in adequate emergency access. **No impact** would occur.

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Covered Activities would generate temporary and intermittent vehicular trips associated with the hauling of equipment and personnel driving to and from work areas dispersed throughout the Permit Area. All activities would be short term (i.e., less than a day at each location in many cases) and periodic throughout the 30-year Permit Term (e.g., quarterly or biannually at any one location). However, the potential for these activities to result in inadequate emergency access within the Permit Area would vary depending on the specific activity and location of that activity. Generally, if individual Covered Activities were to occur within or adjacent to public roadway rights-of-way such that temporary lane closures, street closures, and obstructions to transportation ingress/egress for nearby properties would become a possibility, inadequate emergency access could potentially occur if not properly planned and managed.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The existing SMUD Bank is located in a nonurbanized portion of Sacramento County. The Direct Action would not occur within portions of public roadway rights-of-way. Therefore, the Direct Action would not result in disruptions to the transportation network or result in inadequate emergency access. **No impact** would occur.

### ***Indirect Actions***

The potential for these activities to impede emergency access within the Permit Area would vary depending on the specific activity and location of that activity. However, all activities would be short term (i.e., typically less than a day at each location in many cases) and periodic throughout the 30-year Permit Term (e.g., quarterly or biannually at any one location).

### **Operation and Maintenance**

Covered Activities that would constitute a change to baseline conditions include O&M of new SMUD facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These include visual and physical inspections of facilities (e.g., underground and overhead facilities, substations) and testing. Inspection of newly constructed facilities (e.g., subtransmission and distribution lines, substations), would involve maintenance crews conducting ground-based inspections or drive-by inspections in work trucks. These activities would be minor and temporary (i.e., less than a day in each location) and would not occur within or obstruct any public roadways or transportation access points of surrounding land uses. Such activities could not impede emergency access.

The potential for the installation of new facilities to obstruct emergency access is addressed under *New Construction*, below. O&M Covered Activities comprising the repair and replacement of transformers, poles, and other components may occur within and thereby obstruct a public roadway, which could impede emergency access to surrounding properties. Impacts of these O&M activities would be similar to new construction, as described below.

### New Construction

Covered Activities that would constitute a change to baseline conditions include replacement/expansion of various existing facilities as well as construction of new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. Such activities would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines.

The precise location of new construction activities are unknown at this time. Due to the uncertainty related to the location of these activities, disruptions to the transportation network within the Permit Area could potentially occur. Disruptions could include the possibility of temporary lane closures, street closures, and obstructions to transportation ingress and egress for nearby properties.

As described above, the effect on transportation facilities of construction associated with potential new construction activities would be localized and temporary; however, these activities may potentially result in temporary lane closures, obstruction of transportation ingress and egress, and slowing of vehicular traffic. Therefore, potential new construction activities could result in inadequate emergency access. Implementation of measures similar to those listed above for new construction activities under Impact 3.17-3 would ensure that adequate emergency access would be maintained and/or provided within the Permit Area.

### Vegetation Management

Covered Activities that would constitute a change to baseline conditions include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). However, implementation of the vegetation management activities would not require installation of emergency access routes or alter or obstruct any existing roadways or emergency access routes. Therefore, it is reasonably expected that vegetation management activities would not result in inadequate emergency access.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the CPP water pipeline (M2). These activities would not require the

construction, re-design, or alteration of any public roadways; however, the construction of a temporary access road would be required.

As described in Impact 3.17-3 above, the access road could result in hazards due to a design feature. Therefore, emergency access could potentially be impeded or delayed, thereby potentially resulting in inadequate emergency access. Implementation of measures similar to those listed above for new construction activities under Impact 3.17-3 would ensure that adequate emergency access would be maintained and/or provided within the Permit Area.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The Direct Action implemented at the existing SMUD Bank would not occur within portions of public roadway rights-of-way and would not result in disruptions to the transportation network. Therefore, existing emergency access would be maintained and the Direct Action would not impede emergency access. **No impact** would occur.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M, new construction, and miscellaneous Covered Activities could result in short term and periodic inadequate emergency access. Measures similar to those identified above, and refined as part of project-specific CEQA review, could reduce these temporary and localized impacts to the degree feasible and ensure that individual activities would maintain adequate emergency access for all project-related areas and surrounding land uses. For these reasons it is unlikely that adverse transportation impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed, and measures to address the provision of adequate emergency access would be required if a potentially significant impact was identified.

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### 3.18 Tribal Cultural Resources

This section analyzes and evaluates the potential impacts on known and unknown Tribal cultural resources in the Permit Area from implementation of the proposed Operations, Maintenance, and New Construction Habitat Conservation Plan (HCP). Tribal cultural resources, as defined by Assembly Bill (AB) 52, Statutes of 2014, in Public Resources Code (PRC) Section 21074, are sites, features, places, cultural landscapes, sacred places and objects, with cultural value to a Tribe. A Tribal cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

In response to the Notice of Preparation, the Native American Heritage Commission (NAHC) responded with a letter detailing requirements pertaining to Assembly Bill (AB) 52 and recommended consultation with tribes affiliated with the Permit Area. Results of that consultation are provided below.

#### 3.18.1 Regulatory Setting

This section describes laws and regulations at the state and local level that may apply to the proposed Project.

#### **Federal**

There are no federal regulations for tribal cultural resources as defined by the California Environmental Quality Act (CEQA). Federal regulations applicable to cultural resources in general, including Native American archaeological and historical resources, are discussed in Section 3.5, *Cultural Resources*.

#### **State**

#### ***CEQA and Tribal Cultural Resources***

CEQA requires public agencies to consider the effects of their actions on “[T]ribal cultural resources.” Public Resources Code (PRC) Section 21084.2 establishes that “[a] project with an effect that may cause a substantial adverse change in the significance of a [T]ribal cultural resource is a project that may have a significant effect on the environment.” PRC Section 21074 states:

- a) “Tribal cultural resources” are either of the following:
  - 1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following:
    - A) Included or determined to be eligible for inclusion in the CRHR.

- B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
- 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.
- b) A cultural landscape that meets the criteria of subdivision (a) is a Tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “nonunique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a Tribal cultural resource if it conforms with the criteria of subdivision (a).

### ***Assembly Bill 52***

AB 52, signed by the California Governor in September of 2014, established a new class of resources under CEQA: “[T]ribal cultural resources,” defined in PRC Section 21074. Pursuant to CEQA requirements, lead agencies undertaking CEQA review must, upon written request of a California Native American tribe, begin consultation before the release of an environmental impact report (EIR), negative declaration, or mitigated negative declaration.

### ***Health and Safety Code, Section 7052***

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If they are determined to be those of a Native American, the coroner must contact the NAHC.

### ***California Native American Historical, Cultural, and Sacred Sites Act***

The California Native American Historical, Cultural, and Sacred Sites Act (PRC 5097.9) applies to both state and private lands. The Act requires, upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are those of a Native American, the coroner must notify the NAHC, which notifies (and has the authority to designate) the most likely descendants of the deceased. The act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

### ***Public Resources Code Section 5097***

PRC Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American

human burials falls within the jurisdiction of the NAHC. Section 5097.5 of the Code states the following:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

### ***California Government Code Section 65040.2(g)***

Government Code Section 65040.2(g) outlines the procedures under which consultation with California Native American tribes should occur. These guidelines were developed in consultation with the NAHC to ensure the preservation of or mitigated impacts on places, features, and objects described in Sections 5097.9 and 5097.993 of the PRC. The guidelines include the following.

- Procedures for identifying the proper California Native American tribe.
- Procedures for continuing to protect confidentiality of California Native American tribal resources.
- Procedures to facilitate voluntary landowner participation in preservation efforts.

### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. The City of Sacramento 2035 General Plan stipulates the following policy regarding consultation and establishes the City's responsibility to consult with appropriate organizations and individuals.

**Policy HCR 2.1.3: Consultation.** The City shall consult with appropriate organizations and individuals (e.g., California Historical Resources Information System (CHRIS) Information Centers, the Native American Heritage Commission (NAHC), the CA Office of Planning and Research (OPR) "Tribal Consultation Guidelines," etc.) and shall establish a public outreach policy to minimize potential impacts to historic and cultural resources.

SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### 3.18.2 *Environmental Setting*

The environmental setting for tribal cultural resources provides an ethnographic background and identification efforts within the Permit Area relating to tribal cultural resources.

#### **Ethnographic Setting**

The Permit Area is located within the lands occupied and used by the Nisenan (or Southern Maidu), the Patwin, and eastern Miwok.

#### ***Nisenan***

The Nisenan, or Southern Maidu, inhabited the Permit Area ethnographically. Nisenan territory comprised the drainages of the Yuba, Bear, and American Rivers, and the lower drainages of the Feather River. The Nisenan, together with the Maidu and Konkow, their northern neighbors, form the Maiduan language family of the Penutian linguistic stock (Shipley 1978).

Nisenan settlement locations depended primarily on elevation, exposure, and proximity to water and other resources. Permanent villages usually were located on low rises along major watercourses. Village size ranged from three houses to 40 or 50. Houses were domed structures covered with earth and tule or grass and measured 3.0 to 4.6 meters (9.8 to 15 feet) in diameter. Brush shelters were used in summer and at temporary camps during food-gathering rounds. Larger villages often had semi-subterranean dance houses that were covered in earth and tule or brush, with a central smoke hole at the top and an east-facing entrance. Another common village structure was a granary used for storing acorns (Wilson and Towne 1978).

The Nisenan occupied permanent settlements from which specific task groups set out to harvest the seasonal bounty of flora and fauna that the rich valley environment provided. The Valley Nisenan economy involved riparian resources—in contrast to the Hill Nisenan, whose resource base consisted primarily of acorn and game procurement. The only domestic plant was native tobacco (*Nicotiana* sp.), but many wild species were closely husbanded. The acorn crop from the blue oak (*Quercus douglasii*) and black oak (*Q. kelloggii*) was so carefully managed that this activity served as the equivalent of agriculture. Acorns could be stored in anticipation of winter shortfalls in resource abundance. Deer, rabbit, and salmon were the chief sources of animal protein in the Nisenan diet, but many other insect and animal species were taken when available (Wilson and Towne 1978).

Religion played an important role in Nisenan life. The Nisenan believe that natural objects were endowed with supernatural powers. Two kinds of shamans existed: curing shamans and religious shamans. Curing shamans had limited contact with the spirit world and diagnosed and healed illnesses. Religious shamans gained control over the spirits through dreams and esoteric experiences (Wilson and Towne 1978).

As with other California Native American groups, the arrival of miners responding to the gold rush of 1849 had a devastating effect on the Nisenan. This diverse group of new people in search of gold brought diseases that decimated the Nisenan population. Those Nisenan who survived were subjected to violence and prejudice at the hands of the miners, and the Nisenan eventually were pushed out of their ancestral territory.

### ***Patwin***

The following is largely adapted from a descriptive summary of the Patwin, compiled by Johnson (1978) and Kroeber (1932). The Permit Area is also in the territory of the Patwin. The approximate maximum extent of Patwin territory in the late 18th and early 19th centuries was from the town of Princeton in Colusa County south to Suisun Bay, and from the Sacramento River west across the eastern slope of the Coast Ranges (Johnson 1978).

The Patwin economy was principally based on the utilization of natural resources from the riverine corridor, the wetlands, and the grasslands of the lower Sacramento River Valley, and from the open woodlands on the eastern foothills of the Coast Ranges (Johnson 1978). The family was the basic subsistence unit within the tribelet that engaged in the exploitation of this resource mosaic (Johnson 1978:354). Tribelets with territory primarily on the floor of the Sacramento River Valley were more reliant on riverine and wetland resources. Fish, shellfish, and waterfowl were important sources of protein in the diet of these groups (Johnson 1978:355; Kroeber 1932:277–280). Salmon, sturgeon, perch, chub, sucker, pike, trout, and steelhead were variously caught with nets, weirs, lines and fishhooks, and harpoons. Mussels were taken from the gravels along the Sacramento River stream channel. Geese, ducks, and mudhens were taken with the use of decoys and various types of nets. Tribelets with territory on the western margin of the Sacramento River Valley were less reliant on riverine and wetland animal resources and more reliant on terrestrial game (Kroeber 1932:294–295). Deer, tule elk, antelope, bear, mountain lion, fox, and wolf were variously driven, caught with nets, or shot.

### ***Eastern Miwok***

The following is largely adapted from a descriptive summary of the Eastern Miwok, compiled by R. Levy (1978). The Eastern Miwok are composed of the Bay, Plains, and Sierra Miwok. The Bay Miwok occupied the eastern portions of what is now Contra Costa County, from Mount Diablo northeast into the Sacramento–San Joaquin River Delta. The Plains Miwok inhabited the lower reaches of the Mokelumne and Cosumnes Rivers and the banks of the Sacramento River from Rio Vista to Freeport. The Sierra Miwok inhabited the foothills and higher mountains of the Sierra Nevada. Culturally, the Bay Miwok were probably more similar to the Plains Miwok than to the Sierra Miwok (Levy 1978).

The primary political unit was the tribelet. Composed of several semisedentary settlements and numerous seasonally occupied camps, the tribelet represented an independent, sovereign nation that defined and defended a territory. Lineages were also of political significance, consisting of localized groups named for a specific geographic locality, usually a permanent settlement. However, the names and numbers of such

lineage settlements remain largely unknown, due in large part to the depopulation or relocation of the Miwok during the 18th century (Levy 1978).

The basic subsistence strategy of the Eastern Miwok was mobile hunting and gathering. This was motivated by seasonal variations in resource availability, which forced the Miwok to exploit resources outside the immediate vicinity of their permanent settlements. Lacking any substantive cultivation technology or animal domestication, Miwok sustenance relied heavily on the gathering of wild plant foods and hunting varieties of mammals. Of the vegetal resources gathered, the numerous varieties of acorns were highly valued and harvested widely. Nuts such as buckeye, sugar pine, and Sierra pine were collected and stored to augment any unexpected poor acorn harvest. Seeds, roots, and various green plants served to round out the bulk of the vegetal resources utilized by the Miwok (Levy 1978).

The Miwok hunted, trapped, and fished for numerous varieties and combinations of resources throughout the mountain regions, foothills, and plains. Because the Miwok tended to live in geographically distinct regions, each group placed higher premiums on more locally obtainable resources. Some of the more prized game animals hunted by the Sierra groups included bear species; Foothill groups hunted deer and elk; and the Plains groups hunted antelope and elk. In addition to larger game animals, the Eastern Miwok hunted and trapped smaller mammals, rodents, and birds and waterfowl to supplement their diet. Salmon was successfully fished by the Plains Miwok and trout by the Sierra people. Some geographic crossover for resource procurement is likely to have occurred, with groups occasionally hunting in neighboring territories (Levy 1978).

Miwok technology included bone, stone, antler, wood, and textile tools. Hunting was accomplished with the use of the bow and arrow, in addition to traps and snares. Basketry items included seed beaters; cradles; sifters; rackets used in ball games; and baskets for storage, winnowing, parching, and carrying burdens. Other textiles included mats and cordage. Tule balsas were constructed for navigation on rivers (Levy 1978).

With the arrival of trappers, gold miners, and settlers to California, the Nisenan, Patwin, and Miwok suffered exposure to new varieties of introduced diseases they had previously not experienced. Although this early contact with settlers had a destructive impact on the Native populations, relationships with settlers varied; however, after California was annexed by the United States, many tribes of the Central Valley such as the Miwok, Nisenan, and Patwin were displaced to other locations throughout the state. Many remained on the rancherias established in the Sierra Nevada foothills and surrounding areas. During the final decades of the 19th century and early years of the 20th century, Native Americans remaining in the nearby rancherias adapted to a new lifestyle. Subsistence through hunting and gathering was now augmented by seasonal wage labor on ranches and farms. As the reliance upon a cash income increased, traditional subsistence practices suffered. Despite hardships, persons of Nisenan, Patwin, and Miwok descent still survive and maintain strong communities and action-oriented organizations (Levy 1978).

## Contemporary Native American Setting

Archaeologists routinely focus on traditional Native American culture and ignore current and vibrant Native American culture. This approach is not sufficient to provide a context or set of values maintained by the current Native American community related to their history and the landscape. Tribes view themselves as contemporary stewards of their culture and the landscape, representing a continuum from the past to the present. They are resilient, vibrant, and active in the community. Tribes maintain their connection to their history and ongoing culture by practicing traditional ceremonies, engaging in traditional practices (e.g., basketry), and conducting public education and interpretation. The acknowledgement of Native American history and the persistence of Tribes cannot be overlooked and should be recognized.

### 3.18.3 *Environmental Impacts and Mitigation Measures*

## Methodology and Assumptions

### ***Tribal Consultation***

Because tribal consultation involves the locations and details of sites, the specific details of the consultations are confidential pursuant to California law. A summary of events related to communication pursuant to the AB 52 consultation process between the Tribes and SMUD is provided below.

- March 22, 2018, SMUD sent AB 52 letters to the following Tribes: Lone Miwok, Wilton Rancheria, and United Auburn Indian Community of the Auburn Rancheria (UAIC).
- April 6, 2018, SMUD sent AB 52 letters to the following Tribes: Buena Vista Rancheria of Me-Wuk, Colfax Todds Valley Consolidated Tribe, Cortina Indian Rancheria of Wintun Indians, Nashville-Eldorado Miwok, Shingle Springs Bank of Miwok Indians (Shingle Springs), Tsi Akim Maidu, and Yoche Dehe.
- June 13, 2018, UAIC replied to SMUD's letter indicating a desire to consult.
- June 4, 2018, UAIC and SMUD have their first consulting meeting.
- November 8, 2018, Wilton Rancheria replied to SMUD's letter indicating a desire to consult.
- November 5, 2020, Shingle Springs replied to SMUD's letter indicating a desire to consult.
- December 4, 2020, UAIC, Wilton Rancheria, Shingle Springs, and SMUD have consulting meeting.
- February 12, 2021, UAIC, Wilton Rancheria, Shingle Springs, and SMUD have consulting meeting.

- March 16, 2021, UAIC and Wilton Rancheria conduct tribal survey of potential locations of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity.
- May 5, 2021, UAIC, Wilton Rancheria, Shingle Springs, and SMUD have consulting meeting.
- November 19, 2021, UAIC, Wilton Rancheria, Shingle Springs, and SMUD have a consulting meeting.
- January 12, 2022, UAIC, Wilton Rancheria, Shingle Springs, and SMUD have consulting meeting.

The Tribes indicated that TCRs exist at the SMUD Bank. The SMUD Bank is considered a TCR as a traditional cultural landscape, this TCR has been described as an area has been disturbed by livestock grazing and other modern disturbance, however the landscape is still open with known cultural sites present. This landscape is considered a transitional zone – from the valley to the foothills, and was once a place for hunting, and gathering of medicine, food, and basketry materials. This connection does not change over time and the landscape is still seen as a place for spiritual connection to ancestors. In addition, the following species of significance, which are found at the SMUD Bank, are considered TCRs, below their uses or meaning are listed:

- Brodiaea and bluedicks– corms roasted and eaten.
- Miners lettuce – leaves eaten.
- Turkey mullien – plant used in combination with other plants to stun fish.
- Monkey flower – many medicinal uses.
- Valley Oak – acorns eaten, but not the preferred type of acorn.
- Willow – used for basketry and inner bark used to treat pain and discomfort.
- Cattail – young shoots and tops eaten; dry seed tops have a variety of uses.
- Red tailed/red shouldered hawk - messengers from ancestors.

As a result of consultation, it was determined the Direct Actions at the SMUD Bank would not have impacts on the identified TCRs (i.e., traditional cultural landscape or species of significance). However, to avoid impacts on previously unknown TCRs, this document incorporates a mitigation measure to ensure unanticipated discoveries of TCRs are identified and protected in place where possible and treated with respect and care where avoidance is infeasible. In recognition of the importance of indigenous people telling their own story, the above contemporary Native American setting section incorporates and reflects the consulting Tribe's input during the consultation process.

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As explained in Chapter 2, *Project Description*, the proposed Project considered in this EIR consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

Issuance of these proposed take authorizations provides compliance with the federal Endangered Species Act and California Endangered Species Act, and authorizes implementation of the proposed HCP; however, it does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under CEQA, which can range from exemptions to EIRs.

Impacts associated with SMUD Bank Oak Tree Planting (C1) and SMUD Bank Management (C2) were analyzed in the 2010 Initial Study and Mitigated Negative Declaration (IS/MND) document for the Bank (SMUD 2010; SCH #2008022151), and will not be discussed in this document.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Sections 2.3.3, *Conservation Strategy (Direct Actions)*, and 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-9 for details.

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, the proposed Project would result in a potentially significant impact on cultural resources if it would do the following.

- Disturb any human remains, including those interred outside of dedicated cemeteries; or
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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.

## Impact Analysis

### ***Impact 3.18-1: Cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources or other local register***

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Implementation of Direct Actions would not result in physical environmental effects with the exception of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Tribal cultural resources have been identified through AB 52 consultation for the proposed Project. Although, it was determined that the Project would not result in impacts on identified Tribal cultural resources, ground disturbing activities could lead to the destruction or damage of previously unknown Tribal cultural resources. This would be a significant impact. Implementation of Mitigation Measure TCR-1: Discovery of Unanticipated Tribal Cultural Resources would reduce impacts on yet-undiscovered Tribal cultural resources to a less-than-significant level.

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As described in Section 3.18.2, *Environmental Setting*, there is the potential to encounter tribal cultural resources in the Permit Area; however, the exact locations of these resources have not been verified and a complete tribal cultural resources inventory has not been conducted for the entire Permit Area. Covered Activities not part of baseline as described in Table 2-9 and Sections 2.3.3 and 2.3.4 that involve ground disturbance such as replacing or relocation of electrical and natural gas facilities, and expansion or construction of new electrical substations, have potential to destroy known and unknown tribal cultural resources and could have an adverse change in the significance of a tribal cultural resource.

#### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Tribal cultural resources have been identified through AB 52 consultation for the proposed Project. Although, it was determined that the Project would not result in impacts on identified Tribal cultural resources, ground disturbing activities could lead to the destruction or damage of previously unknown Tribal cultural resources. This would be a significant impact. Implementation of Mitigation Measure TCR-1: Discovery of Unanticipated Tribal Cultural Resources would reduce impacts on yet-undiscovered Tribal cultural resources to a less-than-significant level.

#### ***Indirect Actions***

#### **Operation and Maintenance**

Operation and maintenance (O&M) Covered Activities that would constitute a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-9 and Sections 2.3.3 and 2.3.4. Some O&M activities involve ground disturbance. O&M

Covered Activities that could involve ground disturbance includes up to 40 pole replacements per year (E8) and cable replacement in underground conduit (E9a). Depending on the location and nature of ground disturbance, such ground disturbance and construction activities could cause a substantial adverse change in the significance of a known or unknown tribal cultural resource. However, it is unlikely that ground disturbance related to pole or cable replacement would affect tribal cultural resources. These areas have been previously disturbed. Replacing poles typically involves replacing an old pole with a new one in the original pole hole. Cable replacement involves pulling the damaged cable out through the existing vault or pull box. The new segment of cable is then pulled in through the conduit. Little to no ground disturbance would result. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

To ensure ground-disturbing activities do not affect tribal cultural resources, standard protection measures such as worker environmental awareness training (specific to tribal cultural resources), minimizing the work area footprint, preconstruction subsurface investigations, construction monitoring, and stopping work if tribal cultural resources are inadvertently uncovered, could be required. If warranted, implementing one or a combination of these measures would reduce adverse effects on tribal cultural resources. Thus, if ground-disturbing activities would result in damaging tribal cultural resources resulting in a substantial adverse change to the significance of tribal cultural resources, appropriate mitigation would reduce impacts.

### New Construction

The following new construction activities would constitute a change from baseline conditions.

New telecommunication tower facilities (T2) would be constructed. Construction would occur within the footprint of one of the 18 existing SMUD electrical transmission substations, or in a new transmission substation when it is constructed. As a result, ground disturbance at these locations would be in previously disturbed areas and the potential to disturb tribal cultural resources low.

Construction of new overhead subtransmission and distribution lines (E13) would require some ground disturbance primarily in the form of auguring new pole holes. Pole holes are typically 24 inches in diameter with depths ranging from 5 to 14 feet. Vegetation removal would be conducted by hand. Due to the limited nature of ground disturbance for these activities, the potential to disturb or uncover tribal cultural resources is low.

Construction of new facilities may also require trenching and boring along existing or new gas pipelines or gas transmission corridors and creating temporary access roads (E14). Almost all new underground construction would be done in urban settings (i.e., previously disturbed areas). Additionally, these projects would have completed environmental review, ensuring no significant impacts on tribal cultural resources would occur.

Construction of new facilities include new substations (E16) and expansion of existing substations (E15). Most new distribution substation sites have undergone previous environmental analysis and permitting completed by the developer of the project to be served by the substation. However, SMUD expects to construct four new transmission substations and two new distribution substations over the 30-year Permit Term. Transmission substation construction would disturb approximately 11 acres per new substation. The expansion of six existing substations would involve increasing each substation by approximately 0.3 acre to include a work area of 100 feet by 100 feet. The expansion site would be graded, and then excavated. Although in some cases ground disturbance would be in previously disturbed areas, the size and intensity of ground disturbance has a greater potential to affect buried tribal cultural resources.

Other new construction activities include gas pipeline realignment (G10). SMUD estimates that one pipeline segment no more than 3,000 feet long and 5 feet wide may need to be realigned approximately every 5 years. Of the three potential construction methods (i.e., trenching, horizontal directional drilling, directional boring), trenching would cause the most ground disturbance. Trenches would be approximately 5 feet wide and up to 15 feet deep. SMUD anticipates trenching for realignment of six pipeline segments.

New construction activities would involve grading, excavation, and/or other ground-disturbing activities. Such ground disturbance and construction activities could cause a substantial adverse change in the significance of a tribal cultural resource. Measures similar to those described above in O&M Covered Activities could reduce adverse effects on tribal cultural resources. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required by CEQA.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions include routine vegetation management actions within newly constructed overhead subtransmission and distribution line easements (V2), tree removals near newly constructed subtransmission and distribution facilities (V4), transplanting and removing elderberry shrubs (V5b), vegetation clearing for newly constructed poles (V6), and vegetation maintenance of the newly constructed realigned pipelines (V7). Vegetation removal would occur at to-be constructed SMUD facilities throughout the Permit Area. Vegetation removal and vegetation planting and transplanting would involve ground disturbance as a result of removing underground plant roots and digging holes to plant or replant.

Routine vegetation management would mostly involve tree trimming and vegetation removal. Stump profiles of cleared trees would be kept as low as possible, but stumps and tree roots would not be removed from the ground (no ground disturbance would occur). Other vegetation removal involves trimming which would not include ground disturbance, although vehicles and equipment used during vegetation management activities could cause some minor ground disturbance. The scope and volume of potential

ground disturbance during vegetation management activities is not high. Although unlikely, there is the potential to unearth tribal cultural resources during ground-disturbing activities such as elderberry tree transplanting or removal. To ensure ground-disturbing activities do not affect tribal cultural resources, measures similar to those described above in O&M Covered Activities would minimize adverse effects on tribal cultural resources. In addition, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include replacement of two sections of an existing water pipeline. The Cosumnes Power Plant (CPP) water pipeline, cathodic protection installation (M2a) and water pipeline segment replacement (M2c) would feature temporary ground disturbance and runoff. The CPP water pipeline would be an approximately 5-mile-long water pipeline conveying surface water from the Folsom South Canal to Rancho Seco Lake. Installation of the test stations and new valve would require some ground disturbance and earth movement, stockpiling, and the construction of a temporary access road. Replacement of these pipelines could disturb undiscovered or unrecorded human remains. However, because these activities would occur in previously disturbed areas, the potential to affect undiscovered or unrecorded human remains is considered low.

### **Conclusion**

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action could cause a substantial adverse change in the significance of a tribal cultural resource.

#### Mitigation Measures

##### ***Mitigation Measure TCR-1: Discovery of Unanticipated Tribal Cultural Resources***

If any suspected TCRs are discovered during ground disturbing construction activities, all work shall cease within 100 feet of the find, or an agreed upon distance based on the project area and nature of the find. A Tribal Representative from a California Native American tribe that is traditionally and culturally affiliated with a geographic area shall be immediately notified and shall determine if the find is a TCR (PRC §21074). The Tribal Representative will make recommendations for further evaluation and treatment as necessary.

When avoidance is infeasible, preservation in place is the preferred option for mitigation of TCRs under CEQA and Tribal protocols, and every effort shall be made to preserve the resources in place, including through project redesign, if feasible. Culturally

appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, or returning objects to a location within the project area where they will not be subject to future impacts. Permanent curation of TCRs will not take place unless approved in writing by the consulting Tribe that is traditionally and culturally affiliated with the project area.

The contractor shall implement any measures deemed by the CEQA lead agency to be necessary and feasible to preserve in place, avoid, or minimize impacts to the resource, including, but not limited to, facilitating the appropriate tribal treatment of the find, as necessary. Treatment that preserves or restores the cultural character and integrity of a TCR may include Tribal Monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.

Work at the discovery location cannot resume until all necessary investigation and evaluation of the discovery under the requirements of the CEQA, including AB52, have been satisfied.

#### Indirect Actions

O&M, new construction of facilities, vegetation management for new facilities, and miscellaneous Covered Activities throughout the Permit Area that constitute a change to baseline as identified in Table 2-9 and Sections 2.3.3 and 2.3.4 could cause a substantial adverse change in the significance of a tribal cultural resource. Standard measures generally implemented by SMUD as described above would minimize these effects.

While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review and associated AB 52 consultations required under CEQA, when an activity is proposed.

### 3.19 Utilities and Service Systems

This section summarizes regulations applicable to utilities and service systems, describes the environmental setting for utilities and service systems in the Permit Area, and analyzes effects on utilities that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

No questions or concerns related to utilities were raised in the responses to the Notice of Preparation.

#### 3.19.1 Regulatory Setting

##### **Federal**

##### ***Safe Drinking Water Act***

As mandated by the Safe Drinking Water Act, the U.S. Environmental Protection Agency (EPA) regulates contaminants of concern to domestic water supply. Such contaminants are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. EPA has delegated responsibility for California's drinking water program to the State Water Resources Control Board Division of Drinking Water.

##### ***Clean Water Act***

The Clean Water Act (CWA) employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. Those portions of the CWA that relate to wastewater and stormwater discharges are discussed below.

##### ***National Pollutant Discharge Elimination System***

The National Pollutant Discharge Elimination System (NPDES) permit program was established under the CWA to regulate municipal and industrial discharges to surface waters of the United States.

##### **State**

##### ***California Government Code***

Section 4216 of the California Government Code protects underground structures (e.g., utilities) during excavation. Under this law, excavators are required to contact a regional notification center at least 2 days prior to excavation of any subsurface installations. In the Permit Area, Underground Service Alert notifies utility providers with buried lines within 1,000 feet of the excavation, and those providers are required to mark the specific

location of their facilities prior to excavation. The code also requires excavators to probe and expose existing utilities, in accordance with state law, before using power equipment.

### California Integrated Waste Management Act

The California Waste Management Act of 1989 (Assembly Bill [AB] 939) requires state, county, and local governments to substantially decrease the volume of waste disposed at landfills by the year 2000 and beyond. The Act allows CalRecycle to use per capita disposal as an indicator in evaluating compliance with the requirements of AB 939. Jurisdictions track and report their per capita disposal rates to CalRecycle. The volume of solid waste produced during Covered Activities would need to comply with requirements for per capita disposal rate.

### Short-Lived Climate Pollutant Strategy/Diversion of Organic Waste from Landfills

Short-Lived Climate Pollutant Strategy/Diversion of Organic Waste from Landfills (Senate Bill [SB] 1383) (Statutes of 2016) established methane emissions reduction targets in a statewide effort to reduce emission of short-lived climate pollutants. In addition, the new law codified the California Air Resources Board's Short-Lived Climate Pollutant Reduction Strategy, to achieve reductions in the statewide emissions of short-lived climate pollutants. As it pertains to Covered Activities under the proposed HCP, SB 1383 established CalRecycle targets to achieve a 50 percent reduction in statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. These reductions would be enforced at the local agency level and will require, beginning in 2022, the construction of approximately 60 composting facilities and 26 anaerobic digestion facilities. Woody biomass qualifies as an organic waste subject to diversion to comply with SB 1383.

### ***Regional and Local***

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### Sacramento County General Plan

The *Sacramento County General Plan* (Sacramento County 2017) Conservation Element, Safety Element, and Public Facilities Element contain policies related to utilities

and service systems. These include policies to evaluate the impact of development on groundwater recharge (Policy CO-8), support the use of recycled wastewater to meet non-potable water demands when financially feasible (Policy CO-14), support water management practices (Policy CO-22), comply with other water quality regulations and NPDES permits that are applicable to the project (Policy CO-28), require development projects to comply with the County's stormwater development/design standards (Policy CO-30), ensure adequate and available water supply for project development (Policies CO-33–CO-35, SA-23), encourage construction of structures for flood control and stormwater quality purposes (Policy CO-100), encourage flood management designs that respect the natural topography and vegetation of waterways (Policy CO-105a), to ensure that fill placed in the 100-year flood plain outside the Urban Service Boundary is found by the Board of Supervisors not impede water flows or storm runoff capacity (Policy SA-10), and support fee-supported solid waste collection and disposal (Policies PF-23 and PF-24).

#### Yolo County General Plan

The *Yolo County 2030 Countywide General Plan* (Yolo County 2009) Public Facilities Element and Conservation Element contain policies related to utilities and service systems. These include policies to manage groundwater resources and supplies (Policies CO-5.1 and CO-5.3), encourage new development and redevelopment to use reclaimed wastewater (Policy CO-5.15), require all development to have an adequate water supply (Policy CO-5.16), require all new developments to offset new water demands (Policy CO-5.19), support efforts to meet applicable water quality standards (Policy CO-5.23), require discretionary projects to demonstrate adequate long-term wastewater collection, treatment, and disposal capacity (Policy PF-1.1), improve stormwater runoff quality (Policy PF-2), encourage sustainable practices for stormwater management (Policy PF-2.4), meet or exceed State waste diversion requirements (Policy PF-9.1), require salvage, reuse or recycling of construction and demolition materials and debris at all construction sites (Policy PF-9.8), encourage the development of power generating, transmission facilities, and communication technology (Policies PF-11.1 and PF-11.2), and provide the public facilities and services necessary to adequately meet and maintain community service levels (Policies PF-12.6 and PF-12.10).

#### Placer County General Plan

The *Placer County Countywide General Plan* (Placer County 2013) Public Facilities and Services Element and Natural Resources Element contain policies related to utilities and service systems. These include policies to promote efficient water use and reduced water and wastewater system demand (Policies PF 4.C.6 and PF 4.D.7), ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County Land Development Manual (Policy PF 4.E.4), support the programs and policies of the watershed flood control plans developed by the Flood Control and Water Conservation District (Policy PF 4.E.6), require that new development conforms with the applicable

programs, policies, recommendations, and plans of the Placer County Flood Control and Water Conservation District (Policy PF 4.E.13), ensure the safe and efficient disposal or recycling of solid waste generated in Placer County (Policy PF 4.G.1), require that all new development complies with applicable provisions of the Placer County Integrated Waste Management Plan (Policy PF 4.G.7), require the use of feasible and practical best management practices and low-impact development (LID) for construction and operation (Policies NR 6.A.5 and NR 6.A.8), require development projects to comply with the municipal and construction stormwater permit requirements of the federal CWA NPDES Phase I and II programs and the State General Municipal and Construction permits (Policies NR 6.A.6, NR 6.A.8), and protect groundwater resources from contamination and overdraft (Policy NR 6.A.13).

### Amador County General Plan

The *Amador County General Plan* (Amador County 2016) Conservation Element contains policies related to utilities and service systems. These include policies to ensure that all future development permitted in the county can be provided adequate amounts of water (Policies C-1.1–C-1.4), minimize negative effects of point and non-point sources on water quality (Policies C-4.1–C-4.4), and require LID standards and strategies (Policies C-5.1 and C-5.2).

### San Joaquin County General Plan

The *San Joaquin County General Plan* (San Joaquin County 2016) Land Use Element, Public Health and Safety Element, and Infrastructure and Service Element contain policies related to utilities and service systems. These include policies to require soil testing to ensure site conditions can accept wastewater (Policy LU-2.12), require all utilities to be constructed in a manner that minimizes or eliminates potential damage (Policy PHS-3.5), maintain infrastructure and adequate levels of service for existing and future development (Policies IS-1.4, IS-3.1), maintain adequate water treatment and distribution facilities (Policy IS-5.1), and maintain adequate stormwater facilities (Policy IS-7.1).

### **City General Plans**

In addition to county general plans, the cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, Folsom, and Roseville all have general plan policies related to utilities and service systems. Similar to the county general plans, these policies are related to maintaining utilities infrastructure and adequate service levels; stormwater, wastewater, and solid waste management; and protecting water resources. These policies are applicable to residential, commercial, and industrial development, not to implementation of the Conservation Strategy and Covered Activities.

### 3.19.2 *Environmental Setting*

#### **Water**

Water demands in the Permit Area are met through a variety of surface and groundwater supplies. Water supply for each county within the Permit Area is provided by their respective water supply department or agency.

#### ***Sacramento County***

The Sacramento County Water Agency provides water supply services to over 55,000 homes and businesses in the Laguna-Vineyard area of the South County, Mather-Sunrise, Arden Park-Sierra Oaks, Northgate, and Southwest Track. The water supply is surface water obtained from the American River and the San Joaquin River. The Sacramento region contains three subbasins: the Sacramento Groundwater Authority with an annual sustainable yield of 131,000 acre-feet (af); the Sacramento Central Groundwater Authority with a sustainable annual yield of 273,000 af; and the South Area Water Council with a sustainable annual yield of 115,00 af.

#### ***Yolo County***

Yolo County relies on both surface water and groundwater supplies. Water demands in Yolo County and the cities are met through a variety of sources including the Sacramento River, Cache Creek, Putah Creek, and groundwater. Surface water sources in Yolo County include the Sacramento River, Knights Landing Ridge Cut, Putah Creek, and Willow Slough Bypass. The majority of water for domestic supplies comes from unmetered private groundwater wells, and groundwater (Yolo County 2016).

#### ***Placer County***

Placer County Water Agency (PCWA) is the primary water resource agency for Placer County, California that is responsible for water resource planning and management, retail and wholesale supply of drinking water and irrigation water, among other responsibilities. PCWA supplies water from its Middle Fork American River Hydroelectric Project, which is capable of storing 340,000 af of water. PCWA also operates 165 miles of canals, serving irrigation water needs for agriculture, recreation, and landscaping (PCWA 2020).

#### ***Amador County***

The Amador County Water Agency (ACWA) serves approximately 10,000 customers in Amador County and conveys wholesale and retail treated and untreated surface water to five water purveyors throughout much of Amador County, groundwater to Lake Camanche Village and La Mel Heights, as well as raw water to agricultural users. The ACWA consists of the Amador Water System and the Central Amador Water Project System.

***San Joaquin County***

San Joaquin County is part of the Central San Joaquin Water Conservation District, which obtains its water supply from a combination of groundwater and surface water obtained from the San Francisco Bay Delta Watershed. The eastern San Joaquin County Groundwater Basin underlying the district is in a state of overdraft due to overpumping, resulting in a decline in groundwater levels. As such, San Joaquin County relies heavily on supplemental surface water provided by the San Joaquin Water Conservation District (San Joaquin County Flood Control and Water Conservation District 2001).

**Wastewater**

Wastewater within the Permit Area is generated by a combination of agricultural, residential, commercial, and industrial uses. Wastewater is conveyed to wastewater treatment plants via collection pipelines, transfer stations, interceptor stations, and discharge stations. Wastewater treatment occurs at various cities, counties, and special districts that serve the Permit Area. Wastewater treatment facilities rely on primary, secondary, and tertiary levels of wastewater treatment in addition to disinfection methods to remove sedimentation, microorganisms, and other impurities to allow for reuse and reclamation of wastewater for various uses, such as irrigation for golf courses, landscaping, and agriculture.

**Solid Waste*****Sacramento County***

The Sacramento Regional Solid Waste Authority is a joint powers authority that oversees commercial waste management in the city of Sacramento and the unincorporated areas of Sacramento County. Sacramento County facilities include Keifer Landfill, the North Area Recovery Station, household hazardous waste dropoff centers, local disposal/recycling facilities, and certified construction and demolition debris sorting facilities.

***Yolo County***

Solid waste and recycling services in unincorporated Yolo County, the city of Winters, and the city of Woodland in incorporated Yolo County are provided by the Yolo County Division of Integrated Waste Management. Waste services for the city of Davis and the city of West Sacramento are provided by a private hauler and the City of West Sacramento Public Works Department, respectively. Most solid waste collected in Yolo County is delivered to the County's Central Landfill, a 722-acre facility equipped to handle Class III solid waste.

***Placer County***

The Western Placer Waste Management Authority (WPWMA) is a regional agency established in 1978 through a joint exercise of powers agreement between Placer County and the cities of Lincoln, Rocklin and Roseville to own, operate, and maintain a sanitary landfill and all related improvements. The WPWMA's facilities consist of the Western Regional Sanitary Landfill and a Materials Recovery Facility which includes composting, household hazardous waste, and recycling and buyback facilities. The Western Regional Sanitary Landfill is currently permitted to receive waste through January 2058 (WPWMA 2020).

***Amador County***

Amador County and unincorporated Amador County are served by ACES Waste Services, Inc., a private hauler. ACES Waste Services, Inc. provides both residential and commercial recycling and waste collection. ACES Waste Services, Inc. operates two solid waste transfer stations in Amador County, the Pine Grove Transfer Station in Pine Grove and the WARF-Buena Vista Transfer Station in Ione. Currently, there are no active landfills in Amador County.

***San Joaquin County***

The San Joaquin County Solid Waste Division is responsible for providing solid waste collection, recycling, and disposal to San Joaquin County. The San Joaquin County Solid Waste Division operates the following waste disposal facilities: North County Recycling Center and Sanitary Landfill; and the Lovelace Materials Recovery Facility and Transfer Station, and Foothill Sanitary Landfill.

**Energy*****Sacramento Municipal Utility District***

SMUD is a locally controlled not-for-profit municipal utility with more than 75 years of experience as an energy provider. SMUD generates, transmits, and distributes electric power to serve an approximately 900-square-mile service area that includes almost all of Sacramento County and small portions of Placer, Amador, San Joaquin, and Yolo Counties. SMUD also owns and operates 76 miles of natural gas pipeline in Sacramento County and Yolo County that serves five gas-fired thermal generation and cogeneration power plants. SMUD obtains its energy from a variety of sources, to achieve a balanced and sustainable mix of energy sources. Sources include hydropower, natural-gas-fired generators, renewable energy such as solar, wind, hydro and biomass, and energy purchased from the wholesale market. The largest single source of power is the Cosumnes Power Plant (CPP), which is located in the Permit Area (SMUD 2020).

### ***Pacific Gas and Electric Company***

Pacific Gas and Electric Company's (PG&E) electric power is generated in natural-gas-fired power plants, hydroelectric powerhouses, geothermal generators, and solar and wind energy facilities. PG&E also buys power from independent power producers and other utilities. According to its website (PG&E 2021), PG&E natural gas and electric service to approximately 16 million people throughout a 70,000-square-mile service area in Northern and Central California, encompassing the Permit Area. PG&E's services are provided in accordance with California Public Utilities Commission rules and regulations. Within SMUD's service territory, PG&E provides natural gas service.

#### ***3.19.3 Environmental Impacts and Mitigation Measures***

##### **Methodology and Assumptions**

This analysis of the proposed HCP's effects on utilities and service systems is based on standard professional practice and the information resources cited herein. Effects were identified and evaluated qualitatively based on the environmental characteristics of the Permit Area and the magnitude and duration of activities related to implementation of the proposed HCP. Significance determinations consider the implementation of applicable avoidance and minimization measures, which are incorporated into the design and specifications of each Covered Activity.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP

USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state ITP would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the ITPs and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under the California Environmental Quality Act (CEQA), which can range from exemptions to EIRs.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3,

*Conservation Strategy (Direct Actions), Section 2.3.4, Covered Activities (Indirect Actions), and the summary in Table 2-10 for details.*

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, the proposed Project would result in a potentially significant impact related to utilities and service systems if it would do the following.

- Require relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, with the potential to cause significant environmental effects.
- Create a need for new or expanded entitlements or resources for sufficient water supply to serve the proposed Project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- Result in a determination by the wastewater treatment provider that serves or may serve the proposed Project that it does not have adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments.
- Generate solid waste in exceedance of state or local standards or in excess of the capacity of local infrastructure, or other impediment to the attainment of solid waste reduction goals.
- Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

### **Impact Analysis**

***Impact 3.19-1: Require relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, with the potential to cause significant environmental effects***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not require relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, with the potential to cause significant environmental effects. There would be **no impact**.

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Covered Activities would generally occur within dedicated easements or public utility easements that already contain existing SMUD utility infrastructure. To accommodate

new or relocated SMUD infrastructure, relocation of existing utility infrastructure may be required; however, the construction of new or expanded utility infrastructure would not be needed to serve any of the Covered Activities.

### ***Direct Actions***

Issuance of the ITP and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would not require relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. Therefore, there would be **no impact**.

### ***Indirect Actions***

No construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities would be required to serve any of the Indirect Actions, but relocation of existing utility facilities may be necessary to accommodate new construction as described below.

### **Operation and Maintenance**

Covered Activities that would constitute a change to baseline conditions include operation and maintenance (O&M) of new SMUD facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These activities include visual and physical inspections of facilities (e.g., underground and overhead facilities [E1a, E2a], substations [E4]), wood pole testing (E6), and pole replacement (E8). Inspection of newly constructed facilities would involve maintenance crews conducting ground-based inspections or drive-by inspections in work trucks. None of the O&M activities comprising Indirect Actions would require relocation of water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities.

Impacts related to utility relocation from the installation of new facilities are addressed under *New Construction*, below.

### **New Construction**

New construction activities that would constitute a change from baseline conditions would include construction of new substations (E16) and expansion of existing substations (E15), new telecommunication towers (T2), gas pipeline realignment (G10), and construction of new overhead (E13) and underground (E14) subtransmission and distribution lines. New construction activities may require trenching and boring along existing gas pipelines or utility easements and creating temporary access roads. This could require relocation of existing water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities to accommodate new or

relocated SMUD infrastructure. The potential to cause significant environmental effects exists and would depend on the site-specific characteristics of the Covered Activity location, but could result in impacts related to ground disturbance (e.g., habitat, soils, buried cultural resources) and nuisance impacts on nearby receptors during construction. New construction would not result in a new or expansion of water or wastewater treatment facilities and storm drainage systems would be designed so that the appropriate underground storm drain pipe capacities and overland release paths are provided. For these reasons, significant impacts would be unlikely to occur.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions include tree and vegetation removal, trimming, and pruning around newly constructed facilities, including within subtransmission and distribution line easements (V2), around poles (V6), and along the gas pipeline easement (V7), as well as trimming, transplanting, and removing elderberry shrubs (V5). Vegetation removal would not require relocation of water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions would include O&M of the existing CPP water pipeline (M2). These activities would include installation of cathodic protection test stations (M2a), installation of a new pipeline valve (M2b), and replacement of pipeline segments (M2c). Because these activities would be conducted on an existing water pipeline, none would require relocation of water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities.

## ***Conclusion***

### Direct Actions

Issuance of the ITP and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not require relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, with the potential to cause significant environmental effects. Therefore, there would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M and vegetation management activities would be conducted on new facilities and would not require relocation of existing utilities. Miscellaneous Covered Activities would be conducted on the existing CPP pipeline and would not require relocation of existing utilities. New construction activities could require relocation of water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. The potential to cause significant environmental effects exists and would depend on the site-specific characteristics of the Covered Activity location, but could result in impacts related to ground disturbance (e.g., habitat, soils, buried cultural resources) and nuisance impacts on nearby receptors during construction. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.19-2: Create a need for new or expanded entitlements or resources for sufficient water supply to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would require a negligible amount of water to plant Orcutt grass at the SMUD Bank, which would be supplied by existing offsite sources for the initial growth and establishment period and supplied by natural precipitation after plants are established. No new or expanded entitlements or resources for water supply would be required. **No impact** would occur.

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Covered Activities would generally use similar amounts of water as baseline conditions. Construction of new or expanded utility infrastructure would use small amounts of water for hydrostatic testing, dust control, and other similar activities. Implementation of the proposed HCP would not create a substantial demand for water resulting in the need for new or expanded entitlements or resources for sufficient water supply.

### ***Direct Actions***

Issuance of the ITP and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would require a negligible amount of water to plant Orcutt grass at the SMUD Bank, which would be supplied by existing offsite sources for the plant's initial growth and establishment period and supplied by natural precipitation after plants are established. No new or expanded entitlements or resources for water supply would be required. **No impact** would occur.

### ***Indirect Actions***

Indirect Actions such as O&M, vegetation management, and miscellaneous Covered Activities would require a negligible increase of water over existing baseline conditions. New construction would utilize small amounts of water for activities like horizontal directional drilling (G10b), hydrostatic testing (G10d), and dust control as needed; it is anticipated these water needs would be served by existing resources at the construction site or water imported to the construction site. Implementation of the proposed HCP would not create a substantial demand for water resulting in the need for new or expanded entitlements or resources for sufficient water supply. For these reasons it is unlikely that adverse utilities impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Conclusion***

#### Direct Actions

The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity, the only direct action that could result in a change from baseline conditions, would require a negligible amount of water to plant Orcutt grass. Water for planting would be supplied from offsite sources. No new or expanded entitlements or resources for water supply would be required. **No impact** would occur.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

New construction would use small amounts of water that would most likely be sourced from existing sources at the construction site or water imported to the construction site. Implementation of the proposed HCP would not create a substantial demand for water. However, the detailed potential water requirements cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.19-3: Result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action would not produce wastewater. **No impact** would occur.

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### ***Direct Actions***

Issuance of the ITP and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not generate additional wastewater. Implementation of this Direct Action would not generate any new sources of wastewater and would not affect the capacity of any wastewater treatment provider. **No impact** would occur.

### ***Indirect Actions***

Vegetation management activities would not generate wastewater. O&M would produce similar amounts of wastewater as existing baseline conditions from activities such as substation insulator washing (E3). New construction and miscellaneous Covered Activities would generate minimal amounts of wastewater from activities such as dewatering, if needed. However, for all Covered Activities wastewater treatment would continue to utilize existing facilities for minimal wastewater produced and, whenever feasible, treat wastewater onsite. Implementation of the proposed HCP would not generate any new sources of wastewater that could result in a determination by the wastewater treatment provider that serves or may serve the proposed Project that it does not have adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

### ***Conclusion***

#### **Direct Actions**

The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity is the only Direct Action that could result in physical environmental effects, and it would not generate additional wastewater. **No impact** would occur.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

All Covered Activities wastewater treatment would continue to utilize existing facilities for minimal wastewater produced and, whenever feasible, treat wastewater onsite. Implementation of the proposed HCP would not generate new sources of wastewater that could result in a determination by the wastewater treatment provider that serves or may serve the proposed Project that it does not have adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments. Furthermore, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA.

### ***Impact 3.19-4: Generate solid waste in exceedance of state or local standards or in excess of the capacity of local infrastructure, or other impediment to the attainment of solid waste reduction goals***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action implemented at the SMUD Bank would not result in the generation of substantial amounts of solid waste. The amount of generated waste would be negligible, if any, and, if needed, would be adequately served by existing landfills offsite. There would be **no impact**.

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Covered Activities would include construction, maintenance, and replacement of electrical facilities, natural gas transmission facilities, telecommunications, vegetation management, and miscellaneous activities. Construction-related activities and vegetation management would result in a one-time generation of waste materials. O&M activities would not result in continued generation of solid waste.

### ***Direct Actions***

Issuance of the ITP and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would consist of invasive plant management and seed dispersal, which would generate negligible (e.g., transport packaging for seeds), if any, solid waste. Solid waste generated by initial installation of the Direct Action would be minor and a singular occurrence. The Permit Area is served by more than six landfills, all with existing capacity to accommodate disposal needs of the Direct Action. In addition, whenever possible nonhazardous, solid waste materials would be recycled to and diverted from landfills, which would further reduce the small amount of solid waste associated with the Direct Action. Implementation of the Direct Action would not generate solid waste in exceedance of state or local standards or in excess of the

capacity of local infrastructure, or other impediment to the attainment of solid waste reduction goals. Therefore, there would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

SMUD has been conducting most of the Covered Activities, specifically those pertaining to O&M of SMUD's electrical, natural gas, and telecommunication systems, within the Permit Area for more than 75 years. O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These activities would generate similar types of solid waste as O&M of existing facilities, albeit in less volume because there are fewer new facilities. Waste would likely include plastic wrapping, shipping materials (e.g., cardboard, metal), wood poles, and transformer oil. As discussed under *Direct Actions* above, the Plan Area is adequately served by existing landfills and would recycle nonhazardous materials whenever feasible to reduce the total amount of solid waste disposal into landfills. O&M Covered Activities would not generate solid waste in exceedance of state or local standards or in excess of the capacity of local infrastructure, or otherwise impede the attainment of solid waste reduction goals.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations and expansion of existing substations, new telecommunication towers, gas pipeline realignment, and construction of new overhead subtransmission and distribution lines. Construction-related activities would result a singular, short-term generation of solid waste mainly attributed to construction debris, such as asphalt, concrete, scrap lumber, finishing materials, metals, and organic materials, or the disposal of replaced facilities (e.g., wood poles). Solid waste would likely include packing materials (e.g., cardboard, metal), disposal of old gas pipeline and infrastructure components, plastic wrapping, spent welding rods, pipe bandings and spacers, as well as food, paper, glass, and plastic from construction personnel. These Covered Activities would be served by existing landfills in the Permit Area, which currently contain adequate capacity. Whenever possible, materials would be recycled. It is reasonably expected that the waste generated by new construction would not generate solid waste in exceedance of state or local standards or in excess of the capacity of local infrastructure, or otherwise impede the attainment of solid waste reduction goals.

#### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, within utility easements, and around poles, as well as trimming, transplanting, and removing elderberry shrubs. Vegetation removal would result in solid waste such as cleared vegetation, and stumps. Solid waste generated onsite

would be chipped and spread onsite, hauled to SMUD facilities for local distribution as part of SMUD's neighborhood beautification program, or hauled to landfills/green waste processors within the Permit Area. Facilities serving the proposed Project have existing capacity. It is reasonably expected that the waste generated by vegetation management would not generate solid waste in exceedance of state or local standards or in excess of the capacity of local infrastructure, or otherwise impede the attainment of solid waste reduction goals.

#### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). These activities, including for the cathodic protection installation and the water pipeline valve installation, would generate small amounts of waste, similar to those produced by new construction activities. Miscellaneous Covered Activities would not generate a substantial new source of solid waste that would exceed state or local standards or be in excess of the capacity of local infrastructure.

#### **Conclusion**

#### Direct Actions

Issuance of the ITP and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would not result in the substantial generation of solid waste that could exceed the capacity of existing landfills in the Permit Area. Waste generation would be negligible and would be adequately served by existing landfills offsite. The Permit Area is served by more than six landfills, all with existing capacity to accommodate disposal needs of the Direct Action. In addition, whenever possible nonhazardous, solid waste materials would be recycled to and diverted from landfills, which would further reduce the small amount of solid waste associated with the Direct Action. Therefore, there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Indirect Actions are not reasonably expected to generate solid waste in exceedance of state or local standards or in excess of the capacity of local infrastructure, or other impediment to the attainment of solid waste reduction goals. For these reasons it is unlikely that adverse solid waste impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these

Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

***Impact 3.19-5: Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. This Direct Action implemented at the SMUD Bank would not result in the generation of substantial amounts of waste. Waste generation would be minor and would be adequately served by offsite landfills and would comply with all applicable with federal, state, and local management and reduction statutes and regulations related to solid waste. There would be **no impact**.

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Some activities have the potential to generate solid waste. Waste generation would be minor, adequately served by offsite landfills, comply with all applicable with federal, state, and local statutes and regulations related to solid.

***Direct Actions***

Issuance of the ITP and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Solid waste generated by implementation of this Direct Action would be negligible if any, as described under Impact 3.19-4. SMUD complies with applicable laws and regulations during implementation and would continue to dispose of waste in accordance with all federal, state, and local management and reduction statutes and regulations related to solid waste. Therefore, there would be **no impact**.

***Indirect Actions***

Operation and Maintenance

SMUD has been conducting most of the Covered Activities, specifically those pertaining to O&M of SMUD's electrical, natural gas, and telecommunication systems, within the Permit Area for more than 75 years. O&M Covered Activities constituting a change from baseline conditions would include O&M activities for new facilities as shown in Table 2-10 and Sections 2.3.3 and 2.3.4. These activities would generate similar types of solid waste as O&M of existing facilities, albeit in less volume because there are fewer new facilities. Waste would likely include plastic wrapping, shipping materials (e.g., cardboard, metal), wood poles, and transformer oil. As discussed under Direct Actions above, the Plan Area is adequately served by existing landfills and would recycle nonhazardous materials whenever feasible to reduce the total amount of solid waste disposal into landfills. O&M activities would be consistent with current O&M activities undertaken by SMUD and would comply with all applicable laws and regulations related to solid waste

and in accordance with all federal, state, and local management and reduction statutes and regulations related to solid waste.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new substations and expansion of existing substations, new telecommunication towers, gas pipeline realignment, and construction of new overhead subtransmission and distribution lines. Construction-related activities would result a singular, short-term generation of solid waste mainly attributed to construction debris of the type described under Impact 3.19-4. The proposed Project would be served by existing landfills in the Plan Area, which contain adequate capacity. Whenever possible, materials would be recycled. SMUD would comply with all applicable laws and regulations during implementation. SMUD would continue to dispose of waste in accordance with all federal, state, and local management and reduction statutes and regulations related to solid waste.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, within utility easements, and around poles, as well as trimming, transplanting, and removing elderberry shrubs. Vegetation removal would result in solid waste such as cleared vegetation, stumps, rocks, and soil. Solid waste generated onsite would be chipped and spread onsite, hauled to SMUD facilities for local distribution as part of SMUD's neighborhood beautification program, or hauled to landfills/green waste processors within the Permit Area. Landfills serving the proposed Project have existing capacity to serve the proposed Project. SMUD would comply with all applicable laws and regulations and continue to dispose of waste in accordance with all federal, state, and local management and reduction statutes and regulations related to solid waste.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include O&M of the CPP water pipeline (M2). SMUD complies with federal, state, and local management and reduction statutes and regulations related to solid waste. Whenever possible, solid waste would be recycled and diverted from landfills.

## **Conclusion**

### Direct Actions

Issuance of the ITP and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity

could result in physical environmental effects. The Direct Action would not result in the substantial generation of solid waste that could exceed the capacity of existing landfills in the Permit Area. SMUD would comply with applicable laws and regulations and would continue to dispose of waste in accordance with all federal, state, and local management and reduction statutes and regulations related to solid waste. Therefore, there would be **no impact**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

Indirect Actions would not generate substantial amounts of waste. SMUD would comply with all applicable laws and regulations and would continue to dispose of waste in accordance with all federal, state, and local management and reduction statutes and regulations related to solid waste. While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, the implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review required under CEQA, when an activity is proposed.

## 3.20 Wildfire

This section summarizes regulations applicable to wildfire, describes the environmental setting for wildfire in the Permit Area, and provides an assessment of potential changes to those conditions that would result from implementation of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP). Effects of the proposed Project on wildfire are generally defined in terms of the proposed Project's physical characteristics, location, impacts on an emergency response plan or emergency evacuation plan, exacerbation of wildfire risks associated with pollutant concentrations or uncontrolled spread of wildfire, proposed Project-related installation or maintenance of associated infrastructure that may include activities that could present a fire risk, and exposure of people or structures to significant secondary wildfire risks, although overall, maintenance activities are often aimed at reducing fire risk. In this case, the analysis considers the effects of the Conservation Strategy and the Covered Activities related to wildfire in the Permit Area.

The Sacramento Fire Department indicated that they had no questions or comments in response to the Notice of Preparation (NOP). No other questions or concerns related to wildfire were raised in the responses to the NOP.

### 3.20.1 *Regulatory Setting*

This section describes the federal, state, and local regulatory setting as it pertains to wildfire prevention, control, and management within the Permit Area.

#### **Federal**

##### ***Disaster Mitigation Act of 2000***

The Disaster Mitigation Act of 2000 provides the legal basis for the Federal Emergency Management Agency's (FEMA) mitigation planning requirements for state, local, and tribal governments as a precursor to mitigation grant assistance. The Disaster Mitigation Act of 2000 requires that local governments prepare a Local Hazard Mitigation Plan (LHMP) that must be reviewed by the State Mitigation Officer, approved by FEMA, and renewed every 5 years. The LHMP must include a planning process, a risk assessment, a mitigation strategy, and plan maintenance and updating procedures to identify the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government. Natural hazards include, but are not limited to, earthquakes, tsunamis, tornadoes, hurricanes, flooding, and wildfires.

**State*****Public Resources Code Section 4291***

Section 4291 of the California Public Resources Code (PRC) defines and describes fire protection measures and responsibilities for mountainous, forest, brush, and grass-covered lands. These measures include, but are not limited to, the following.

- Maintenance of defensible space of 100 feet from each side and from the front or rear of a structure, but not beyond the property line.
- Removal of a portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe.
- Maintenance of a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood.

Construction or rebuilding of a structure must comply with all applicable state and local building standards.

***Senate Bill 901***

In September 2018, Senate Bill (SB) 901 was adopted, and requires publicly owned utilities to prepare wildfire mitigation measures if the utilities' overhead electrical lines and equipment are located in an area that has a significant risk of wildfire resulting from those electrical lines and equipment. Before January 1, 2020, and annually thereafter, these utility companies are required to prepare a Wildfire Mitigation Plan (WMP), except where its governing board determined that its federally approved fire prevention plan met the otherwise applicable requirements. The WMP must include a description of preventive strategies and programs, plans for vegetation management, plans for inspections, and description of metrics to evaluate plan performance, among many other measures.

***California Building Standards Code***

The State of California's minimum standards for structural design and construction are provided in the California Building Standards Code (CBSC) (24 California Code of Regulations). The standards set forth in the CBSC are based on the International Building Code, which is used widely throughout United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for California conditions with numerous more detailed or more stringent regulations. The CBSC provides standards for various aspects of construction, including (i.e., not limited to) excavation, grading, and earthwork construction. In accordance with California law, certain aspects of the proposed Project would be required to comply with all provisions of the CBSC. The CBSC requires certain building requirements to adhere to the Fire Code (Part 9).

Local agencies must ensure that development in their jurisdictions comply with guidelines contained in the CBSC. Cities and counties can, however, adopt building standards beyond those provided in the code.

***State Responsibility Areas (Public Resources Code 4102)***

State Responsibility Areas (SRA) are defined by PRC Section 4102 as areas of the state in which the California Department of Forestry and Fire Protection (CAL FIRE) has determined that the financial responsibility for preventing and suppressing fires lies with the State of California. SRAs are lands in California where CAL FIRE has legal and financial responsibility for wildfire protection. SRA lands typically are unincorporated areas of a county, are not federally owned, have wildland vegetation cover, have housing densities lower than three units per acre, and have watershed or range/forage value. Where SRAs contain built environment or development, the local government agency assumes responsibility for fire protection (CAL FIRE 2007).

Local Responsibility Areas (LRA) include lands that do not meet criteria for SRAs or federal responsibility areas, or are lands in cities, cultivated agricultural lands, and nonflammable areas in the unincorporated parts of a county. LRAs can include flammable vegetation and wildland-urban interface areas. LRA fire protection is provided by the local fire departments, fire protection districts, county fire departments, or by contract with CAL FIRE (CAL FIRE 2008).

***Very High Fire Hazard Severity Zones (Government Code 51177)***

Very High Fire Hazard Severity Zones (FHSZ) are defined by Government Code Section 51177 as areas designated by CAL FIRE as having the highest possibility of having wildfires. These zones are based on consistent statewide criteria and the severity of fire hazard that is expected to prevail in those areas. The Very High FHSZs are also based on fuel loading, slope, fire weather, and other factors, such as wind, that have been identified by CAL FIRE as a major cause of the spreading of wildfires. FHSZ maps are produced and maintained for each county.

***2018 California Strategic Fire Plan***

CAL FIRE's Strategic Fire Plan provides an overall vision for a built and natural environment that is more fire resilient through the coordination and partnerships of local, state, federal, tribal, and private entities. First developed in the 1930s, the Strategic Fire Plan is periodically updated; the current plan was prepared in 2018. The Plan analyzes and addresses the effects of climate change, overly dense forests, prolonged drought, tree mortality, and increased severity of wildland fires through goals and strategies. The primary goals of the 2018 Strategic Fire Plan are to do the following.

- Improve the availability and use of consistent, shared information on hazard and risk assessment.
- Promote the role of local planning processes, including general plans, new development, and existing developments, and recognize individual landowner/homeowner responsibilities.

- Foster a shared vision among communities and the multiple fire protection jurisdictions, including county-based plans and community-based plans such as Community Wildfire Protection Plans.
- Increase awareness and actions to improve fire resistance of human-made assets at risk and fire resilience of wildland environments through natural resource management.
- Integrate implementation of fire and vegetative fuels management practices consistent with the priorities of landowners or managers.
- Determine and seek the needed level of resources for fire prevention, natural resource management, fire suppression, and related services.
- Implement needed assessments and actions for post-fire protection and recovery.

### ***California Public Utilities Commission Decision 17-12-024***

To improve fire safety associated with electrical utility facilities, the California Public Utilities Commission's (CPUC) Safety and Enforcement Division adopted Decision 17-12-024, *Decision Adopting Regulations to Enhance Fire Safety in the High Fire-Threat District*. The decision mandated CPUC to prepare a statewide Fire-Threat Map to identify areas of the highest risk, where stricter fire safety regulations should be incorporated. The Fire-Threat Map divides such areas into Tier 1 (High), Tier 2 (Elevated), and Tier 3 (Extreme) Hazard Zones.

### **Regional and Local**

Construction of facilities for the production and transmission of electrical energy by a local agency like the Sacramento Municipal Utility District (SMUD) is exempt from county and city zoning and building ordinances (Government Code 53091(d, e)), except that for transmission projects equal to or greater than 100 kilovolts, a city or county may require such projects to undergo a consistency determination if so provided under a local ordinance. The County of Sacramento reviews projects pursuant to Section 3.6.6.A of the County Code to determine if project siting is consistent with the County General Plan. The City of Sacramento reviews projects pursuant to Section 17.288.500-17.288.550, Article V. High Voltage Transmission Facilities, of the City Code. SMUD considers the policies of local jurisdictions that are intended to reduce or avoid significant environmental impacts.

### ***SMUD 2019 Wildfire Mitigation Plan***

In 2019, SMUD published its WMP (SMUD 2019) in accordance with SB 901 Section 8387, which requires every publicly owned utility to prepare and present a WMP to a governing body by January 2020, and provide comprehensive revisions to the WMP every 3 years thereafter. SMUD makes every effort to construct, maintain and operate our electrical lines and equipment to minimize potential wildfire risk. The WMP describes

SMUD's wildfire prevention strategies and programs, some of which are Covered Activities, including vegetation management programs and inspection and maintenance programs, that SMUD is doing to mitigate the threat of power-line ignited wildfires. In addition, the WMP provides protocols for deactivating infrastructure in severe weather or hazard conditions, a strategy for how service will be restored in the event of a wildfire, and actions SMUD is taking to mitigate the threat of infrastructure-ignited wildfires, including a variety of plans, programs, and procedures. The WMP meets or exceeds the requirements of Public Utility Commission (PUC) section 8387 for publicly owned electric utilities.

### ***Sacramento County General Plan***

The *Sacramento County General Plan* (Sacramento County 2017) Safety, and Public Facilities Elements contain policies related to wildfire and fire protection. These include policies to prevent fire (Policies SA-23, SA-24, SA-25, PF-55), and emergency response (Policies SA-30, PF-59).

### ***Yolo County General Plan***

The *2030 Yolo Countywide General Plan* (Yolo County 2009) Health and Safety, and Public Facilities and Services Elements contain policies related to wildfire and fire protection. These elements include policies related to wildfire prevention (Policies HS-3.1, PF-5.2, PF-5.9) and emergency response (Policies HS-3.2, HS-3.3, HS-6.1).

### ***Placer County General Plan***

The *Placer County General Plan* (Placer County 2013) Health and Safety Element contains policies related to wildfire and fire protection. These policies include policies related to emergency response (Policies 8.C.7, 8.C.11, 8.E.1, 8.E.4, 8.E.6), and wildfire prevention (Policies 8.C.1, 8.C.2, 8.C.3, 8.C.4, 8.C.10).

### ***Amador County General Plan***

The *Amador County General Plan* (Amador County 2016) Safety Element contains policies related to wildfire and fire protection. These include policies related to wildfire prevention (Policies S-2.1, S-2.4, S-2.5) and emergency response (Policies S-3.1, S-3.2).

### ***San Joaquin General Plan***

The *San Joaquin County General Plan* (San Joaquin County 2016) Infrastructure and Services, and Public Health and Safety Elements contain policies related to fire prevention and emergency response. These include policies related to fire prevention (Policies IS-5.6, PHS-4.1, PHS-4.3, PHS-4.4, PHS-4.5) and emergency response (Policies PHS-1.8, PHS-1.10, PHS-4.6).

### ***City General Plans and Municipal Codes***

In addition to county general plans, the cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Galt, Rancho Cordova, Folsom, and Roseville all have general plan policies related to wildfire. Similar to the county general plans, these policies are related to wildfire prevention and emergency response. Furthermore, municipal codes include specifications on required fire breaks, such as maintaining defensible space within developed and undeveloped areas, as well as requirements for burn permits.

#### ***3.20.2 Environmental Setting***

##### **Wildland Fires**

The term wildfire refers to an unplanned, unwanted, wildland fire, including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to extinguish the fire (California Government Code 51177). Wildfire's characteristics depend on the circumstances where the fire is burning. Brush fires, which burn both natural vegetation and dry-farmed grain, typically burn fast and very hot, and often threaten homes in the area and lead to serious destruction of vegetation.

Short-term effects of wildfires include destruction of timber, and loss of wildlife habitat, scenic vistas, and watersheds, as well as immediate impacts on human health (e.g., wheezing, coughing, sore eyes and throat, shortness of breath) and loss of human life or injury. Long-term effects of wildfires include smaller timber harvests, reduced access to recreational areas, and destruction of community infrastructure and cultural or economic resources. Wildfires also increase the area's vulnerability to secondary impacts such as flooding, landslides, and increased runoff. Wildfire damage to life and property is generally greatest in areas designated as wildland-urban interface, where development is in close proximity to densely vegetated areas.

In addition, climate change is expected to contribute to significant changes in fire regimes. Fire is a natural component of many ecosystems and natural community types, including grasslands, chaparral/scrub, and oak woodland. For each of these natural communities, fire frequency and intensity influence community regeneration, composition, and extent. Wildfire frequency, size, and intensity are expected to increase over time throughout the state, including the Permit Area.

Within SMUD's geographical region and Permit Area, fire season extends from early spring through the late fall, due to the hot and dry nature of these months, frequent drought conditions, and natural community types that occur within these climates. Wildland fire hazards and urban structural fire hazards events are highly likely to occur within the Permit Area. There is a well-documented history of fire hazard events throughout the region near the Permit Area, and the Permit Area has an annual probability of greater than 1 fire event every year, or 81 to 100 percent probability of occurrence (SMUD 2018). In addition, open lands where much of SMUD's infrastructure is located also pose a risk due to grass fires. Furthermore, peat fires, although limited to the

relatively small Delta portion of SMUD's service area, where peat is subject to spontaneous combustion, is another type of fire that may occur, and is very difficult to control.

### **Fire Hazard Severity Zones**

As explained above in Section 3.20.1, *Regulatory Setting*, CAL FIRE identifies SRAs and LRAs, which are areas in which the state or local fire agencies, respectively, are responsible for wildfire management. However, because wildfires can rapidly spread across responsibility areas, local and state firefighting groups often work collaboratively to control wildland fires and fires within the urban-wildland interface. Land areas identified as SRAs and LRAs are divided into FHSZs, which include areas of Moderate, High, and Very High fire hazard risk.

While some portions of the Permit Area are divided into SRAs and LRAs, the majority of the Permit Area is not located within a Moderate, High, or Very High FHSZs, though such lands are present in generally isolated areas within the Permit Area. SRA- and LRA-designated Moderate, High, or Very High FHSZ areas within or in the vicinity of the Permit Area are described below and depicted in Figure 3.20-1.

- The eastern portion of Sacramento County south of U.S. Highway 50 and Alder Creek to the counties' eastern border with El Dorado County and Amador County is located in a Moderate FHSZ in an SRA
- An approximately 630-acre area east of Clay Station Road and north of Borden Road in Sacramento County is located in a Very High FHSZ in an SRA
- An approximately 340-acre area west of Clay Station Road and north of Borden Road in Sacramento County is located in a Very High FHSZ in an LRA
- The entire portion of Amador County bordering the Permit Area is a Moderate FHSZ in an SRA. Multiple portions of Amador County approximately 0.5–2 miles east of the Permit Area boundary are located in a Very High FHSZ in an SRA
- The entire portion of El Dorado County bordering the Permit Area is a Moderate FHSZ in an SRA. Some portions of El Dorado County approximately 1–2 miles east of the Permit Area are located in a Moderate FHSZ in an SRA.
- The northwestern portion of San Joaquin County east of Elliot Road, including the border with Sacramento County, is located in a Moderate FHSZ in an SRA.
- Isolated areas on the northern San Joaquin County border, including some areas adjacent to Sacramento County and other areas less than a mile from the county border, are located in a Moderate FHSZ in an LRA.
- Some isolated portions of Yolo County along the Sacramento River on the border with Sacramento County are located in a Moderate FHSZ in an LRA. The natural

gas pipeline right-of-way that extends through Yolo County crosses some isolated Moderate FHSZ lands in an LRA. The natural gas pipeline's western terminus borders a Moderate FHSZ in an SRA.

Though there is limited wildfire potential within FHSZs in and near the Permit Area, there have historically been few wildfires in the Sacramento area and its vicinity.

## **Emergency Response**

As explained in more detail in Section 3.9, *Hazards and Hazardous Materials*, emergency response for most of the Permit Area is under the jurisdiction of the Sacramento County Office of Emergency Services (OES). The OES provides emergency management services throughout the county in which it is located, in coordination with local cities, special districts, and fire and law enforcement. The OES prepares emergency and contingency plans including, but not limited to, evacuation plans and emergency operations plans, and provides resources necessary for first responders to protect the community in the event of an emergency, such as wildland fires or storm events. Yolo, Placer, Amador, and San Joaquin Counties all have their own OESs that provide coordinated emergency management.

In addition, SMUD regularly coordinates and communicates with safety agencies, as well as local and state agencies, for SMUD's version of an OES. SMUD primarily coordinates with the Placer County OES, as well as Yolo, Solano, and Yuba Counties on emergency response (SMUD 2019). Furthermore, SMUD maintains an Emergency Operations Center (EOC) to help coordinate real-time incident response and recovery from all emergencies, including those resulting from wildfire. SMUD's EOC is comprised of agency representatives from the City of Sacramento Fire Chief, Sac Metro Fire Battalion Chief, Folsom Fire Battalion Chief, local cities, Sacramento County OES, the National Weather Service, and other local infrastructure agencies.

### *3.20.3 Environmental Impacts and Mitigation Measures*

## **Methodology and Assumptions**

This analysis of the proposed HCP's effects related to wildfire is based on standard professional practice and the information resources cited herein. Effects were identified and evaluated qualitatively based on the environmental characteristics of the Permit Area and the magnitude and duration of activities related to the implementation of the proposed HCP.

As explained in Chapter 2, *Project Description*, the proposed Project considered in this environmental impact report (EIR) consists of:

- Issuance of take authorizations by the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS); and
- Implementation of the proposed HCP





USFWS' issuance of the federal ITP would authorize implementation of the proposed HCP and comply with the federal Endangered Species Act, and CDFW's issuance of the state take authorizations would comply with the California Endangered Species Act. SMUD's lead agency approval of the proposed Project implements the take authorizations and proposed HCP, but does not confer or imply discretionary approval by SMUD of implementation of any specific Covered Activity. As part of SMUD's standard environmental screening process, individual projects, including Covered Activities, will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis as required under the California Environmental Quality Act (CEQA), which can range from exemptions to EIRs.

Impacts associated with SMUD Nature Preserve Mitigation Bank (SMUD Bank) Oak Tree Planting (C1) and SMUD Bank Management (C2) were analyzed in the 2010 Initial Study and Mitigated Negative Declaration document for the Bank (SMUD 2010; SCH #2008022151), and will not be discussed in this document.

Section 3.0, *Introduction to the Analysis*, describes how it was determined which activities were considered to have the potential to result in a physical impact on the environment and which activities would result in a change in baseline, and therefore which activities are analyzed in the impact analysis sections of the EIR. Please refer to Section 2.3.3, *Conservation Strategy (Direct Actions)*, Section 2.3.4, *Covered Activities (Indirect Actions)*, and the summary in Table 2-10 for details. Significance determinations consider the implementation of applicable avoidance and minimization measures (AMM), which are incorporated into the design and specifications of each Covered Activity.

### **Thresholds of Significance**

Based on Appendix G of the State CEQA Guidelines, the proposed Project would result in a potentially significant impact related to wildfire if, in areas within or near SRAs or lands classified as Very High FHSZs, it would do the following.

- 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.

## Impact Analysis

As explained in Section 3.20.2, *Environmental Setting*, some portions of the Permit Area are divided into SRAs and LRAs, although the majority of the Permit Area is not located within Moderate, High, or Very High FHSZs. Areas that are located within Moderate, High, or Very High FHSZs are generally isolated within the Permit Area. Therefore, since wildfires may spread quickly in any direction based on conditions including wind and terrain, all thresholds of significance are included in the discussion below as part of a conservative analysis.

### ***Impact 3.20-1: Substantially impair an adopted emergency response plan or emergency evacuation plan***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would not involve a large number of personnel or equipment that would result in significant traffic delays on existing roads used to access the SMUD Bank and impairment of an adopted emergency response plan or evacuation plan. The existing roads used to access the SMUD Bank are located in more rural areas, free of heavy traffic, and would not result in disruptions to the transportation network. Therefore, existing emergency access or evacuation plans would be maintained, and there would be **no impact**.

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Each local jurisdiction in the Permit Area has policies, regulations, and zoning related to emergency response or emergency evacuation that would apply to construction of new facilities, and operation and maintenance (O&M) of existing facilities. Local regulations governing emergency response plans or emergency evacuation plans are typically related to interagency coordination, response time, and fire prevention strategies.

Generally, Covered Activities could result in short-term, temporary changes in emergency response or an emergency evacuation plan resulting from minor ground disturbance, and the presence of equipment, personnel, and supplies if individual Covered Activities were to occur within or adjacent to public roadway rights-of-way such that temporary lane closures, street closures, and obstructions to transportation ingress/egress for nearby properties would become a possibility, inadequate emergency response or impacts on evacuation plans could potentially occur if not properly planned or managed.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The SMUD Bank is located in a nonurbanized portion of Sacramento County. The activities that would occur at the SMUD Bank could result in short-term impacts on emergency plans, related to use of equipment and presence of personnel and minor ground-disturbing activities, such as planting. Any potential impacts on emergency response plans or emergency evacuation

plans resulting from these short-term activities would not be significant. In addition, these activities would not occur in a highly urbanized area or within portions of public rights-of-way, and therefore would not result in significant traffic delays on heavily trafficked arterial and collector roads that would affect emergency evacuation plans or emergency response plans. Therefore, the proposed Project would not conflict with any emergency response plans or emergency evacuation plans. There would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

O&M Covered Activities that would constitute a change from baseline conditions would include O&M activities for new facilities. O&M activities could result in short-term, temporary impacts on emergency response or emergency evacuation plans resulting from minor ground-disturbing activities, and the presence of equipment, personnel, and supplies. Activities that could result in temporary or short-term impacts on these emergency plans include O&M of new substations, new or realigned gas pipelines, new telecommunications towers, repair of new gas pipelines, repair and replacement of transformers, and trussing wooden poles (E6, E16, G10, T2, G5, and E9a/b). The primary impact on emergency response plans or emergency evacuation plans would be temporary and short-term traffic delays due to the temporary presence of crews and equipment conducting the aforementioned activities. As explained in Chapter 2, although O&M activities would temporarily increase a small number of personnel and traffic within the Permit Area, these activities are not expected to result in significant impacts on emergency response or evacuation plans because O&M activities would primarily involve continued maintenance of existing facilities, and maintenance of the new facilities would be similar to existing O&M activities and would not involve long-term changes that would alter, or significantly affect, emergency response plans or emergency evacuation plans within or near the Permit Area. In addition, any activities that involve work within the public right-of-way would be required to obtain an encroachment permit from the applicable jurisdiction (i.e., California Department of Transportation or City of Sacramento). As part of this encroachment permit application, SMUD would be required to prepare and implement a traffic control plan, which would require the provision of temporary traffic controls and maintenance of emergency access during construction. As a result, O&M activities would not interfere with emergency response or evacuation plans.

The installation of new facilities is addressed under *New Construction*, below.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include the construction of new substations and the expansion of existing substations, new telecommunication towers, gas pipeline realignment, and construction of new overhead subtransmission and distribution lines (E16, E15, T2, G9, G10, E13, and E14). Construction of new facilities may also require trenching and boring along existing or new gas pipelines or subtransmission and distribution line easements and creating temporary access roads. These would include new facilities that have the potential to result in

activities which may interfere with emergency response plans or emergency evacuation plans should temporary lane closures, street closures, or obstructions to transportation ingress/egress for nearby properties be required. Short-term activities related to new construction could result in temporary impacts on emergency plans similar to those described above for O&M activities. Long-term impacts on emergency response or evacuation plans could result from the installation of the new facilities. However, as described above, SMUD would be required to prepare and implement a traffic control plan. Therefore, the potential for new construction activities under the proposed HCP to result in inadequate emergency response or impact an emergency evacuation plan is low.

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, within pipeline easements, and around poles, as well as trimming, transplanting, and removing elderberry shrubs (V1, V2, V4, V6, V7, and V5). Vegetation removal would occur at SMUD facilities throughout the Permit Area, which would occur over short time periods, and along existing paved and unpaved access roads, and therefore would not result affect emergency evacuation plans or emergency response plans.

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the Cosumnes Power Plant (CPP) water pipeline, which would include installation of cathodic protection test stations, installation of a new pipeline valve, and replacement pipeline segments (M2a, M2b, and M2c). These activities are not expected to affect emergency response or evacuation plans since they would primarily involve continued maintenance of existing and new facilities. However, under some circumstances, SMUD might use public roads to access facilities (e.g., M2a Cathodic Protection Installation) using different construction vehicles or equipment which could affect emergency access or result in delays for emergency vehicles. As described above in Operation and Maintenance, SMUD would be required to prepare and implement a traffic control plan where encroachment permits would be required. In addition, these new facilities would be required to incorporate similar actions and measures to those listed in local regulations and policies pertaining to emergency response and evacuation. As required by these plans, wildfire prevention actions, such as vegetation clearance, and traffic control measures would be implemented to reduce impacts related to interference with emergency response plans or emergency evacuation plans. Further, miscellaneous Covered Activities are subject to future review and approval by SMUD, including environmental review required under CEQA. As a result, the potential for miscellaneous Covered Activities to interfere with emergency response or evacuations is low.

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Any short-term, adverse impacts on emergency response plans or emergency evacuation plans resulting from the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would not be substantial, and would be temporary in nature, as implementation of the Direct Action would not involve enough personnel or equipment to necessitate traffic delays on existing roads used to access SMUD's facilities and infrastructure. In addition, this activity would not occur in a highly urbanized area or within portions of public rights-of-way. Therefore, implementation of the Direct Action would not impair an adopted emergency response plan or emergency evacuation plan. There would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M Covered Activities, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term, temporary impacts on emergency response plans or emergency evacuation plans. New construction activities, specifically activities related to electrical facilities, natural gas transmission facilities, and telecommunications could potentially interfere with emergency response plans or emergency evacuation plans. However, the above-listed activities would not directly result in large-scale development that would substantially alter land use patterns and introduce large numbers of people to the area, and would be required to comply with all relevant regulations and plans provided by SMUD related to emergency response and evacuation. SMUD would also be required to prepare a traffic control plan for any work within the public right-of-way, which would include measures that require the provision of temporary traffic controls and maintenance of emergency access during construction. For these reasons it is unlikely that adverse effects on emergency response or evacuation would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review where required under CEQA, when an activity is proposed.

***Impact 3.20-2: 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***

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As described in Impact 3.20-1 above, the only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would involve temporary, small crews of workers to complete work at the SMUD Bank. Portions of the SMUD Bank where the Direct Action would occur would be located approximately 5 miles from Moderate, High, or Very High FHSZs, and could potentially expose workers to wildfire pollutant concentrations. However, current activities undertaken by state and local agencies, as well as SMUD, are expected to follow fire management goals and policies listed in local regulations, in order to minimize risk of wildfire. Compliance with these established goals, policies and requirements would reduce potential impacts related to wildfire risks and the pollutants associated with wildfire. In addition, long-term implementation and management associated with the Direct Action would ultimately reduce rather than exacerbate wildfire risk within the Permit Area and surrounding areas by decreasing the potential for wildfire as a result of increased vegetation management in areas within, or adjacent to, existing or new facilities. This impact would be **less than significant**.

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Covered Activities could have the potential to result in short-term, temporary impacts on construction crews or other workers from wildfire pollutant concentrations or wildfire risk resulting from minor ground-disturbance activities due to close proximity to high or moderate wildfire risk areas. Some Covered Activities, specifically those entailing new construction, could also potentially expose work crews to wildfire risk and wildfire pollutant concentrations.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. The Direct Action could potentially expose workers involved in activities such as invasive plant management, slender Orcutt grass inoculation, and monitoring of Orcutt grass enhancement and introduction, to wildfire risk or wildfire pollutant concentrations, as much of the Permit Area is located approximately 5 miles from moderate or high fire risk areas. However, as explained above, restoration activities would help to reduce wildfire risk through vegetation management and restoration, and consequently workers' exposure to wildfire pollutant concentrations. In addition, activities, both long term and short term, undertaken by SMUD would be required to adhere to all applicable fire and safety policies or regulations outlined in local regulations in order to prevent and reduce risk of wildfire, and exposure to wildfire pollutant concentrations. Therefore, there would not be any short-term or long-term potential for workers to be exposed to wildfire pollutant

concentrations or wildfire risk as a result of proposed HCP implementation. This impact would be **less than significant**.

### ***Indirect Actions***

#### Operation and Maintenance

As discussed under Impact 3.20-1 above, O&M of new facilities would constitute a change from baseline conditions. These O&M activities could result in the potential to temporarily expose small construction crews to wildfire risk and wildfire pollutant concentrations from short-term or temporary activities such as the O&M of new substations, new or realigned gas pipelines, new telecommunications towers, repair of new gas pipelines, repair and replacement of transformers, and trussing wooden poles (E6, E16, G10, T2, G5, and E9a/b). The primary activity that could result in the temporary exposure of workers to wildfire risk or wildfire pollutant concentrations, would be the short-term presence of small crews and equipment conducting the aforementioned activities, near moderate or high fire hazard areas. However, these activities are not expected to result in significant exposure of construction workers to wildfire risk and wildfire pollutant concentrations because O&M activities would primarily involve maintenance of the new facilities similar to existing O&M activities, which involve activities with low risk of wildfire, thereby low risk of exposure to pollutant concentrations. In addition, if a wildfire were to occur near O&M activities, the construction workers would cease work and leave the vicinity. Furthermore, these activities would be temporary and periodic in nature, and therefore would not involve long-term activities that would significantly increase the risk of exposing construction workers to wildfire pollutant concentrations and risk within or near the Permit Area. As a result, the potential for impacts associated with exacerbated fire risks and worker exposure associated with O&M activities is low. Implementation of AMMs in the HCP listed below and standard safety measures, especially those related to equipment use, would further minimize potential adverse effects related to worker exposure and exacerbated fire risk resulting from O&M activities.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM8 (Clean up any hazardous materials spills)

The installation of new facilities is addressed under *New Construction*, below.

#### New Construction

New construction activities that would constitute a change from baseline conditions would include new transmission substations and distribution substations, expansion of existing substations, new telecommunication towers, realignment of gas pipelines, and new overhead subtransmission and distribution lines (E16, E15, T2, G9, G10, E13, and E14). As described under Impact 3.20-1, new construction activities may include new or expanded facilities such as substations or result in changing the type of facility that is

currently present, and some vegetation clearing. Although most of the new construction activities would involve replacement or expansion of existing facilities within already utilized areas within the Permit Area consistent with current activities undertaken by SMUD, there is potential for new construction to occur in unutilized areas within the Permit Area that are near or adjacent to moderate or high fire hazard areas. Ultimately, the severity of the impact would be dependent upon the location and proximity of construction activities to moderate or high fire hazard areas near or adjacent to the Permit Area.

Impacts on construction crews are most likely to be more intense in areas immediately adjacent to moderate or high fire hazard areas. However, as mentioned above, most new or modified facilities would be small in scale, would be consistent with existing SMUD facilities, and would not result in extensive disturbance or substantial alterations involving prolonged exposure of construction workers to wildfire risk or pollutant concentrations. In addition, new construction activities, such as telecommunication towers and substations resulting in large new or expanded aboveground facilities in nonurbanized areas potentially located next to fire hazard areas, would be constructed within the footprint of one of the existing SMUD electrical transmission substations, or within a new transmission substation when it is constructed, thereby limiting exposure of construction workers to wildfire risk and pollutant concentrations. Furthermore, all construction activities would be required to adhere to all applicable fire and safety policies laid out in SMUD's WMP as well as other standard measures such as fuel reduction management and fire watch programs, in order to prevent and reduce risk of wildfire, and exposure to wildfire pollutant concentrations. Therefore, these activities would likely not result in the exposure of construction crews to wildfire risk and wildfire pollutant concentrations. In areas adjacent to or near high fire risk, implementation of AMMs in the HCP listed below and similar measures would further minimize potential adverse effects related to exacerbated wildfire risk and construction crews resulting from new construction.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM8 (Clean up any hazardous materials spills)

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, within pipeline easements, and around poles, as well as trimming, transplanting, and removing elderberry shrubs (V1, V2, V4, V6, V7, and V5). Vegetation removal would occur at SMUD facilities throughout the Permit Area, in areas adjacent to moderate or high fire hazard areas, and would occur over short time periods. However, vegetation management would ultimately reduce the risk of wildfire, and therefore would not result in significant impacts related to the exposure of workers to wildfire risk and wildfire pollutant concentrations. In addition, SMUD conducts aerial inspections of transmission lines and overhead subtransmission and distribution lines twice a year to identify areas of vegetation growth that may pose risk of wildfire, and then

employs vegetation management activities in these areas of high vegetation growth to prevent risk of wildfire from powerline-to-vegetation-ignited fire. As a result, the potential for impacts associated with exacerbated fire risks and worker exposure associated with O&M activities is low. Implementation of AMMs in the HCP listed below and standard measures would further minimize potential adverse effects related to worker exposure and exacerbated fire risk resulting from vegetation management.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM8 (Clean up any hazardous materials spills)

#### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the CPP water pipeline (M2a, M2b, and M2c). The new cathodic test stations, valve, and pipeline segments associated with the CPP water pipeline would be new industrial facilities surrounded by nonurbanized or unutilized areas. The activities proposed under miscellaneous activities also include O&M of these existing facilities. These activities could occur near, or adjacent to, moderate or high fire hazard areas.

However, these new facilities would be required to incorporate similar activities and measures to those listed in county general plans, and the city general plans and municipal codes related to safety and wildfire prevention. As required by these plans, wildfire prevention actions, such as vegetation clearance and routine inspection and maintenance, would be implemented to reduce impacts related to exposure of work crews to wildfire risk and wildfire pollutant concentrations. Therefore, construction of these new facilities is not expected to result in a substantial adverse effect related to the exposure of construction crews to wildfire risk or wildfire pollutant concentrations. Implementation of AMMs in the HCP listed below and standard measures would further minimize potential adverse effects related to worker exposure and exacerbated fire risk resulting from miscellaneous Covered Activities.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM8 (Clean up any hazardous materials spills)

#### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at

SMUD Bank activity could result in physical environmental effects. Any short-term, adverse impacts related to exposure of workers implementing this activity to wildfire risk and wildfire pollutant concentrations from the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would not be substantial, and would be temporary in nature. In addition, restoration activities would help to reduce wildfire risk through vegetation management and restoration, and consequently workers' exposure to wildfire pollutant concentrations. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M, new construction, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term, temporary impacts related to exposure of construction crews to wildfire risks and wildfire pollutant concentrations, depending on the location of these activities. However, any of the aforementioned Covered Activities would not directly result in large-scale development that would directly introduce long-term occupants to the Permit Area, and would be required to comply with all relevant policies outlined in SMUD's WMP related to safety and fire prevention in order to prevent wildfire risk and pollutant concentrations, specifically in areas that are near, or adjacent to, moderate or high fire hazard areas. Measures similar to those identified above, as refined during project-specific CEQA review, if required, could reduce impacts related to construction workers' exposure by minimizing the footprint and duration of work, utilizing all existing paved and unpaved vehicle access roads, and proper cleanup of any spilled hazardous or flammable material substances. For these reasons it is unlikely that adverse impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review, when required under CEQA, when an activity is proposed.

***Impact 3.20-3: 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***

The SMUD Bank are located approximately 5 miles from areas that are under both the responsibilities of SRAs and LRAs and have FHSZ designations that range from moderate to very high fire hazard severity. However, activities associated with the Direct Actions would not involve the installation or maintenance of any infrastructure, and therefore would not exacerbate fire risk or result in temporary or ongoing impacts on the environment. There would be **no impact**.

Generally, Covered Activities could have the potential to result in short-term, temporary impacts from the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment due to the presence of construction personnel, infrastructure, and equipment in close proximity to high or moderate wildfire risk areas. Some Covered Activities, specifically those entailing new construction, could also potentially exacerbate fire risk or result in temporary or ongoing impacts on the environment.

### ***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would not involve the installation or maintenance of any infrastructure, and therefore would not exacerbate fire risk or result in temporary or ongoing impacts on the environment. However, since the SMUD Bank is located within, or near, a fire hazard area, all activities would be required to adhere to all applicable fire and safety policies or regulations in order to reduce risk of wildfire, and not result in temporary or ongoing impacts on the environment. Therefore, there would not be any short-term or long-term potential for installation or maintenance of any infrastructure to exacerbate fire risk or result in ongoing or temporary impacts on the environment as a result of the Direct Action. There would be **no impact**.

### ***Indirect Actions***

#### Operation and Maintenance

As discussed in the impacts above, O&M of new facilities would constitute a change from baseline conditions. These O&M activities could result in the exacerbation of wildfire risk or ongoing temporary or long-term environmental impacts from short-term or temporary activities such as O&M of new substations, new or realigned gas pipelines, new telecommunications towers, repair of new gas pipelines, repair and replacement of transformers, and trussing wooden poles (E6, E16, G10, T2, G5, and E9a/b). The primary activity that could result in exacerbation of wildfire risk or temporary or ongoing environmental impacts would be O&M activities occurring near moderate or high fire hazard areas in the Permit Area. Although O&M activities could occur in areas at risk of fire, these activities are not expected to result in significant exacerbation of wildfire risk because O&M activities would be temporary and periodic in nature, and would primarily involve continued maintenance of existing facilities, which would reduce risk of wildfire within the Permit Area, as it would ensure that all infrastructure is properly maintained and managed. Implementation of AMMs in the HCP listed below and standard measures would further minimize potential adverse effects related to wildfire risk and temporary or ongoing environmental impacts resulting from O&M Covered Activities.

- G-AMM1 (Perform annual training for crews conducting Covered Activities to review all HCP AMMs and relevance)

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM8 (Clean up any hazardous materials spills)

The installation of new facilities is addressed under *New Construction*, below.

### New Construction

New construction activities that would constitute a change from baseline conditions would include construction of new transmission substations and distribution substations, expansion of existing substations, new telecommunication towers, realignment of gas pipelines, and new overhead subtransmission and distribution lines (E16, E15, T2, G9, G10, E13, and E14). As described under the impacts above, new construction activities may include new or expanded facilities such as substations, and removal of woody vegetation, if needed, for new and relocated line construction. Ultimately, the severity of the impact would be dependent upon the location and proximity of construction activities to moderate or high fire hazard areas near or adjacent to the Permit Area.

Fire risk and temporary or ongoing impacts on the environment as a result of installation or maintenance of associated infrastructure are most likely to be more intense in areas immediately adjacent to moderate or high fire hazard areas. However, as mentioned above, most new or modified facilities would be small in scale, would be consistent with existing SMUD facilities, and would not result in extensive disturbance or substantial alterations involving prolonged fire risk or impacts on the environment. In addition, new construction activities, such as those related to the transmission and distribution substations, that would result in large new or expanded aboveground facilities, could potentially be located next to fire hazard areas. However, these facilities would be constructed within the footprint of existing SMUD electrical transmission substations, or within a new transmission substation when it is constructed, thereby limiting fire risk and impacts on the environment. Furthermore, all construction activities would be required to adhere to all applicable fire and safety policies outlined in SMUD's WMP in order to reduce risk of fire and impacts on the environment from associated infrastructure. Therefore, these activities would not result in the increased wildfire risk or temporary or ongoing impacts on the environment. In areas adjacent to or near high fire risk, implementation of AMMs in the HCP listed below and similar measures would further minimize potential adverse effects related to wildfire risk and temporary or ongoing environmental impacts resulting from new construction.

- G-AMM1 (Perform annual training for crews conducting Covered Activities to review all HCP AMMs and relevance)
- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)

- G-AMM8 (Clean up any hazardous materials spills)

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, within pipeline easements, and around poles, as well as trimming, transplanting, and removing elderberry shrubs (V1, V2, V4, V6, V7, and V5). These activities would not directly involve activities associated with the installation or maintenance of any infrastructure, and therefore would not exacerbate fire risk or result in temporary or ongoing impacts to the environment. Implementation of AMMs in the HCP listed below and standard measures would further minimize potential adverse effects related to wildfire risk and temporary or ongoing environmental impacts resulting from vegetation management.

- G-AMM1 (Perform annual training for crews conducting Covered Activities to review all HCP AMMs and relevance)
- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM8 (Clean up any hazardous materials spills)

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the CPP water pipeline. These activities would include the installation of new cathodic test stations, a valve, and pipeline segments for the CPP water pipeline (M2a, M2b, and M2c). The activities proposed under miscellaneous Covered Activities also include O&M of these existing facilities. These activities could involve the maintenance and installation of infrastructure near, or adjacent to, moderate or high fire hazard areas. However, as described previously, SMUD would be required to comply with all applicable CAL FIRE and County fire and safety policies, and would implement standard SMUD measures related to perimeter vegetation management. As a result, the likelihood of substantial impacts related to fire risk and temporary or ongoing impacts on the environment resulting from Miscellaneous Covered Activities would be low. Implementation of AMMs in the HCP listed below and standard measures would further minimize potential adverse effects related to wildfire risk and temporary or ongoing environmental impacts resulting from Miscellaneous Covered Activities.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed areas)
- G-AMM8 (Clean up any hazardous materials spills)

## ***Conclusion***

### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This activity would not involve the installation or maintenance of any infrastructure, and therefore would not exacerbate fire risk or result in temporary or ongoing impacts on the environment. Therefore, there would be **no impact**.

### Mitigation Measures

No mitigation is required.

### Indirect Actions

O&M, new construction, vegetation management for new facilities, and Miscellaneous Covered Activities could result in short-term, temporary impacts related to fire risk and impacts on the environment as a result the installation or maintenance of associated infrastructure. New construction activities, specifically activities related to electrical facilities, natural gas transmission facilities, and telecommunications could potentially increase risk of fire and impacts on the environment, depending on the location of these activities. However, none of the aforementioned activities would directly or indirectly result in, or introduce, large-scale development that would substantially alter land use patterns and attract residents or jobs to the Permit Area thereby requiring further infrastructure beyond what is required under the proposed HCP. In addition, activities would be required to comply with all relevant policies related to safety and fire prevention in order to prevent fire risk and impacts on the environment, specifically in areas that are near, or adjacent to, moderate or high fire hazard areas. Furthermore, proposed maintenance activities of SMUD's infrastructure and facilities would reduce risk of wildfire and ensure that all facilities and infrastructure are properly maintained and managed.

Measures similar to those identified above, as refined during project-specific CEQA review, could reduce impacts related to fire risk and impacts on the environment by minimizing the footprint and duration of work, utilizing all existing paved and unpaved vehicle access roads, and proper cleanup of any spilled hazardous or flammable material substances. For these reasons it is unlikely that adverse impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment, location, and activity duration is not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review if required under CEQA, when an activity is proposed.

***Impact 3.20-4: 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***

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The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Implementation of this Direct Action would involve activities that could potentially expose people working to implement this activity to secondary wildfire impacts such as flooding (see Section 3.10, *Hydrology and Water Quality*), landslides (see Section 3.7, *Geology, Soils, and Paleontological Resources*), runoff, post-fire slope instability, and drainage changes. However, the SMUD Bank area where this Direct Action would occur would not be located within a flood zone (per Impact 3.10-4), and would not be susceptible to landslides as the topography is flat (per Impact 3.7-1). Furthermore, SMUD has maintained an EOC in times of extreme weather or natural disaster events, and are in continual coordination and contact with other local Offices of Emergency Services to help coordinate real-time incident response and recovery from all emergencies and disasters. Any risks would be minimized with adherence to applicable safety policies in order to minimize the exposure of people, specifically workers implementing this Direct Action, to these risks. This impact would be **less than significant**.

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As shown in Table 2-10 and Sections 2.3.3 and 2.3.4, and as discussed in Sections 3.10 and 3.7, Covered Activities could have the potential to result in short-term, temporary impacts related to the exposure of people, mainly workers, or structures to secondary wildfire impacts, such as landslide, landslides, runoff, or post-fire slope instability, from minor ground-disturbance activities due to varying topography throughout the Permit Area and proximity to wildfire risk areas. In addition, some Covered Activities, specifically those entailing new construction, could also potentially expose construction crews or structures to secondary wildfire impacts.

***Direct Actions***

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. This Direct Action would take place in an area that would not be located within a flood zone, and would not be susceptible to landslides due to the flat topography of the area. In addition, as detailed in Chapter 2, this Direct Action would result in long-term stabilization of the soil in the Permit Area and reduce the risk of exposure to secondary wildfire impacts by planting and restoring Orcutt grass. Therefore, there would not be any short-term or long-term potential for people and structures to be exposed to secondary wildfire impacts as a result of proposed HCP implementation. This impact would be **less than significant**.

## ***Indirect Actions***

### Operation and Maintenance

As discussed under Impact 3.20-1, O&M of new facilities would constitute a change from baseline conditions. These O&M activities could result in the potential exposure of people, mainly workers, or structures to secondary wildfire impacts from short-term or temporary activities such as O&M of new substations, new or realigned gas pipelines, new telecommunications towers, repair of new gas pipelines, repair and replacement of transformers, and trussing wooden poles (E6, E16, G10, T2, G5, and E9a/b). The primary activity that could result in short-term exposure of people to secondary wildfire impacts would be the temporary presence of crews and equipment conducting the aforementioned activities within varying topography or elevated terrain in proximity to wildfire risk areas. Although O&M activities would temporarily increase the number of personnel and equipment within the Permit Area, these activities are not expected to result in significant exposure of workers to secondary wildfire impacts, such as flooding and landslides, because O&M activities would primarily involve continued maintenance of existing facilities, and maintenance of the new facilities similar to existing O&M activities, and would not involve long-term activities that would significantly result in the exposure of workers to post-wildfire impacts within the Permit Area. In addition, these activities would be required to adhere to and implement SMUD's adopted mitigation strategies, safety restrictions, construction and design requirements, and all other strategies listed in SMUD's WMP to reduce the loss of life, personal injury, infrastructure, or facilities from geologic or hydrologic secondary wildfire impacts. Furthermore, SMUD's continued coordination with other local emergency services office during these activities would ensure that peoples' and structures' risk to secondary wildfire impacts would be minimized. Therefore, O&M Covered Activities are not expected to 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. Implementation of AMMs in the HCP listed below and standard measures would further minimize potential adverse effects on workers resulting from O&M Covered Activities.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed area)
- G-AMM6 (Implement standard erosion and sediment control best management practices [BMP] to prevent construction site runoff)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM13 (Cover stockpiled soil prior to precipitation events)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)

The installation of new facilities is addressed under *New Construction*, below.

### New Construction

As described under Impact 3.20-1, new construction activities may include new or expanded facilities such as substations or result in changing the type of facility that is currently present, and some vegetation clearing, which would constitute a change from baseline conditions (E16, E15, T2, G9, G10, E13, and E14). Although most of the new construction activities would primarily involve the expansion of existing facilities, with some relocation, within the Permit Area consistent with current activities undertaken by SMUD, there is potential for new construction to occur in areas within the Permit Area that are located within varying topography or elevated terrain in proximity to wildfire risk areas. Ultimately, the severity of the impact would be dependent upon the location and proximity of construction activities to steep terrain or varying topography and wildfire risk areas within the Permit Area.

Impacts on people, primarily construction workers, are most likely to be more intense in areas immediately adjacent to steep terrain and wildfire risk areas. However, as mentioned above, most new or modified facilities would be small in scale, would be consistent with existing SMUD facilities, and would not result in extensive disturbance or substantial alterations involving prolonged exposure of construction workers to secondary wildfire impacts such as flooding and landslides. In addition, new construction activities, such as those related to substations, which would result in large new or expanded aboveground facilities in nonutilized areas, potentially located next to, or on, elevated areas or wildfire risk areas, would be constructed within the footprint of one of the existing SMUD electrical transmission substations, or in a new transmission substation when it is constructed, thereby limiting exposure of construction workers to secondary wildfire impacts. Furthermore, all construction activities would be required to adhere to and implement SMUD's adopted mitigation strategies, safety restrictions, construction and design requirements, and all other strategies listed in SMUD's WMP to reduce the risk of people and structures exposure to secondary wildfire impacts. Therefore, these activities could not result in the exposure of construction crews to secondary wildfire risks, such as flooding, landslides, runoff, drainage changes, and post-fire slope instability. In areas adjacent or near elevated or varying terrain near fire risk areas, implementation of the AMMs in the HCP listed below and standard measures would further minimize potential adverse effects on workers resulting from new construction.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed area)
- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM13 (Cover stockpiled soil prior to precipitation events)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)

### Vegetation Management

Vegetation management activities that would constitute a change from baseline conditions would include tree and vegetation removal, trimming, and pruning around newly constructed facilities, within pipeline easements, and around poles, as well as trimming, transplanting, and removing elderberry shrubs (V1, V2, V4, V6, V7, and V5). Vegetation removal would occur at SMUD facilities throughout the Permit Area, in areas adjacent, or near, elevated terrain, near fire risk areas over short time periods. However, vegetation management would ultimately reduce the risk of wildfire, thereby reducing the risk of secondary wildfire impacts, and therefore would not result in significant impacts related to the exposure of people, mainly workers, or structures to secondary wildfire impacts. Furthermore, implementation of AMMs in the HCP listed below and standard measures would further minimize potential adverse effects related to worker exposure to secondary wildfire impacts resulting from vegetation management.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed area)
- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM13 (Cover stockpiled soil prior to precipitation events)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)

### Miscellaneous Covered Activities

Miscellaneous Covered Activities that would constitute a change from baseline conditions include minor O&M of the CPP water pipeline (M2a, M2b, and M2c). The new cathodic test stations, valve, and pipeline segments associated with the CPP water pipeline would be new industrial facilities surrounded by nonurbanized areas. The activities proposed under miscellaneous activities also include O&M of these existing facilities. These activities could occur near, or adjacent to, elevated or varying terrain near fire risk areas.

However, these new facilities would be required to adhere to all applicable mitigation strategies adopted by SMUD, safety restrictions, construction and design requirements, and all other strategies listed in SMUD's WMP, in order to reduce risk related to peoples', primarily construction crews, or structures exposure to secondary wildfire impacts, such as flooding or landslides. As required by these plans, secondary wildfire impact prevention actions, such as utilizing standard erosion and sediment control BMPs, and adhering to standard building code requirements, would be implemented to reduce impacts related to exposure of people or structures to secondary wildfire impacts. As a result, the potential for construction crews to be exposed to secondary wildfire impacts would be low. Implementation of AMMs in the HCP listed below and standard measures

would further minimize potential adverse effects related to worker exposure and secondary wildfire risk resulting from miscellaneous Covered Activities.

- G-AMM2 (Minimize work area footprint)
- G-AMM3 (Limiting access to previously disturbed area)
- G-AMM6 (Implement standard erosion and sediment control BMPs to prevent construction site runoff)
- G-AMM11 (Stabilize disturbed areas and remove temporary fill or debris)
- G-AMM13 (Cover stockpiled soil prior to precipitation events)
- G-AMM14 (Revegetate disturbed areas of 0.1 acre or more within modeled habitat)

### ***Conclusion***

#### Direct Actions

Issuance of the take authorizations and implementation of the proposed HCP would directly enable SMUD to implement the proposed Direct Actions; of these, only the Enhance Sacramento Orcutt Grass and Slender Orcutt Grass Introduction at SMUD Bank activity could result in physical environmental effects. Implementation of the Direct Actions would involve activities that could potentially expose people, mainly workers involved in activities such as invasive plant management, Orcutt grass inoculation, and monitoring of Orcutt grass enhancement and introduction, to secondary wildfire impacts such as flooding (see Section 3.10), landslides (see Section 3.7), runoff, post-fire slope instability, and drainage changes. However, the SMUD Bank area where the Direct Actions would occur would not be located within a flood zone (per Impact 3.10-4), and would not be susceptible to landslides as the topography is flat (per Impact 3.7-1). Furthermore, SMUD has maintained an EOC, and are in continual coordination and contact with other local Offices of Emergency Services to help coordinate real-time incident response and recovery from all emergencies and disasters. Any risks would be minimized with adherence to applicable safety policies in order to minimize the exposure of people, specifically workers implementing Direct Actions, to these risks. In addition, SMUD Bank enhancement and monitoring activities would ultimately result in the long-term stabilization of a portion of the Permit Area and would reduce the risk of secondary wildfire impacts. Therefore, this impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required.

#### Indirect Actions

O&M, new construction, vegetation management for new facilities, and miscellaneous Covered Activities could result in short-term, temporary impacts related to exposure of

people, primarily construction crews, or structures to secondary wildfire impacts. New construction activities, specifically activities related to electrical facilities, natural gas transmission facilities, and telecommunications could potentially increase exposure of construction crews to secondary wildfire impacts depending on the location of these activities. However, any of the aforementioned activities would be required to comply with all relevant SMUD strategies, mitigation, and plan policies related to fire, geologic, and hydrologic hazard safety and prevention in order to prevent secondary wildfire impacts, specifically in areas that are near, or adjacent to, elevated or varying terrain and wildfire risk areas. Furthermore, SMUD's continued coordination with other local emergency services office during these activities would ensure that peoples' and structures' risk to secondary wildfire impacts would be minimized.

Measures similar to those identified above, as refined as part of project-specific CEQA review, if required, could reduce impacts related to workers' exposure by minimizing the footprint and duration of work, utilizing all existing paved and unpaved vehicle access roads, utilizing standard erosion and sediment control BMPs, stabilizing disturbed areas, implementing soil management activities, and revegetating work areas. For these reasons it is unlikely that adverse impacts would occur. However, the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation because specific equipment and location are not known for each individual activity. Implementation of these Covered Activities would be subject to review and approval by SMUD, including environmental review where required under CEQA, when an activity is proposed.

## 4 Environmental Justice

### 4.1 Introduction

At present, there are no direct references to the evaluation of environmental justice (EJ) as an environmental topic in the Appendix G Environmental Checklist, the California Environmental Quality Act (CEQA) statute, or State CEQA Guidelines; however, requirements to evaluate inconsistencies with general, regional, or specific plans (State CEQA Guidelines 15125(d)) and determine whether there is a “conflict” with a “policy” “adopted for the purpose of avoiding or mitigating an environmental effect” (Environmental Checklist Section XI[b]) can implicate EJ policies. As additional cities and counties comply with Senate Bill (SB) 1000 (2016), which requires local jurisdictions to adopt EJ policies when two or more general plan elements are amended, environmental protection policies connected to EJ will become more common.

“Environmental Justice” is defined in 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 (California Government Code 30107.3(a)). “Fair treatment” can be defined as a condition under which “no group of people, including racial, ethnic, or socioeconomic group, shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies” (EPA 2011).

The Sacramento Municipal Utility District (SMUD) created the Sustainable Communities Initiative, which encompasses the framework of EJ, to help bring environmental equity and economic vitality to all communities in SMUD’s service area with special attention to historically underserved neighborhoods. The initiative focuses on the development of holistically sustainable neighborhoods through partnerships and collaboration. The goal of this effort is to ensure the advancement of prosperity in the Sacramento region regardless of ZIP code or socioeconomic status by focusing on equitable access to mobility, a prosperous economy, a healthy environment, and social well-being. To support the initiative, SMUD teams are working internally and with community partners to improve equitable access to healthy neighborhood environments, energy efficiency programs and services, environmentally friendly transit modes (including electric vehicles), and energy-related workforce development and economic development prospects. To the extent these goals seek to avoid environmental impacts affecting vulnerable communities, the State CEQA Guidelines already require consideration of whether a proposed project may conflict with goals that support sustainable communities. The analysis in this chapter has been provided by SMUD, as a proactive evaluation in excess of CEQA requirements, to identify any localized existing conditions to which the Project, as proposed, may worsen adverse conditions and negatively affect the local community and identifies the need for additional site or local considerations, where necessary. EJ issues are being considered in this CEQA document to help inform decision makers about whether the proposed Project supports SMUD’s goal of helping to advance EJ and economic vitality to all

communities in SMUD's service area with special attention to historically underserved neighborhoods.

## 4.2 Regulatory Context

California legislation, state agency programs, and guidance have been issued in recent years that aim to more comprehensively address EJ issues, including SB 1000 (2016), SB 535 (2012) and Assembly Bill (AB) 1550 (2016), AB 617 (2017), the California Department of Justice Bureau of Environmental Justice, the California Communities Environmental Health Screening Tool (CalEnviroScreen), and the Governor's Office of Planning and Research's (OPR's) 2020 General Plan Guidelines, Environmental Justice Element. In particular, SB 1000 has provided an impetus to more broadly address EJ; coupled with the existing requirements of CEQA, it is now time to elevate the coverage of significant environmental impacts in the context of EJ in environmental documents. These other bills have also provided the necessary policy direction to address EJ under CEQA.

### 4.2.1 *Senate Bill 1000*

SB 1000, which was enacted in 2016, amended California Government Code Section 65302 to require that general plans include an EJ element or EJ-related goals, policies, and objectives in other elements of general plans with respect to disadvantaged communities (DACs) beginning in 2018. The EJ policies are required when a city or county adopts or revises two or more general plan elements and the city or county contains a DAC. EJ-related policies must aim to reduce the disproportionate health risks in DACs, promote civic engagement in the public decision-making process, and prioritize improvements that address the needs of DACs (Government Code 65302(h)). Policies should focus on improving the health and overall well-being of vulnerable and at-risk communities through reductions in pollution exposure, increased access to healthy foods and homes, improved air quality, and increased physical activity.

### 4.2.2 *Senate Bill 535 and Assembly Bill 1550*

Authorized by the California Global Warming Solutions Act of 2006 (AB 32), the cap-and-trade program is one of several strategies that California uses to reduce greenhouse gases (GHGs) that cause climate change. The state's portion of the cap-and-trade auction proceeds are deposited in the Greenhouse Gas Reduction Fund (GGRF) and used to further the objectives of AB 32. In 2012, the California Legislature passed SB 535 (de Leon), directing that 25 percent of the proceeds from the GGRF go to projects that provide a benefit to DACs. In 2016, the legislature passed AB 1550 (Gomez), which now requires that 25 percent of proceeds from the GGRF be spent on projects located in DACs. The law requires the investment plan to allocate (1) a minimum of 25 percent of the available moneys in the fund to projects located within and benefiting individuals living in DACs; (2) an additional minimum of 5 percent to projects that benefit low-income households or to projects located within, and benefiting individuals living in, low-income communities located anywhere in the state; and (3) an additional minimum of 5 percent either to projects that benefit low-income households that are outside of, but within 0.5

mile of, DACs, or to projects located within the boundaries of, and benefiting individuals living in, low-income communities that are outside of, but within 0.5 mile of, DACs.

#### 4.2.3 *Assembly Bill 617*

AB 617 of 2017 aims to protect air quality and public health in communities around industries subject to the state's cap-and-trade program for GHG emissions. AB 617 imposes a new state-mandated local program to address nonvehicular sources (e.g., refineries, manufacturing facilities) of criteria air pollutants and toxic air contaminants. The bill requires the California Air Resources Board (CARB) to identify high-pollution areas and directs air districts to focus air quality improvement efforts through the adoption of community emission reduction programs in these identified areas. Currently, air districts review individual stationary sources and impose emissions limits on emitters based on best available control technology, pollutant type, and proximity to nearby existing land uses. This bill addresses the cumulative and additive nature of air pollutant health effects by requiring communitywide air quality assessment and emission reduction planning, called a community risk reduction plan in some jurisdictions. CARB has developed a statewide blueprint that outlines the process for identifying affected communities, statewide strategies to reduce emissions of criteria air pollutants and toxic air contaminants, and criteria for developing community emissions reduction programs and community air monitoring plans.

#### 4.2.4 *California Department of Justice's Bureau of Environmental Justice*

In February 2018, California Attorney General Xavier Becerra announced the establishment of a Bureau of Environmental Justice within the Environmental Section at the California Department of Justice. The purpose of the bureau is to enforce environmental laws, including CEQA, to protect communities disproportionately burdened by pollution and contamination. The bureau accomplishes this through oversight and investigation and by using the law enforcement powers of the Attorney General's Office to identify and pursue matters affecting vulnerable communities.

In 2012, then Attorney General Kamala Harris published a fact sheet titled, "Environmental Justice at the Local and Regional Level," highlighting existing provisions in the California Government Code and CEQA principles that provide for the consideration of EJ in local planning efforts and CEQA. Attorney General Becerra cites the fact sheet on his web page, indicating its continued relevance.

#### 4.2.5 *California Communities Environmental Health Screening Tool*

CalEnviroScreen is a mapping tool developed by the Office of Environmental Health Hazards Assessment to identify low-income census tracts in California that are disproportionately burdened by and vulnerable to multiple sources of pollution. It uses environmental, health, and socioeconomic information based on datasets available from state and federal government sources to produce scores for every census tract in the state. Scores are generated using 20 statewide indicators that fall into four categories: exposures, environmental effects, sensitive populations, and socioeconomic factors. The

exposures and environmental effects categories characterize the pollution burden that a community faces, whereas the sensitive populations and socioeconomic factors categories define population characteristics.

CalEnviroScreen prioritizes census tracts based on their combined pollution burden and population characteristics score, from low to high. A percentile for the overall score is then calculated from the ordered values. The California Environmental Protection Agency has designated the highest-scoring 25 percent of tracts in CalEnviroScreen (i.e., those that fall in or above the 75th percentile) as DACs, which are targeted for investment proceeds under SB 535, the state's cap-and-trade program.

#### 4.2.6 *Governor's Office of Planning and Research 2020 Updated Environmental Justice Element Guidelines*

OPR published updated General Plan Guidelines in June 2020 that include revised EJ guidance in response to SB 1000. OPR has also published example policy language in an appendix document along with several case studies to highlight EJ-related policies and initiatives that can be considered by other jurisdictions. Section 4.8 of the General Plan Guidelines contains the EJ guidance. The guidelines offer recommendations for identifying vulnerable communities and reducing pollution exposure related to health conditions, air quality, project siting, water quality, and land use compatibility related to industrial and large-scale agricultural operations, childcare facilities, and schools, among other things. It provides many useful resources, including links to research, tools, reports, and sample general plans.

### 4.3 Sensitivity of Project Location

#### 4.3.1 *Community Description*

As part of its Sustainable Communities Initiative, SMUD created and maintains the Sustainable Communities Resource Priorities Map,<sup>1</sup> which reflects several datasets related to community attributes that SMUD uses to identify historically underserved communities. One of the key components of the map is CalEnviroScreen Version 3.0, which identifies communities facing socioeconomic disadvantages or health disadvantages such as multiple sources of pollution. The Sustainable Communities Resource Priorities Map provides an analysis of current datasets to indicate areas ranging from low to high sensitivity. This map analyzes current data to indicate the local areas most likely to be underserved or in distress from environmental burdens, lack of community development, income, housing, employment opportunities, transportation, and more.

As described in Chapter 2, *Project Description*, this environmental impact report (EIR) discloses and analyzes the potential direct and reasonably foreseeable environmental

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<sup>1</sup> The Sustainable Communities Resource Priorities Map is available at [https://usage.smud.org/SustainableCommunities/?\\_ga=2.223364443.1927542179.1598288052-1197903775.1589235097](https://usage.smud.org/SustainableCommunities/?_ga=2.223364443.1927542179.1598288052-1197903775.1589235097).

effects caused by SMUD's Conservation Strategy (Direct Actions) and Covered Activities (Indirect Actions) that will result with issuance of the incidental take permits and implementation of the *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP).

The only element of the Conservation Strategy that would result in any physical environmental changes is the Enhance Sacramento Orcutt Population and Slender Orcutt Grass Introduction at the SMUD Nature Preserve Mitigation Bank (SMUD Bank). The SMUD Bank is located in the southern portion of the Permit Area. Per SMUD's Sustainable Communities Resource Priorities Map, the SMUD Bank is located in a low sensitivity area (SMUD 2020). The area does not have key socioeconomic and pollution indicators, indicating the area is not likely to be underserved or in distress from lack of community development, income, housing, employment opportunities, transportation, medical treatment, nutrition, education and a clean environment. In addition, the CalEnviroScreen analysis indicates the census tract where the SMUD Bank is located is not burdened by pollution from multiple sources or have a population that is most vulnerable to pollution sources.

The Covered Activities would occur throughout the approximately 577,554-acre Permit Area, which encompasses SMUD's facilities within its service territory that is primarily Sacramento County and a small portion of Placer County. In addition, the Permit Area includes portions of Yolo, Amador, and San Joaquin Counties where SMUD facilities exist. In general areas identified as having a high sensitivity on the Sustainable Communities Resource Priorities Map area are downtown Sacramento, northeast of downtown Sacramento/Del Paso Heights, and southeast of downtown Sacramento/Fruitridge. The Sustainable Communities Resource Priorities Map does not extend to neighboring counties that are also included in the Permit Area. The areas within the Permit Area with a CalEnviroScreen highest score, which indicates areas with high pollution burdens and/or community characteristics that can result in increased vulnerability to pollution, include the areas mentioned above plus areas along on the Interstate 80 corridor, including Foothill Farms and North Highlands, and areas along the U.S. Highway 50 corridor, including Oak Park and portions of Rancho Cordova.

#### 4.4 Environmental Conditions and Evaluation of the Proposed Project's Contribution to a Community's Sensitivity

This discussion references the analysis conducted in the EIR with respect to the current environmental conditions within the Permit Area, which encompasses both where the Direct Action (Enhance Sacramento Orcutt Population and Slender Orcutt Grass Introduction at the SMUD Bank) would take place and potential locations of the Indirect Actions (Covered Activities). While the detailed potential environmental effects of these Indirect Actions related to proposed HCP implementation cannot be specifically known or analyzed at this time without speculation, these Covered Activities would be subject to review and approval by SMUD, including environmental review when an activity is proposed.

In addition, this section describes the proposed Project's potential contributions, if any, to the community's current sensitivity, including increasing environmental burdens, socioeconomic conditions, and public health concerns for communities within the Permit Area.

- **Aesthetics:** The Permit Area and vicinity are within California's Central Valley, at the southern end of the Sacramento Valley. Views within the valley region are generally characterized by broad sweeping panoramas of flat agricultural lands and open space dotted with trees, divided by numerous rivers and creeks, and populated with scattered towns and cities. The Permit Area encompasses diverse existing land cover types, including urban land covers, grasses and forbs, cropland, woodlands, and different aquatic features. There are no designated scenic vistas within the Permit Area. The Direct Action would result in negligible temporary changes in views resulting from the presence of vehicles and personnel. Any short-term, adverse visual change resulting from Orcutt grass enhancement and introduction at the SMUD Bank would not be substantial. Moreover, these activities could improve quality of views in the long term. Indirect Actions could result in short-term, temporary changes in visual character or public views as well as minimal increases in light and glare during construction activities. These potential impacts are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Agricultural and Forestry Resources:** Agricultural resources throughout the Permit Area are varied and include farms, vineyards, and orchards of all sizes as well as grazing, equestrian, ranching, and other related uses. Agricultural Zones make up a total of 314,149 acres within the Permit Area. The Direct Action would not affect agricultural and forestry resources, and it would not convert farmland or conflict with a Williamson Act contract. Indirect Actions such as new construction could result in conversion of farmland to nonagricultural use or conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. These potential impacts are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Air Quality:** The Permit Area is in the Sacramento Valley Air Basin, which is a relatively flat area bordered by the north Coast Ranges to the west and the northern Sierra Nevada to the east. Criteria air pollutants in the Sacramento Valley Air Basin include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, respirable particulate matter with aerodynamic diameter of 10 micrometers or less (PM<sub>10</sub>), fine particulate matter with aerodynamic diameter of 2.5 micrometers or less (PM<sub>2.5</sub>), and lead. However, ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> are the criteria air pollutants of primary concern in this analysis due to their nonattainment status. The Direct Action would primarily require hand tools with exception of vehicles to travel to the work areas within the SMUD Bank. Use of vehicles and construction equipment would result in emissions of pollutants including diesel exhaust, although these emissions would be transient and periodic. Indirect Actions could result in temporary emissions of criteria pollutants, fugitive PM<sub>10</sub>, and PM<sub>2.5</sub> dust.

Based on the periodic nature of these emissions and measures that could reduce impacts, these potential impacts are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area. Furthermore, during the Permit Term SMUD will be improving air quality and creating a better, cleaner environment by providing carbon-free energy and eliminating 100 percent of GHG emissions from electric generation as part of SMUD's 2030 Zero Carbon Plan.

- **Biological Resources:** The Direct and Indirect Actions would have impacts on biological resources, including Covered Species and non-covered species. The impacts on each Covered Species were estimated and quantified in the HCP (Appendix B). The HCP Conservation Strategy was built on the goals and objectives of avoidance, minimization, and mitigation designed to fully offset impacts from Indirect Actions to the maximum extent practicable. Potential impacts of Indirect Actions on non-covered species would be avoided or minimized during HCP implementation by conducting environmental review and screening, and then implementing measures such as preconstruction surveys and biological monitoring to avoid and minimize effects from Covered Species. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Cultural Resources:** The Direct Action would involve invasive plant management, which could involve ground-disturbing activities such as removal of underground plant roots that could result in the destruction or adverse change in the significance of an unknown unique archaeological resource. In addition, the ground-disturbing activities could have the potential to disturb human remains at the SMUD Bank. As result, mitigation measures will be implemented during the Direct Action to reduce the impacts. Indirect Actions have the potential to affect cultural resources. Standard measures would be implemented to minimize these effects. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Energy:** SMUD is the primary electrical provider in the Permit Area. In 2020, SMUD's power supply was more than 60 percent carbon free. SMUD offers the Greenergy program, which offers electricity generated with 100 percent renewable and carbon-free resources. For decades, SMUD has been a leader in clean energy and carbon reduction. Now SMUD has a new bold vision to make Sacramento a cleaner and healthier region. The 2030 Zero Carbon Plan is SMUD's strategy to achieve that goal. SMUD's goal to eliminate carbon emissions from their power supply by 2030 is more ambitious than already aggressive state mandates and is ahead of virtually all other utilities in the United States. SMUD's 2030 Zero Carbon Plan is a flexible road map to achieve the zero carbon goal while ensuring all customers and communities SMUD serves reap the benefits of decarbonization. The Direct Action would result in short-term limited energy usage from the use of vehicles. However, the majority of the Direct Action would use non-motorized equipment requiring no energy use. Indirect Actions could result in short-term, temporary increases in energy consumption through use of vehicles and

construction equipment. Measures could minimize the amount of energy consumed so it is unlikely that adverse energy impacts would occur in the form of wasteful, inefficient, or unnecessary consumption of energy resources. SMUD is committed to environmental stewardship, and through its 2030 Zero Carbon Plan would substantially increase both renewable energy and energy efficiency. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.

- **Geology, Soils and Paleontological Resources:** The Permit Area is situated within two physiographic regions: the Sierra Nevada foothills and the lower Sacramento Valley. The Permit Area lies in a seismically active area, but no known faults traverse the Permit Area. The risk of erodibility by water is primarily a “Slight” risk in the Permit Area, but there are areas of “Moderate” to “Severe” risk. There are several geologic units in the Permit Area with paleontological sensitivity related to history of yielding fossils. The Direct Action would involve minor ground-disturbing activities that would be unlikely to lead to soil erosion or loss of topsoil and avoidance and minimization measures (AMM) would minimize erosion. The Direct Action could affect unique paleontological resources that these activities may unearth. However, because the area that would be disturbed for planting is both shallow and small, the likelihood of encountering significant fossils is likewise small and AMMs would further minimize effects. Indirect Directs could potentially lead to erosion, loss of topsoil, and damage or destruction of significant paleontological resources, though measures could reduce potential impacts. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Greenhouse Gas Emissions:** Climate change is a global problem. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. The Direct Action implemented at the SMUD Bank would result in GHG emissions. Emissions would be less than the Operational Screening Levels in Sacramento Metropolitan Air Quality Management District’s CEQA Guide and would be similar to those associated with projects that are typically exempt. Use of vehicles and construction equipment would result in emissions of pollutants including diesel exhaust, although these emissions would be transient and periodic. The Permit Area would likely be subject to increased heat stress from climate change during the 30-year Permit Term, which could potentially result in climate change vulnerabilities to the entire Permit Area, including those areas identified as high sensitivity on SMUD’s Sustainable Communities Resource Priorities Map. During the Permit Term SMUD will be improving air quality and reducing GHG emissions by providing carbon-free energy and eliminating 100 percent of GHG emissions from electric generation as part of SMUD’s 2030 Zero Carbon Plan. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.

- **Hazards and Hazardous Materials:** The Permit Area has a substantial number of industries and activities that transport, store, or use toxic or hazardous chemicals, posing significant potential safety hazards. There are two leaking underground storage tank sites within 0.5 mile of the SMUD Bank where the Direct Action would take place. Both sites are listed as “completed – case closed”. Other potential hazards in the Permit Area consist of public and private airports and fire-related hazards. Portions of the SMUD Bank have Fire Hazard Severity Zone designations that range from moderate to very high fire hazard severity. The Direct Action would not create a hazard to the public or expose people or structures to wildland fires. The Direct Action is expected to follow fire management goals and policies set forth by the Sacramento County General Plan. Indirect Actions could result in exposing people to wildland fire risks; however, by following fire and safety policies and measures the risks for wildfire would be reduced. Indirect Actions could result the inadvertent release or spills of hazardous materials described above. However, compliance with regulations enforced by the Certified Unified Program Agency and California Division of Occupational Safety and Health and standard measures generally implemented by SMUD would minimize these effects. SMUD would actively decrease the potential for wildland fire in the Permit Area by implementing two Covered Activities—Rancho Seco property operation and maintenance (M3), which includes maintaining fire breaks at the Rancho Seco 2,400-acre property and pole vegetation clearing (V6), which entails firebreak clearances around poles. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Hydrology and Water Quality:** The Permit Area contains many major waterways including, but not limited to the Sacramento, American, Mokelumne, and Cosumnes Rivers. Urbanization of the Central Valley has reduced the quality of surface water as a result of wastewater and industrial discharges, loss of wetlands, widespread stream modification for flood control projects and urban development, sedimentation from construction activities, and contamination from pollutants. The Direct Action would have no impact on hydrology and water quality. The Indirect Actions could result in localized short- and long-term impacts on water quality due to soil disturbance, water movement, and the addition of impervious areas for new construction Covered Activities. Compliance with local and state requirements and regulations would minimize impacts and it is unlikely adverse water quality impacts would occur. The potential impacts from the Indirect Directs are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Land Use:** The Permit Area and vicinity are within California’s Central Valley, at the southern end of the Sacramento Valley. Urban areas are concentrated in the center and northern portions of the Permit Area and include the cities of Sacramento, Elk Grove, and Rancho Cordova. Lands surrounding the SMUD Bank consist mostly of grazed annual grasslands with large vernal pool complexes. Adjacent developed areas include the decommissioned Rancho Seco Nuclear

Generating Station (shut down in 1989), the Cosumnes Power Plant, the Rancho Seco solar installation, Rancho Seco Lake and associated recreational facilities, and the Amanda Blake Memorial Wildlife Refuge. The Direct Action would have no impact on land use and planning in the Permit Area. New construction Covered Activities could result in short-term impacts related to constricted access, but these construction-related impacts could not physically divide an established community. The potential impacts from the Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.

- **Mineral Resources:** The Permit Area has been a valuable source of mineral resources dating back to 1848, when gold was discovered in El Dorado County. A large variety of minerals have been mined within the Permit Area, including precious metals and construction aggregates. The highest concentration of mineral resource mining has been in the northeastern portion of the Permit Area, south of the cities of Folsom and Orangevale, closely followed by a concentration south of Rancho Murieta, near the Amador County border. The Direct Action would not affect mineral resources. Some Indirect Actions could affect mineral resources, including the placement of structures in areas potentially underlain by mineral resources identified on a local general plan, specific plan, or other land use plan, as well as the excavation of areas. The potential impacts from the Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Noise:** Noise sources in the Permit Area include traffic noise, rail noise, aircraft noise, construction noise, and a variety of industrial and other non-transportation noise sources. No noise-sensitive receptors exist at the SMUD Bank. The Direct Action could result in short-term noise from the use of vehicles. However, the activity would be more than 1,000 feet from any existing sensitive receptor. Indirect Actions could result in varying degrees of noise exposure during the Permit Term, though adverse impacts from noise are unlikely to occur. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Population and Housing:** The Permit Area is largely made up of a portion of Sacramento County but also encompasses smaller segments of Placer, Yolo, Amador, and San Joaquin Counties. SMUD's service area covers a population of approximately 1.5 million people, and SMUD employs almost 2,300 people. The Direct Action would be implemented within the SMUD Bank, where there are no people or housing; therefore, it would not affect population and housing. Indirect Actions would not displace people or housing, although they could result in temporary relocation of people to the construction area to staff projects. The potential impacts from the Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Public Services:** Public services such as police and fire protection are available throughout the Permit Area. The Direct Action would not affect public services

because it would not result in a population increase. Indirect Actions could result in temporary relocation of people to the construction area to staff projects, but not at a level that would require the need for new physical facilities for public services. The potential impacts from the Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.

- **Recreation:** The Rancho Seco Recreational Area, also known as the Rancho Seco Recreational Park, is surrounded on three sides by the SMUD Bank. The SMUD Bank is where the Direct Action would be implemented. The Direct Action would not affect recreation at the adjacent Rancho Seco Recreational Area or the SMUD Bank. None of the Indirect Actions would result in any short-term or long-term unplanned growth that would result in the substantial deterioration of recreation facilities. For these reasons it is unlikely that adverse impacts on recreation would occur. The potential impacts from the Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Transportation:** The three basic types of roadways in the Permit Area include interstate highways, state routes, and local roadways. Public transit service is provided by various agencies throughout the Permit Area. Local and regional transit organizations offer a variety of transit options, including buses and light rail. The Direct Action would generate minimal new vehicle trips to and from the SMUD Bank for a limited period of time. No transit, bicycle, or pedestrian facilities, including existing trails as the SMUD Bank, would be altered. The Indirect Actions could have temporary and localized transportation and emergency access impacts. The Indirect Actions would not require the permanent alteration of transit, bicycle, or pedestrian facilities or increase the demand of these facilities. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Tribal Cultural Resources:** Tribal cultural resources were identified at the SMUD Bank, but it was determined that the Direct Action would not affect the identified resources. Mitigation measures are included for inadvertent discoveries. The Indirect Actions could cause a substantial adverse change in the significance of a tribal cultural resource. Standard measures generally implemented by SMUD would minimize these effects. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.
- **Utilities:** Water, wastewater, solid waste and energy demands within the Permit Area are met through a variety of cities, counties, departments, agencies, and special districts that serve the Permit Area. The Direct Action would not adversely affect provision of utilities, and no interruption or reduction in service capacity would occur. Indirect Actions would result in singular, short-term generation of solid waste, although it is reasonably expected that the Indirect Actions would not generate solid waste in exceedance of state or local standards or in excess of the

capacity of local infrastructure, or other impediment to the attainment of solid waste reduction goals. For these reasons it is unlikely that adverse solid waste impacts would occur. The potential impacts from the Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.

- **Wildfire:** Within the Permit Area, fire season extends from early spring through the late fall, due to the hot and dry nature of these months, frequent drought conditions, and natural community types that occur within these climates. Most of the Permit Area is not located within a Fire Hazard Severity Zone; however, portions of the SMUD Bank are located near, or adjacent to, areas that have Fire Hazard Severity Zone designations that range from moderate to very high fire hazard severity. The Direct Action would not involve the installation or maintenance of any infrastructure, and therefore would not exacerbate fire risk. Indirect Actions could result in short-term, temporary impacts related to fire risk and impacts on the environment as a result of the Covered Activities that would require installation or maintenance of electrical, gas and/or telecommunications infrastructure. New construction activities, specifically activities related to electrical facilities, natural gas transmission facilities, and telecommunications could potentially increase risk of fire and impacts on the environment, depending on the location of these activities. Indirect Actions would be required to comply with all relevant policies related to safety and fire prevention in order to prevent fire risk and impacts on the environment, specifically in areas that are near or adjacent to Moderate or High Fire Hazard Severity Zones. Furthermore, proposed maintenance activities of SMUD's infrastructure and facilities would reduce risk of wildfire and ensure that all facilities and infrastructure are properly maintained and managed. The potential impacts from Direct and Indirect Actions are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area.

#### 4.5 Summary of Environmental Justice Assessment

The Direct Action (Enhance Sacramento Orcutt Grass and Slender Orcutt Grass Introduction at the SMUD Bank) would take place at the SMUD Bank, which does not have existing EJ conditions. The Direct Action would not worsen the current sensitivity of the area, but rather the Direct Action would benefit the environmental conditions by supporting and encouraging biodiversity at the SMUD Bank.

The Indirect Actions would occur in the Permit Area, which has varying existing environmental conditions. As described in Section 4.2, *Regulatory Context*, there are areas within the Permit Area which were identified as having a high sensitivity on the Sustainable Communities Resource Priorities Map due to high pollution burdens and/or community characteristics that can result in increased vulnerability to pollution. However, the Indirect Actions would not add to the existing pollution burden or worsen socioeconomic factors and are not expected to result in a contribution to the current sensitivity of the communities within the Permit Area. The HCP has been designed to

conserve (avoid, minimize and mitigate impacts on) Covered Species that may be affected by specific Indirect Actions within the Permit Area.

The proposed Project does not have the potential to create or worsen potential EJ conditions. Although the proposed Project would not create or contribute to potential EJ conditions, as a leader in building healthy communities, one of SMUD's Sustainable Communities goals is to help bring environmental equity and economic vitality to all communities. Below is a summary of three partnerships to help achieve those goals. By investing in underserved neighborhoods and working with community partners, SMUD is part of a larger regional mission to deliver energy, health, housing, transportation, education, and economic development solutions to support sustainable communities.

- The Sacramento Neighborhoods Activating on Air Quality (SNAAQ) project will empower community residents, business owners, and educational institutions in vulnerable Sacramento communities to identify solutions for achieving cleaner air and to take ownership of the environmental decision-making processes that affect neighborhoods. The SNAAQ team, comprised of Valley Vision, GreenTech, and Civic Thread (formerly WalkSacramento) will engage residents throughout the project through an iterative process that culminates in the development of a community-informed and data-driven action plan for improving local air quality and quality of life.
- BreatheCA's Clean Air For All (Grades 6–8): Clean Air For All is made of five lessons and a variety of hands-on activities to engage students in learning the science of air quality and empower youth to be advocates for clean air in their community. Materials for the curriculum are provided by SMUD to teachers throughout the Sacramento region in efforts to increase students' comprehension of air quality.
- Sierra Nevada Journeys: With an investment from SMUD's Sustainable Communities, Sierra Nevada Journeys conducted a community needs assessment in order to develop culturally relevant education materials. This information will be shared with SMUD and other local partners and will be used to develop curriculum that is pertinent to historically marginalized communities as well as inclusive of Black and Indigenous youth, and People of Color. The new curriculum will be deployed through Sierra Nevada Journeys' Classroom Unleashed Program. The mission of Sierra Nevada Journeys is to deliver innovative outdoor, science-based education programs for youth to develop critical thinking skills and to inspire natural resource stewardship. More than 50 percent of the students they serve are from low-income families and 61 percent are students of color, working with Title 1 schools in the area. In addition, Sierra Nevada Journeys has strong working relationships with local Tribes.

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## 5 Cumulative Impacts

Under the California Environmental Quality Act (CEQA), cumulative impacts are “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (State CEQA Guidelines 15355; Public Resources Code 21083(b)). Section 15130 of the CEQA Guidelines requires that an environmental impact report (EIR) evaluate potential environmental impacts that are individually limited but cumulatively significant. These impacts can result from the proposed Project alone, or together with other projects. The CEQA Guidelines state that “The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, or reasonably foreseeable probable future projects.” The focus of the cumulative impacts section for each resource in this EIR is whether the proposed Project’s incremental contribution to any significant cumulative impact is cumulatively considerable and, thus, significant in and of itself (State CEQA Guidelines 15065(a)(3)).

### 5.1 Past, Present, and Reasonably Foreseeable Projects Within and Adjacent to the Permit Area

In determining past, present, and reasonably foreseeable actions that have the potential, in combination with the effects of the proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP), to result in cumulative impacts, the EIR focuses on two types of projects: projects that would be likely to result in impacts that are similar in kind or in location to those of the proposed HCP, including (1) other projects with related permitting, including HCPs, that also authorize take of the Covered Species within the proposed HCP Permit Area, and (2) projects that would occur within or adjacent to the proposed HCP Permit Area but would not be covered by the proposed HCP but by their own permits. Cumulative projects that were identified are described in Section 5.1.1, *Specific Projects*. Ongoing actions within the Plan Area that are Covered Activities under the proposed Project are not included here, as they are part of baseline (see Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*). Cumulative impacts also include the effects of the Indirect Actions as part of the cumulative background (i.e., the Covered Activities covered by the take authorizations that represent a change to baseline conditions, but are not entitled by the actions covered by this EIR, as explained in Chapter 3, and described in Section 2.3.4, *Covered Activities (Indirect Actions)*).

#### 5.1.1 *Specific Projects*

##### **Yolo Habitat Conservation Plan/Natural Communities Conservation Plan**

The Yolo Habitat Conservation Plan/Natural Communities Conservation Plan (Yolo HCP/NCCP) (Yolo Habitat Conservancy 2018) is a countywide plan to provide for the conservation of 12 sensitive species and the natural communities and agricultural land on which they depend, as well as a streamlined permitting process to address the effects of a range of future anticipated activities on these 12 species. The Yolo HCP/NCCP is a 50-year plan that covers 12 sensitive species and habitat communities. Three of the

species covered under the Yolo HCP/NCCP are also Covered Species under the proposed HCP: valley elderberry longhorn beetle, California tiger salamander, and giant garter snake. The Yolo HCP/NCCP intersects with a portion of the Permit Area; specifically, the Sacramento Municipal Utility District's (SMUD) gas pipeline in Yolo County.

### **South Sacramento Habitat Conservation Plan**

The South Sacramento Habitat Conservation Plan (SSHCP) includes 317,655 acres within Sacramento County, including the city of Galt and most of the city of Rancho Cordova (Sacramento County et al. 2018a, 2018b). The SSHCP was developed to preserve 28 plant and wildlife species and 17 land cover types including 11 that are listed as threatened or endangered under the federal Endangered Species Act (ESA) and California Endangered Species Act (CESA). The SSHCP also provides additional avoidance and minimization of Covered Activity impacts on wetlands, streams, and other aquatic resources that are also subject to regulation under the federal Clean Water Act, the California Fish and Game Code, and California's Porter-Cologne Water Quality Control Act. All of SMUD's Covered Species are also covered under the SSHCP. Five local agencies prepared the SSHCP, including Sacramento County, City of Galt, City of Rancho Cordova, Sacramento County Water Agency, and the Southeast Connector Joint Powers Authority. The SSHCP plan area overlaps with the Permit Area in the eastern and southern areas of Sacramento County.

### **Placer County Conservation Program**

The Placer County Conservation Program (PCCP) is a regional, comprehensive program intended to protect, enhance, and restore natural resources in western Placer County, while streamlining permitting for Covered Activities (Placer County 2020). The PCCP covers approximately 201,000 acres of western Placer County. Within the proposed PCCP plan area, 50,000 acres within the available potential acquisition area would become part of a reserve system. The conservation reserve system would preserve many acres of vernal pool habitat (approximately 50 percent of the county's remaining stock of these fragile, seasonal ecosystems). This acreage occurs in the unincorporated county and city of Lincoln areas. Four of the species covered under the PCCP are also Covered Species under the proposed HCP: vernal pool fairy shrimp, vernal pool tadpole shrimp, valley elderberry longhorn beetle, and giant garter snake. Part of the Permit Area, SMUD's transmission line in Placer County, overlaps with the PCCP.

### **Stone Lakes National Wildlife Refuge**

The approved refuge boundary for Stone Lakes National Wildlife Refuge (NWR)—the area within which the U.S. Fish and Wildlife Service is authorized to acquire, protect, and manage land—is 17,640 acres. Currently within the approved boundary, the NWR has preserved 6,550 acres through fee-title acquisitions and conservation easements. Goals of the NWR include preserving and restoring habitat for wildlife and to create links between refuge habitats and adjacent lands to help offset habitat fragmentation. There are no official projections about how quickly the NWR would be able to acquire land.

However, it is assumed for purposes of this analysis that much of, if not the entire, refuge planning area would be acquired in the next 30 years. The Stone Lakes NWR is located west of Elk Grove within the Permit Area.

### **California High-Speed Rail**

Construction of a high-speed train through the Permit Area is a reasonably foreseeable project that could occur within the next 50 years (California High-Speed Rail Authority 2020). The Federal Railroad Administration and the California High-Speed Rail Authority have adopted a state-wide program EIR/environmental impact statement (EIS). Phase 1 of the system would go from San Francisco to Los Angeles, would include service to Merced, and is currently scheduled for completion by 2033. Phase 2 of the system would extend from Merced to Sacramento and from Los Angeles to San Diego. Within Sacramento County, the Program EIR/EIS recommended carrying forward several alignments (one along a Union Pacific Railroad alignment and one along the Central California Traction alignment; both east of State Route [SR] 99) leading to the a Downtown Sacramento Valley railroad station (California High-Speed Rail Authority and Federal Railroad Administration 2005). No dates have been proposed for completion of the Phase 2 system.

### **Rancho Murieta North**

The Rancho Murieta North project includes approximately 772 acres located in the Rancho Murieta Parkway at SR 16, the entirety of which is located in the Permit Area. The project proposes 795 single-family lots on approximately 338 acres; approximately 393 acres of parks, recreation, and open space; approximately 39 acres of General Commercial; and approximately 3 acres for a community information area, non-residential in nature. The project site is located within the Rancho Murieta community planning area. The parcels are located north of SR 16 and the Cosumnes River. The existing project site is designated by the Sacramento County General Plan for low-density residential for the majority of the site, and public/quasi-public for an approximately 39.8-acre parcel that the applicant proposes for commercial use. The existing General Plan designations would remain (Sacramento County 2020a).

### **Barrett Ranch East**

The Barrett Ranch East project was approved by the Sacramento Board of Supervisors in June 2017. The project applicant is currently working on obtaining federal permits before development can begin. The project is located within the Permit Area north of Antelope Road, on the east and west sides of Don Julio Boulevard, and includes approximately 128 acres. Approved uses include 497 single-family lots, up to 196 multi-family units, two commercial lots, two parks, one undeveloped open space area, and 13 landscape lots. The project includes the extension of Titan Way to Don Julio Boulevard and the connection of Antelope Road and Elverta Road (Sacramento County 2020b).

## **Carli Expansion Mining Use Permit**

If approved, the Carli Expansion Mining Use Permit would allow surface mining on one parcel totaling approximately 161 acres. The project site is in the Vineyard community southwest of Jackson Road and Sunrise Boulevard in unincorporated Sacramento County and is in the Permit Area. The project proposal includes amending the existing use permit to expand the mining operation to include 140 acres of the Carli parcel, thereby allowing mining and transport of aggregate materials (sand and gravel) from the Carli site to the adjacent permitted processing plant. The project also proposes to place an asphalt/concrete recycling plant to crush broken concrete and asphalt on the existing processing plant site (Sacramento County 2018).

### *5.1.2 Ongoing Activities*

#### **Agriculture and Urban Development**

Land conversion in the Permit Area includes the conversion of natural lands to farmland, the conversion of farmland to urban and rural residential uses, and the direct conversion of natural lands to urban and rural residential uses. Land conversion can also include conversion of farmland back into natural lands. In particular, land conversion within adjacent cities, including Sacramento, Elk Grove, Rancho Cordova, and Galt, will continue to contribute to related cumulative impacts to which Indirect Actions under the proposed Project would contribute.

The conversion of farmland and grazing land in the Permit Area has been converted to urban development and rural residential development over the past several decades. This has resulted in a decrease in habitat because the habitat conditions provided by farmlands and grazing lands have been lost. Urbanization has affected plants and wildlife through nitrogen deposition, erosion and sedimentation, pollution of waterways, and disruption of movement habitat linkages.

#### **Roadway Development**

The Permit Area has three Interstate (I-) routes; I-5, I-80, and I-305. Interstate Business Loop 80, also called the Capital City Freeway, is a business loop of I-80 through Sacramento. U.S. Highway (US) 50, which begins in West Sacramento, runs from Sacramento to the Nevada state line in South Lake Tahoe. State highways in the Permit Area include SRs 16, 84, 99, 104, 160, and 244. Local roadways provide the greatest access to adjacent land via driveways and other roadways and are consequently generally smaller than interstate highways and SRs. Other roadway types in the Permit Area include two-lane arterials and collectors (e.g., Folsom Boulevard, Bradshaw Road, Jackson Highway, Fair Oaks Boulevard, Watt Avenue). Planned roadway improvements range from modest intersection improvements to road widenings; to “complete street” improvements; to added lanes; to new roadways; to widening of highway segments. Some local roadway improvement plans also include rehabilitation, replacement, or improvement of existing bridges, and construction of new bridges.

### 5.1.3 *Methods for Determining Cumulative Effects*

Each resource section contains an analysis of the cumulative effects specific to that resource that would potentially result from implementation of the proposed Project. Potential cumulative effects associated with implementation of the proposed Project are analyzed both quantitatively and qualitatively in this EIR. As provided for under CEQA (14 California Code of Regulations 15130(b)), the analysis of cumulative impacts is evaluated at a level of detail less than that used for the analysis of the proposed Project-specific impacts.

Where the proposed Project would have no impact, it could not contribute to a cumulative impact, and those topical areas are not addressed. These are:

- Impact 3.1-4: In urbanized areas, conflict with applicable zoning and other regulations governing scenic quality.
- Impact 3.1-5: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.
- Impact 3.2-1: Convert Farmland to nonagricultural use or result in other changes that could result in conversion of Farmland to nonagricultural use.
- Impact 3.2-2: Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract.
- Impact 3.2-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 12220(g)), timberland (as defined by Public Resources Code 4526), or timberland zoned Timberland Production (as defined by Government Code 51104(g)).
- Impact 3.2-4: Loss of forest land or conversion of forest land to non-forest use.
- Impact 3.4-10: Temporary and permanent impacts on Blainville's horned lizard (not covered under proposed HCP).
- Impact 3.4-11: Temporary and permanent impacts on western pond turtle (not covered under proposed HCP).
- Impact 3.4-13: Temporary and permanent impacts on special-status bats (not covered under proposed HCP).
- Impact 3.4-14: Temporary and permanent impacts on American badger (not covered under the proposed HCP).
- Impact 3.4-15: Temporary and permanent impacts on special-status fish (not HCP Covered Species).

- Impact 3.4-19: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Impact 3.4-20: Conflict with provisions of an adopted habitat conservation plan/natural community conservation plan or other approved local, regional, or state habitat conservation plan.
- Impact 3.5-1: Have a substantial adverse change in the significance of a historical resource.
- Impact 3.7-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.
- Impact 3.7-4: Place Project-related facilities on expansive soil, creating substantial direct or indirect risks to life or property.
- Impact 3.7-5: 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
- Impact 3.9-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Impact 3.9-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- Impact 3.9-5: Located within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the proposed Project.
- Impact 3.9-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Impact 3.10-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality
- Impact 3.10-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed Project may impede sustainable groundwater management of the basin.
- Impact 3.10-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in: (1) substantial

erosion or siltation onsite or offsite; (2) substantially increase the rate or amount of surface runoff which would result in flooding onsite or offsite; (3) create runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; (4) impede or redirect flood flows.

- Impact 3.10-4: In a flood hazard, tsunami, or seiche zone, risk release of pollutants due to proposed Project inundation.
- Impact 3.10-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
- Impact 3.11-1: Physically divide an established community.
- Impact 3.11-2: Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.
- Impact 3.12-1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Impact 3.12-2: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.
- Impact 3.13-2: Substantial permanent increase in ambient noise levels in the vicinity of the proposed Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Impact 3.13-3: Groundborne vibration and groundborne noise.
- Impact 3.14-1: Create substantial unplanned 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).
- Impact 3.14-2: Displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere.
- Impact 3.15-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities.
- Impact 3.16-1: Increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

- Impact 3.16-2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
- Impact 3.17-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities.
- Impact 3.17-3: Cause a substantial increase in hazards because of a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Impact 3.17-4: Result in inadequate emergency access.
- Impact 3.19-1: Require relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, with the potential to cause significant environmental effects.
- Impact 3.19-2: Create a need for new or expanded entitlements or resources for sufficient water supply to serve the proposed Project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- Impact 3.19-3: Result in a determination by the wastewater treatment provider that serves or may serve the proposed Project that it does not have adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments.
- Impact 3.19-4: Generate solid waste in exceedance of state or local standards or in excess of the capacity of local infrastructure, or other impediment to the attainment of solid waste reduction goals.
- Impact 3.19-5: Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste.
- Impact 3.20-1: Substantially impair an adopted emergency response plan or emergency evacuation plan.
- Impact 3.20-3: 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 on the environment.

## 5.2 Cumulative Impacts by Resource

### 5.2.1 *Aesthetics*

The geographic context for cumulative impacts on aesthetics is the Permit Area and surrounding areas with views of the Permit Area.

As discussed in Section 5.1, *Past, Present, and Reasonably Foreseeable Projects Within and Adjacent to the Permit Area*, there are other projects, including the Indirect Actions under the proposed HCP that are not part of baseline (see Table 2-9 for a summary of which actions these are), that have affected and likely will continue to affect aesthetics and visual resources within and surrounding the Permit Area. Examples of related projects that could combine to result in significant cumulative impacts are ongoing agricultural, roadway, and urban development as well as SMUD's new construction activities. The cumulative visual impact of these activities would be significant to the extent they are visible from public viewpoints.

As described in Impact 3.1-1, although there are prominent viewpoints and long-range scenic views, there are no designated scenic vistas within the Permit Area. Any short-term, adverse visual change resulting from the implementation of Direct Actions would not be substantial. Moreover, the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could improve quality of views in the long term. Therefore, the proposed Project's contribution to a cumulative visual impact **would not be cumulatively considerable**.

As described in Impact 3.1-2, while implementation of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity could result in some short-term changes in views, these activities would not result in tree removal or damage to any rock outcroppings or historic buildings. There would not be any long-term adverse changes in views from a scenic vista and no substantial damage to scenic resources within a scenic corridor. Therefore, the proposed Project's contribution to a cumulative visual impact **would not be cumulatively considerable**.

As described in Impact 3.1-3, implementation of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would occur in nonurbanized areas and have the potential to result in short-term temporary changes in visual character or public views. However, in the long term, these activities would enhance the visual character of these natural areas. Therefore, the proposed Project's contribution to a cumulative visual impact **would not be cumulatively considerable**.

### 5.2.2 *Air Quality*

The geographic scope for regional air quality is the Sacramento Valley Air Basin.

Impact 3.3-1 addresses cumulative air quality impacts on a basin-wide level by comparing project emissions to Sacramento Metropolitan Air Quality Management District (SMAQMD) thresholds of significance via screening thresholds. As stated in SMAQMD's

*Guide to Air Quality Assessment in Sacramento County*, “[i]f a project’s emissions are estimated to be less than the thresholds, the project would not be expected to result in a cumulatively considerable contribution to the significant cumulative impact” (SMAQMD 2020). This EIR concludes that the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would not result in emissions that exceed significance thresholds. Therefore, the proposed Project’s contribution to any significant cumulative impact **would not be cumulatively considerable**.

As described for Impact 3.3-2, the proposed Project’s potential to expose sensitive receptors to substantial pollutant concentrations would be limited to the immediate area around the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity, which are also generally located away from developed land uses and sensitive receptors. Occasional work as part of other cumulative activities may occur along SR 104, and Indirect Actions may also occur in the vicinity of the SMUD Bank. These activities may occur at the same time as the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity and often use equipment that generates localized pollutants. However, there are no sensitive receptors in this area that would be exposed to pollutants from both the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity and the related projects identified in Section 5.1. The SSHCP covers the SMUD Bank area, and that EIR concluded there would be no impact related to exposure of sensitive receptors to toxic air contaminants and local carbon monoxide (Sacramento County et al. 2018b). No activities related to the Stone Lakes NWR, PCCP, or California High-Speed Rail project would occur close enough to the SMUD Bank to contribute to a cumulative impact. Therefore, this cumulative impact would be **less than significant**.

As described for Impact 3.3-3, the potential of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity to expose a substantial number of people to other emissions, such as odors, would be limited to the immediate area around SMUD Bank management activities, which are also generally located away from developed land uses and sensitive receptors. Occasional work as part of other cumulative activities may occur in the vicinity of the SMUD Bank, including implementation of Indirect Actions and roadwork along SR 104, and may occur at the same time as the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. These other cumulative activities can generate odors from diesel exhaust and asphalt paving. However, there are no sensitive receptors in this area that would be exposed to odors from both the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity and the related projects identified in Section 4.1, *Past, Present, and Reasonably Foreseeable Projects Within and Adjacent to the Permit Area*. The SSHCP covers the SMUD Bank area, and that EIR concluded there would be no impact related to exposure of sensitive receptors to odors (Sacramento County et al. 2018b). No activities related to the Stone Lakes NWR, PCCP, or California High-Speed Rail project would occur close enough to the SMUD Bank to contribute to a cumulative impact. Therefore, this cumulative impact would be **less than significant**.

### 5.2.3 *Biological Resources*

The geographic context for cumulative impacts on biological resources is the Permit Area and the greater Sacramento Valley.

As described in Section 3.4, *Biological Resources*, implementation of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity has the potential to temporarily disturb habitat for several special-status plants and wildlife. However, these impacts would be short term and result in minimal ground disturbance associated with removal of nonnative invasive plants and introduction of Orcutt grass seed, and passive short-term monitoring of enhanced vernal pools. This Direct Action would result in a net benefit by enhancing vernal pool habitat for native plant species and special-status wildlife species that utilize vernal pool habitats. Additionally, the implementation of applicable Conservation Strategy avoidance and minimization measures (AMM) would reduce any short-term construction impacts on aquatic resources and special-status species by minimizing the footprint of work activities and utilizing existing access roads. The proposed Project would not have significant impacts on any special-status species or regionally sensitive habitats. While some special-status species could be temporarily affected by enhancement and monitoring activities, these activities would not result in the permanent loss of sensitive habitats or special-status species within the Sacramento Valley region and the incremental impact on these resources would not be cumulatively considerable.

As discussed in Section 5.1, there are other projects, including the Indirect Actions under the proposed HCP, that have affected and likely will continue to affect biological resources by altering (i.e., removal or degradation) occupied habitats for special-status plants and wildlife, regulated aquatic resources, and sensitive natural communities.

Like much of the rest of California, the Permit Area is subject to significant cumulative impacts related to loss and degradation of habitat as a result of land use practices over approximately the past 150 years. Conversion to agricultural use and urbanization have been the primary factors in loss of the Permit Area's native grassland, woodland, and riparian/wetland habitats. The Permit Area's aquatic habitats have been affected by various types of pollutants, including agricultural and petrochemical pollutants delivered by urban runoff, and increased sediment delivery resulting from ground disturbance for construction and agriculture. As discussed in Section 3.4 and Section 3.10, *Hydrology and Water Quality*, SMUD proposes to avoid and minimize effects on aquatic habitats to the extent practicable and, where necessary, apply for and comply with separate permits for Indirect Actions affecting wetlands or stream courses. Although aquatic habitats could also be further degraded as a result of in-channel construction activities associated with the Indirect Actions, most of these impacts would be limited to very small areas, and SMUD would implement other permit conditions that are applied for and authorized on a case-by-case basis, including compensatory mitigation for impacts on Covered Species, waters of the U.S. and waters of the State, and riparian habitat loss. Thus, impacts on aquatic, wetland, and riparian habitats would be **less than cumulatively considerable**.

Over the course of the 30-year Permit Term, and as described in Section 3.4, implementation of the Covered Activities would contribute incrementally to cumulative impacts of temporary and permanent loss of habitat for the seven species covered by the proposed state and/or federal take authorizations: Sacramento Orcutt grass, slender Orcutt grass, vernal pool fairy shrimp, vernal pool tadpole shrimp, valley elderberry longhorn beetle for the federal ITP, and California tiger salamander (Central California distinct population segment), and giant garter snake for the federal and state take authorizations. These are impacts for which mitigation would be required under each of the proposed take authorizations and would be less than cumulatively considerable. Mitigating impacts on a regional basis rather than mitigating the impacts of small, individual projects provides substantial habitat benefits. Specifically, a regional approach to mitigation provides permanent protection and management of lands that are large enough to support populations of Covered Species. Mitigation of impacts on a project-by-project basis does not necessarily provide the opportunity for this landscape-level approach.

As discussed in Section 3.4, the Permit Area may also support a number of additional special-status plant and wildlife species that are not currently listed for protection under the federal ESA or CESA and that are not Covered Species under the proposed HCP. These species would not be covered in the proposed take authorizations but still hold special status (see Tables 3.4-2 and 3.4-3) and are known to occur or may occur in the Permit Area, where Covered Activities have some potential to result in injury, mortality, and loss of habitat. SMUD proposes to avoid and minimize adverse effects to these species and their habitats, to the extent practicable, through the implementation of the applicable AMMs described in Section 3.4. Although these measures are designed to reduce impacts on Covered Species, many of the non-covered species addressed in this EIR occupy similar habitats as the Covered species and so they would also benefit from the Conservation Strategy. Mitigation to offset impacts to Covered Species as provided in the Conservation Strategy may also benefit non-covered special-status species using the same habitat as Covered Species. With these protections and compensation mechanisms in place, Indirect Actions would not make a cumulatively considerable contribution to regional loss of natural habitats for the seven species covered under the take authorizations as well as other species with similar habitat requirements. Rather, the proposed HCP is expected to result in a net long-term benefit regarding cumulative regional habitat loss.

#### 5.2.4 *Cultural Resources*

The geographic context for cumulative impacts on cultural resources is the Permit Area and any additional project that shares the same resource being affected. Cumulative impacts require the interaction of multiple projects or actions that together cause a significant impact on cultural resources (i.e., historical resources and unique archaeological resources) more than the individual projects or actions do alone. Cumulative impacts could occur on historical resources or unique archaeological resources that extend into multiple projects. Large-scale cultural resources that span multiple projects typically include traditional cultural landscapes, historical and prehistoric

districts, and linear built environment resources such as railroads, ditches, and historical road grades and trails. However, cumulative effects could also occur on any smaller archaeological site or built environment resource that spans into multiple projects.

As discussed in Section 3.5, *Cultural Resources*, there are 3,466 built properties listed in the California Historic Resources Inventory in Sacramento County and of those, 104 resources have been listed on the National Register of Historic Places, indicating that there are significant cultural resources located in the Permit Area. Past, present, and reasonably foreseeable projects including Indirect Actions in the Permit Area could encounter and potentially damage or destroy cultural resources, resulting in a significant cumulative impact.

As discussed in Section 3.5, the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity associated with the proposed Project would result in a less-than-significant impact on cultural resources if Mitigation Measures CUL-1, CUL-2, CUL-2, and CUL-4 are implemented. If damage from the proposed Project is coupled with additional damage from another project on the same cultural resource, the damage could potentially contribute to a cumulative impact on cultural resources. Other disturbance at the SMUD Bank has been described in this EIR and the 2010 Initial Study/Mitigated Negative Declaration for the SMUD Bank. There would be no significant cumulative impact at the SMUD Bank, and therefore the proposed Project **would not contribute to a significant cumulative**.

#### 5.2.5 *Energy*

The cumulative context for energy is the SMUD service area. Due to requirements related to use of renewable energy and overall sustainability, the overall cumulative impact is not expected to be significant. Implementation of the proposed HCP, in combination with past, present, and reasonably foreseeable future projects, would not result in cumulatively considerable impacts related to wasteful use of energy resources. The Direct Action would result in short-term, limited energy consumption from the use of some equipment and vehicles for activities such as planting, and monitoring. Equipment use and vehicle travel would be limited and short term. All activities associated with this Direct Action would use hand tools requiring no energy use. Implementation of the proposed HCP would not result in the wasteful, inefficient, and unnecessary consumption of energy, nor would proposed Project construction or operation conflict with or obstruct any applicable renewable energy or energy efficiency plans. As explained in Section 3.6, *Energy*, indirect actions associated with implementation of the proposed HCP could result in short-term, temporary increases in energy consumption. New construction activities, specifically the installation of new telecommunication towers and substations and tree removal could result in short-term increases in energy use. However, as mentioned in the section, these activities would expand, improve, and maintain SMUD's infrastructure and facilities to serve existing or expected customers, rather than to increase energy consumption consistent with many existing plans and regulations. In addition, measures similar to the AMMs proposed as part of the Project, as refined as part of project-specific CEQA review, could reduce impacts by minimizing the amount of energy consumed during construction

and operation activities. For these reasons it is unlikely that adverse energy impacts would occur. As described in Section 3.6, *Energy*, SMUD's goal to eliminate carbon emissions from their power supply by 2030 is supported by the SMUD 2030 Zero Carbon Plan. To achieve zero carbon, SMUD is focused on four main areas: repurposing existing natural gas generation power plants to eliminate GHG emissions; using proven clean technologies including solar, wind and geothermal energy and battery storage; testing pilot projects and programs to test and prove new and emerging technologies; and identifying savings and pursuing partnerships and grants that support the Zero Carbon Plan. The 2030 Zero Carbon Plan will further increase energy efficiency as well as reducing carbon emissions.

Therefore, this EIR concludes that the proposed Project would not result in significant impacts related to energy resources, and energy efficiency or renewable energy plans. As such, the proposed Project's impact **would be less than significant, and its contribution would not create a new cumulative impact.**

#### 5.2.6 *Geology, Soils, and Paleontological Resources*

In general, a project's potential impacts related to geology and soils are individual and localized, depending on the project site and underlying soils, the level of excavation, cut-and-fill work, and grading, along with other factors. Past, present, and reasonably foreseeable projects similarly have localized geological and soil impacts. All projects are constructed within a regulatory environment with requirements reducing impacts related to ground failure, seismic ground shaking, erosion, and other geological impacts on a project-by-project basis. Therefore, there is **no cumulative impact** related to geology and soils.

The geographic context for paleontology comprises the geologic units affected by the proposed Project. Geologic units that have potential to yield significant paleontological resources, including vertebrate fossils, exist in the Permit Area. Past, present, and reasonably foreseeable projects in the Permit Area, including the Indirect Actions, could encounter and potentially damage or destroy paleontological resources. Therefore, a cumulative impact on paleontological resources as a result of damage to and destruction of significant paleontological resources exists with respect to the geologic units affected by the proposed Project. As discussed in Section 3.7, *Geology, Soils, and Paleontological Resources*, the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would result in a less-than-significant impact on paleontological resources because the area that would be disturbed is both shallow and small, resulting in a small likelihood of encountering significant fossils. AMMs would further minimize effects. The Direct Action would have a small contribution to the cumulative impact on paleontological resources because of the restricted extent of shallow disturbance and implementation of AMMs. This contribution would be **less than cumulatively considerable**.

### 5.2.7 Greenhouse Gases

Impact 3.8-1 addresses cumulative greenhouse gas (GHG) impacts by comparing proposed Project emissions to SMAQMD thresholds of significance via screening levels. As stated in SMAQMD's *Guide to Air Quality Assessment in Sacramento County*, "GHG emissions, and their associated contribution to climate change, are inherently a cumulative impact. Therefore, project-level impacts of GHG emissions are treated as cumulative impacts" (SMAQMD 2020). This EIR concludes that the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would not result in emissions that exceed significance thresholds. Therefore, the proposed Project's contribution to any significant cumulative impact **would not be cumulatively considerable**.

### 5.2.8 Hazards and Hazardous Materials

The cumulative context for hazards and hazardous materials is the Permit Area. In general, a project's potential impacts related to hazards are individual and localized, depending on activities occurring at the project site and proximity to hazardous facilities. Hazardous materials used during the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would consist of fuels, oils, and lubricants. However, the transportation, handling, and disposal of these materials would be compliant with regulations enforced by the Certified Unified Program Agencies and the California Division of Occupational Safety and Health. SMUD has on file a Safety Data Sheet for each hazardous material onsite and would implement best management practices under the stormwater pollution prevention plan, thereby reducing the potential for or exposure to accidental spills or fires involving the use of hazardous materials.

Further, no significant impacts related to hazards and hazardous materials resulting from the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would occur. Development of other future projects in the Permit Area, including the Indirect Actions, would occur in compliance with state and federal environmental regulations, consequently improving overall environmental quality. Numerous businesses and industries throughout the Permit Area utilize or store hazardous materials. As a result of the regulatory scheme described in Section 3.9, *Hazards and Hazardous Materials*, there would be **no cumulative significant effect** from hazardous materials.

### 5.2.9 Noise

The geographic context of the cumulative noise analysis encompasses the Permit Area. Implementation of Direct Actions would not result in any permanent increase in ambient noise levels. Therefore, cumulative noise impacts would be limited to short-term ambient noise and vibration increases during implementation of Covered Activities. As discussed in Section 5.1, there are several projects, including the Indirect Actions under the proposed HCP, that generate noise and vibration within the Permit Area. Examples of related projects that could combine to result in significant cumulative noise impacts are ongoing agricultural, roadway, and urban development as well as SMUD's new

construction activities. The cumulative noise impact of these activities would be significant to the extent they exceed noise standards established in the relevant local general plan or noise ordinance, or applicable standards of other agencies, or vibration substantially affects existing sensitive receptors.

As described for Impact 3.13-1, the potential for implementation of the Direct Action to expose sensitive receptors to a substantial temporary increase in ambient noise levels is limited to the immediate vicinity of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity, which is also generally located away from developed land uses and sensitive receptors. This rural area does not typically experience existing significant noise impacts in exceedance of any established threshold. The SSHCP covers the SMUD Bank area, and that EIR concluded there would be no impact related to noise (Sacramento County et al. 2018b). Occasional work associated with cumulative activities and Indirect Actions may occur within the Permit Area in the vicinity of sensitive receptors. These activities may occur at the same time as the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity and often use equipment that generates noise. However, there are no sensitive receptors in this area that would be exposed to noise from the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity and the related projects identified in Section 5.1. No activities related to the Stone Lakes NWR, PCCP, or California High-Speed Rail project would occur close enough to the SMUD Bank to contribute to a cumulative impact. Therefore, this cumulative impact would be **less than significant**.

As described for Impact 3.13-3, the Direct Action would not result in a permanent increase in vibration in the vicinity of the proposed Project, and the proposed Project's potential to expose sensitive receptors to a substantial temporary increase in vibration is limited to the immediate vicinity of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity, which is also generally located away from developed land uses and sensitive receptors. This rural area does not typically experience existing significant noise impacts in exceedance of any established threshold. The SSHCP covers the SMUD Bank area, and that EIR concluded there would be no impact related to noise, which means it is also unlikely there would be an impact related to vibration (Sacramento County et al. 2018b). Occasional work associated with cumulative activities and Indirect Actions may occur within the Permit Area in the vicinity of sensitive receptors. These activities may occur at the same time as the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity and often use equipment that generates vibration. However, there are no sensitive receptors in this area that would be exposed to vibration from the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity and the related projects identified in Section 5.1. No activities related to the Stone Lakes NWR, PCCP, or California High-Speed Rail project would occur close enough to the SMUD Bank to contribute to a cumulative impact. Therefore, this cumulative impact would be **less than significant**.

### 5.2.10 *Transportation*

The geographic scope of the cumulative transportation analysis encompasses the Permit Area and the surrounding roadway network used to access work sites. As discussed in Section 5.1, there are several projects, including the Indirect Actions under the proposed HCP, that affect the transportation network within the Permit Area. Examples of related projects that could combine to result in significant cumulative transportation impacts are ongoing roadway and urban development as well as SMUD's new construction activities. For a cumulative effect to occur, the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would have to take place simultaneously with and near other projects that could potentially result in transportation effects. Ongoing efforts are being implemented by local governments throughout the Permit Area to reduce vehicle miles traveled (VMT).

As described for Impact 3.17-1, the proposed Project's potential to conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b) would be dependent on factors which cannot be precisely predicted at this time (e.g., trip origin and destination, length, frequency). However, the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would be temporary and/or intermittent, and the number of trips generated by the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would be minimal. Specifically, a maximum of 24 trips could be generated per year during the first 5 years and two per year after the first 5 years. The VMT attributable to the Direct Action is negligible in the cumulative context of VMT generated by cumulative activities in the Permit Area. Therefore, the proposed Project's contribution to any significant cumulative impact **would be less than cumulatively considerable**.

### 5.2.11 *Tribal Cultural Resources*

The geographic context for impacts on Tribal cultural resources is the Permit Area and any additional project that shares the same resource being affected. Cumulative impacts could occur on Tribal cultural resources that extend into other projects. Large-scale Tribal cultural resources that span multiple projects typically include traditional cultural landscapes and species of significance.

As discussed in Section 3.18, *Tribal Cultural Resources*, AB 52 consultation resulted in the identification of Tribal Cultural Resources including a traditional cultural landscape and species of significance in the SMUD Bank. Past, present, and reasonably foreseeable projects including Indirect Actions in the Permit Area could encounter and potentially damage or destroy Tribal cultural resources, resulting in a significant cumulative impact.

As discussed in Section 3.18, Direct Actions associated with the proposed Project would result in a less-than-significant impact on Tribal cultural resources. If damage from the proposed Project is coupled with additional damage from another project on the same Tribal cultural resource, the damage could potentially contribute to a cumulative impact on Tribal cultural resources. However, implementation of Mitigation Measure TCR-1: Discovery of Unanticipated Tribal Cultural Resources, would reduce impacts on

previously unknown Tribal cultural resources. There would be no significant cumulative impact at the SMUD Bank, and therefore the proposed Project **would not contribute to a significant cumulative impact** on Tribal cultural resources.

#### 5.2.12 *Wildfire*

The geographic scope of the cumulative impacts on wildfire is the areas surrounding the Permit Area. Typically, when structures or people are added to an area, the risk of wildfire increases. As evident in the past couple of years, wildfires throughout the greater Sacramento area, as well as the state of California can be far reaching and amount to widespread damage. The severity and damage done by a wildfire is dependent on the amount of rain the area has received at that point in time, fuel availability, and whether certain fire management techniques have been implemented, among many other factors. Development of other future projects in areas surrounding the Permit Area would be required to adhere to any state and federal environmental regulations, including those related to wildfire risk, associated with construction, demolition, and/or remediation, consequently improving overall environmental quality and reducing the cumulative impact related to wildfire. However, with the increased rate at which both residential and commercial development, among other types of development, are occurring in the areas surrounding the Permit Area and the greater Sacramento area, in addition to the increased activity, including the Indirect Actions described in this EIR, there is a cumulative impact with respect to wildfire.

The contribution of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity to a cumulative impact would **not be cumulatively considerable**. The Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity itself would not cumulatively increase the risk of wildfire because it would not involve the addition of a significant amount of structures or people to an undeveloped or rural area, and any construction or operation activities associated with this Direct Action would be conducted in accordance with SMUD's strategies, mitigation, or plan policies pertaining to fire, geologic, and hydrologic hazard safety. Therefore, this EIR concludes that no significant impacts related to wildfire would result from implementation of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. In addition, the proposed HCP includes AMMs, such as minimizing the footprint and duration of work, and proper cleanup of hazardous or flammable material substances, that would further minimize the risk of wildfire in the future within the Permit Area. Therefore, the proposed Project's contribution to any significant cumulative impact would not be cumulatively considerable due to the limited amount of activity or development that would occur as a result of the proposed Project, and the measures that would be implemented or incorporated to prevent risk of wildfire, or the spread of wildfire.

## 6 Other CEQA Sections

In accordance with Section 15126 of the State California Environmental Quality Act (CEQA) Guidelines, all aspects of a project should be considered when evaluating its impacts on the environment, including planning, acquisition, development, and operation. As part of the analyses, this chapter of the draft environmental impact report (EIR) identifies the following components that are referred to collectively as other CEQA requirements.

- Section 6.1, *Significant and Unavoidable Impacts*
- Section 6.2, *Significant Irreversible Environmental Changes*
- Section 6.3, *Growth-Inducing Impacts*

### 6.1 Significant and Unavoidable Impacts

The proposed Project would not result in any significant and unavoidable impacts.

### 6.2 Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the project. Section 15126.2(c) states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, because a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irrecoverable commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project would result in significant irreversible environmental changes if:

- the primary and secondary impacts would generally commit future generations to similar uses,
- the project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project,
- the project would involve a large commitment of nonrenewable resources, or
- the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

The Direct Action would not result in an irreversible commitment of fossil fuels. Implementation of the Enhance Sacramento Orcutt Grass Population and Slender Orcutt

Grass Introduction at SMUD Bank activity could result in energy used for transportation of employees and equipment to and from the SMUD Bank as stated in Section 3.6 “Energy”. However, energy use would be limited because vehicle travel would be limited, short term and periodic in nature. In addition, all activities associated with the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity would use hand tools requiring no energy use.

Resources that would be permanently consumed by the Indirect Actions include and fossil fuels, natural gas, and water; however, the amount and rate of consumption of these resources would not result in significant environmental impacts related to the unnecessary, inefficient, or wasteful use of resources as stated in Section 3.6, “Energy,” and Section 3.8, “Greenhouse Gas Emissions”. New construction and O&M activities related to the Proposed project would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobiles and construction equipment. The use of these nonrenewable resources is expected to account for a minimal portion of the region’s resources and would not affect the availability of these resources for other needs within the region. Construction activities would not result in inefficient use of energy or natural resources. Construction contractors selected would use best available engineering techniques, construction and design practices, and equipment operating procedures.

### 6.3 Growth-Inducing Impacts

CEQA specifies that growth-inducing impacts of a project must be addressed in an EIR (Public Resources Code Section 21100[b][5]). Specifically, the State CEQA Guidelines (California Code of Regulations [CCR] Section 15126.2[d]) states that the EIR shall discuss the ways in which the project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this analysis are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, the EIR should discuss the characteristics of the project which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);

- substantial short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

The State CEQA Guidelines do not distinguish between planned and unplanned growth for purposes of considering whether a project would foster additional growth. Therefore, for purposes of this EIR, to reach the conclusion that a project is growth-inducing as defined by CEQA, the EIR must find that the project would foster (i.e., promote or encourage) additional growth in economic activity, population, or housing, regardless of whether the growth is already approved by and consistent with local plans. The conclusion does not determine that induced growth is beneficial or detrimental, consistent with the State CEQA Guidelines (CCR Section 15126.2[d]).

If the analysis conducted for the EIR results in a determination that a project is growth-inducing, the next question is whether that growth may cause adverse effects on the environment. Environmental effects resulting from induced growth fit the CEQA definition of “indirect” effects in the State CEQA Guidelines (CCR Section 15358[a][2]). These indirect or secondary effects of growth may result in significant environmental impacts. CEQA does not require that the EIR speculate unduly about the precise location and site-specific characteristics of significant, indirect effects caused by induced growth, but a good-faith effort is required to disclose what is feasible to assess. Potential secondary effects of growth could include consequences – such as conversion of open space to developed uses, increased demand on community and public services and infrastructure, increased traffic and noise, degradation of air and water quality, or degradation or loss of plant and wildlife habitat – that are the result of growth fostered by the project.

### 6.3.1 *Growth-Inducing Impacts of the Project*

This analysis examines the following potential growth-inducing impacts related to implementation of the project and assesses whether these effects are significant and adverse:

1. foster population growth and construction of housing;
2. eliminate obstacles to population growth;
3. foster economic growth;
4. affect service levels, facility capacity, or infrastructure demand; and
5. encourage or facilitate other activities that could significantly affect the environment.

The Direct Action would have no direct growth-inducing impacts. In addition, the Indirect Actions would not directly cause growth to occur, but rather would allow for continuous safe, reliable electrical service that is in compliance with regulatory requirements or provide increased capacity of SMUD's systems needed to meet increased expected customer electrical load growth as a result of planned and land development with the Permit Area. SMUD's primary purpose is to supply electrical energy to customers in the Sacramento area. It has an obligation to serve all new development approved by local agencies and Sacramento County. The Indirect Actions would not induce population growth; rather they would accommodate the electrical service needs of growth that is already expected due to planned development. Therefore, the Indirect Actions are not considered to be "growth inducing," as defined by CEQA. In addition, the Indirect Actions would not cause increased demand on public infrastructure, public services, housing, circulation, or other resources.

## 7 Alternatives

### 7.1 Introduction to Alternatives

The alternatives analysis chapter of the Sacramento Municipal Utility District's (SMUD) proposed *Operations, Maintenance, and New Construction Habitat Conservation Plan* (HCP) environmental impact report (EIR) includes consideration and discussion of a range of reasonable alternatives to the proposed Project, as required per California Environmental Quality Act (CEQA) Guidelines Section 15126.6. Generally, the chapter includes discussions of the following: the purpose of an alternatives analysis; alternatives considered but dismissed; reasonable range of proposed Project alternatives and their associated impacts in comparison to the proposed Project's impacts; and the environmentally superior alternative.

### 7.2 Purpose of Alternatives

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the CEQA Guidelines, is to “[...] describe a range of reasonable alternatives to the 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.” In the context of CEQA Guidelines Section 21061.1, “feasible” is defined as:

...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Section 15126.6(f) of CEQA Guidelines states, “The range of alternatives required in an EIR is governed by a ‘rule of reason’ that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.” Section 15126.6(f) of the CEQA Guidelines further states:

The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

In addition, an EIR is not required to analyze alternatives when the effects of the alternative “cannot be reasonably ascertained and whose implementation is remote and speculative.”

The CEQA Guidelines provide the following guidance for discussing alternatives to a proposed project.

- An EIR shall describe a range of reasonable alternatives to the 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 (CEQA Guidelines 15126.6(a)).

- Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code [PRC] 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening 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 (CEQA Guidelines 15126.6(b)).
- The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination [...] Among the factors that may be used 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 (CEQA Guidelines 15126.6(c)).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison (CEQA Guidelines 15126.6(d)).
- 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 (CEQA Guidelines 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 decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (CEQA Guidelines 15126.6(e)(1)).
- If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines 15126.6(e)(2)).

In determining what alternatives should be considered in the EIR, it is important to consider the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the

criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of “potentially feasible” alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency’s decision-making body, here the SMUD Board of Directors (See PRC 21081.5, 21081(a)(3)).

### 7.2.1 *Project Objectives*

The objectives of the proposed HCP are to do the following.

- Conserve (avoid, minimize, and mitigate impacts on) Covered Species that may be affected by specific Covered Activities within the Permit Area.
- Receive take authorization from the U.S. Fish and Wildlife Service (USFWS) for federally listed species covered by the proposed HCP, pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act (ESA) for Covered Activities proposed by SMUD.
- Receive take authorization from the California Department of Fish and Wildlife (CDFW) for state-listed species covered by the proposed HCP, Section 2081(b) of the California Fish and Game Code (California Endangered Species Act) for Covered Activities proposed by SMUD.
- Streamline and coordinate regulatory processes for review and permitting of SMUD’s activities.
- Provide greater certainty to SMUD regarding mitigation requirements.

### 7.2.2 *Significant Impacts Identified in the EIR*

Table ES-1 summarizes significant impacts, as disclosed in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, for the proposed Project. Resources with significant impacts associated with the proposed Project are listed below. These impacts would be reduced to a less-than-significant level with mitigation identified in this EIR.

#### **Cultural Resources**

- Have a substantial adverse change in the significance of a unique archaeological resource
- Disturbance of any human remains including those interred outside of formal cemeteries

### 7.2.3 *Alternatives Screening Process/Criteria*

A number of alternatives were developed during the preparation of the proposed HCP and additional alternatives were considered during the preparation of the EIR. These alternatives were developed based on alternatives considered in the proposed HCP, their ability to lessen impacts that were identified during the scoping process as potentially

significant, and on discussions with the lead, responsible, and trustee agencies. The feasibility of these alternatives was then considered in light of identified screening criteria.

Alternatives that were determined to be infeasible were dismissed from further consideration. Alternatives determined to be feasible or potentially feasible per the screening criteria were carried forward for more detailed analysis in the EIR. Due to the specific purpose and geographic applicability of this proposed Project, there was a limited universe of available alternatives.

As discussed in Chapter 2, *Project Description*, the proposed HCP seeks to provide a strategy for avoiding, minimizing, and mitigating potential impacts on Covered Species resulting from SMUD's various operation, maintenance, and new construction activities (Covered Activities).

In particular, the proposed Project seeks to provide a coordinated HCP, which, when implemented, would conserve (avoid, minimize, and mitigate impacts on) Covered Species that may be affected by Covered Activities within the Permit Area. Alternatives that did not meet these objectives were eliminated from detailed consideration.

Once the alternatives were selected, they were considered in the context of the CEQA criteria described above in Section 7.2, *Purpose of Alternatives*, and were screened for feasibility according to the following criteria.

- The feasibility of the alternative in terms of economic, environmental, legal, social, and technological factors.
- The ability of the alternative to fulfill most of the objectives under CEQA.
- The potential for an alternative to avoid or substantially reduce one or more significant impacts of the proposed HCP.

The following alternatives, in addition to a No Project Alternative, were initially evaluated, but not carried forward as alternatives analyzed in this EIR.

#### 7.2.4 *Alternatives Dismissed From Further Analysis*

- **Changed Practices.** This alternative would involve changing construction activities, modifying activities, restricting activities seasonally, and conducting pre-activity biological surveys and biological monitoring for a majority of Covered Activities to further reduce the take of Covered Species when conducting operation and maintenance (O&M) and new construction activities. Eliminating impacts completely is unlikely and could be cost prohibitive due to the public safety, regulatory, and site-specific requirements that are necessary to complete O&M work. Changed practices may be ineffective at reducing take and could introduce new and inconsistent work practices into SMUD's operations. Some changed practices, such as seasonally restricting activities, could be infeasible given SMUD's need to ensure safety and reliability. Finally, SMUD already conducts

environmental planning and screening processes and modifies practices based on environmental review on a project-by-project basis. The changed practices alternative was dismissed because SMUD has a legal and public safety obligation to maintain its facilities and provide electricity to customers in the service area, and because avoidance and minimization measures (AMM) are already implemented on a project-by-project basis.

- **Large Projects (New Construction) Only.** Under this alternative, the Covered Activities would be only new construction projects. This alternative would cover very few of the activities that SMUD undertakes. In addition, O&M activities could potentially result in take, and these activities would not be covered under this alternative. For this reason, this alternative was dismissed from consideration.
- **Participate in Existing/Overlapping HCPs.** This alternative would consist only of participating in other HCPs that are within the Permit Area. This alternative was dismissed from consideration because there are no other overlapping HCPs that provide the entirety of the type of coverage needed for the proposed Project. Participation in other HCPs is a part of the Conservation Strategy in the proposed HCP.
- **Reduced Permit Term.** This alternative would reduce the Permit Term from 30 years to 20 years. The result of a reduced Permit Term would be that fewer occurrences of future Covered Activities would receive incidental take authorization through the proposed HCP and consequently, there would be less conservation benefit.
- **Reduced Permit Area.** Under this alternative, the Permit Area would be reduced. This alternative was not considered to be feasible because it would not cover the area within which SMUD conducts its Covered Activities.
- **O&M Activities Only.** Under this alternative, the Covered Activities would be only O&M. This alternative would not cover the new construction Covered Activities that SMUD undertakes, which could potentially result in take, and these activities would not be covered under this alternative. For this reason, this alternative was dismissed from consideration.
- **Different Conservation Strategy.** The option of using a different Conservation Strategy was considered. However, it was decided that any other Conservation Strategy would come with its own set of challenges and impacts and no specific other strategies would reduce significant effects resulting from implementation of the proposed Project. SMUD's proposed Conservation Strategy fully offsets take to the maximum extent practicable and utilizes the existing SMUD Bank, which was established primarily to serve SMUD's future mitigation needs, to mitigate under the proposed HCP for as many of the Covered Species as the SMUD Bank supports.

- **More Covered Species.** Under this alternative, additional species would be included as Covered Species and included in the federal take authorization. The take authorization would include all special-status plant and animal species that may occur in the Permit Area including all federally-listed and special-status birds. California Fish and Game Code only allows incidental take authorization to be given to state threatened and endangered species. This alternative would significantly increase the required avoidance and minimization measures, implementation costs, and may make some Covered Activities infeasible due to overlapping AMMs which would restrict the type, extent, and timing of Covered Activities. In addition, feasible and meaningful Conservation Strategies to offset permanent, temporary, and indirect impacts to the additional Covered Species would be challenging without established mitigation strategies or banking within the Plan Area already in place. SMUD would continue to do use environmental planning and screening tools to determine appropriate avoidance and minimization tools for non-Covered species and implement an Avian Protection Program that provides guidance for protection of avian species including compliance with state and federal nesting regulations. For these reasons, this alternative was dismissed from consideration.
- **Fewer Covered Species.** Under this alternative, fewer species would be included as Covered Species and included in the take authorizations. However, Covered Activities would take place regardless of whether the take authorizations covers fewer species because activities are required to maintain, repair, or upgrade existing facilities in order to maintain public safety. The same Covered Activities would occur regardless of how many species are covered by the take authorizations, although with fewer species covered, the opportunities for landscape-level mitigation would be reduced. Under this alternative SMUD would continue its environmental planning and screening processes and would apply for a project-specific ITP if it determines that take of a species not covered by the take authorizations could occur. This alternative would provide less species conservation and mitigation and would be more labor intensive to complete project-specific permitting for both SMUD and the regulatory agencies. For these reasons, this alternative was dismissed from consideration.

### 7.3 Alternatives Selected for Detailed Analysis

The screening process described in Section 7.2.3, *Alternatives Screening Process/Criteria*, resulted in one alternative to be carried forward for analysis in the EIR: the No Project Alternative.

#### 7.3.1 No Project Alternative

Under the No Project Alternative, SMUD would not pursue an HCP to provide comprehensive ESA coverage for all of its Covered Activities in its service territory. SMUD would seek to avoid take of all Covered Species, but would need to acquire incidental take authorizations under Section 7 of the ESA or the California Endangered Species Act

as applicable for each individual activity or project that may cause take. SMUD would continue its environmental planning and screening processes to avoid and minimize impacts, but site-specific AMMs (including numerous pre-activity surveys) would still be required for certain projects. Take of Covered Species could be similar or the same as the proposed Project. Individual projects and associated mitigation would likely result in higher costs and delays in O&M as compared to the proposed Project because each one would be reviewed and analyzed individually. Neither SMUD nor the wildlife agencies have the staff or ability to efficiently conduct environmental review for numerous individual projects and could result in numerous delays and schedule disruptions.

Because of potential delays involved with permitting such a large volume of work, the No Project Alternative would be an impediment to the efficient and timely maintenance of SMUD facilities, potentially delaying reliability and safety improvements. This alternative was also deemed to be cost inefficient.

### **Environmental Analysis**

Indirect Actions under the No Project Alternative would continue. Implementation of Indirect Actions under the No Project Alternative would not differ in regard to take. Therefore, the analysis below looks only at the Direct Actions, which would only occur under the proposed Project.

#### ***Aesthetics***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur and, as a result, enhancement to the viewshed would not occur. Therefore, there would be no impact on visual resources under this alternative.

Since this alternative would not include the visual benefit of SMUD Bank restoration activities associated with the HCP, impacts on visual resources under the No Project Alternative would be slightly greater in magnitude than the proposed Project.

#### ***Agricultural and Forest Resources***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. As with the proposed Project, the No Project Alternative would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and there would be no impact on agricultural resources. Impacts would be similar to those of the proposed Project.

***Air Quality***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. As a result, short-term, limited emissions of criteria air pollutants from use of vehicles for activities such as planting and monitoring would also not occur. Therefore, there would be no impact on air quality under this alternative, and impacts would be less than those of the proposed Project.

***Biological Resources***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur.

Under the No Project Alternative, potential benefits to slender Orcutt grass and Sacramento Orcutt grass habitat would not occur. Under the No Project Alternative, conservation of the species and habitats provided through the Conservation Strategy would not occur as efficiently and could result in higher costs and delays related to the need to review and analyze each project individually. Without implementation of the proposed HCP, impacts from Covered Activities would not be avoided, minimized, and mitigated as effectively and efficiently as under the proposed HCP, and the long-term benefits to the species would also be lessened by project-by-project small-scale mitigation. Therefore, impacts related to biological resources under the No Project Alternative would be somewhat greater than impacts under the proposed Project.

***Cultural Resources***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. Ground-disturbing activities associated with this Direct Action that have the potential to disturb archaeological resources would not occur. Therefore, there would be no impact on cultural resources under this alternative, and impacts would be less than those of the proposed Project.

***Energy***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. This activity, which could result in use of energy to power equipment, as well as use of diesel fuel for transportation of personnel, would not occur. While the proposed Project would not result in significant impacts related to energy,

impacts on would be slightly less under the No Project Alternative compared to the proposed Project.

### ***Geology, Soils, and Paleontological Resources***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. While the proposed Project would not result in significant impacts related to geology, soils, and paleontological resources, impacts under this alternative would be slightly less than the proposed Project.

### ***Hazards and Hazardous Materials***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. Although the proposed Project would not result in significant impacts related to hazards and hazardous materials, overall, the impacts related to hazards and hazardous materials under the No Project Alternative would be slightly less than under the proposed Project.

### ***Hydrology and Water Quality***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. The proposed Project would result in no impacts related to hydrology and water quality, and impacts under the No Project Alternative would be similar to those under the proposed Project.

### ***Land Use and Planning***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. The proposed Project would result in no impacts related to land use, and impacts under the No Project Alternative would be similar to those under the proposed Project.

### ***Minerals***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. The proposed Project would result in no impacts related to

minerals, and impacts under the No Project Alternative would be similar to those under the proposed Project.

### ***Noise***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. Impacts related to noise would be less than those of the proposed Project.

### ***Population and Housing***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. The proposed Project would result in no impacts related to population and housing, and impacts under the No Project Alternative would be similar to those under the proposed Project.

### ***Public Services***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. Similar to the proposed Project, this alternative would not result in a population increase or activities that would require new government facilities or lead to the physical alteration of existing facilities, including fire and police protection, schools, parks, or other public facilities. There would be no impact on public services, and therefore impacts under the No Project Alternative would be similar to those under the proposed Project.

### ***Recreation***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. The proposed Project would result in no significant impacts related to recreation. Since no grassland enhancement would occur, it is possible that impacts under the No Project Alternative would be slightly less compared to those under the proposed Project.

### ***Transportation***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this

Direct Action would not occur. As a result, additional personnel and equipment required for SMUD Bank enhancement (e.g., vegetation management and monitoring) would not generate new vehicle and truck trips. Therefore, there would be no impacts related to transportation and traffic under the No Project Alternative and impacts under the No Project Alternative would be slightly less compared to those under the proposed Project.

### ***Tribal Cultural Resources***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. Through AB 52 consultation, it was determined that the proposed project would not significantly impact Tribal cultural resources. Therefore, impacts would be similar for either the proposed Project or No Project Alternative.

### ***Utilities and Service Systems***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. The proposed Project would result in no impacts related to utilities and service systems, and impacts under the No Project Alternative would be similar to those under the proposed Project.

### ***Wildfire***

The only Direct Action that is not part of baseline and that could affect the physical environment would be the Enhance Sacramento Orcutt Grass Population and Slender Orcutt Grass Introduction at SMUD Bank activity. Under the No Project Alternative, this Direct Action would not occur. The proposed Project would result in no significant impacts related to wildfire. Since no grassland enhancement would occur, it is possible that impacts under the No Project Alternative would be slightly less compared to those under the proposed Project.

## **7.4 Comparison of Alternatives**

Table 7-1 summarizes the environmental analyses provides for the proposed Project alternatives.

**Table 7-1 Comparison of Environmental Impacts of the No Project Alternative in Relation to the Proposed Project**

<b>Resource Area</b>	<b>Proposed Project</b>	<b>No Project</b>
Aesthetics	Less than significant	Greater
Agricultural and Forest Resources	No impact	Similar
Air Quality	Less than significant	Less
Biological Resources	Less than significant	Greater

Resource Area	Proposed Project	No Project
Cultural Resources	Less than significant (with mitigation)	Less
Energy	Less than significant	Less
Geology, Soils, and Paleontological Resources	Less than significant	Less
Greenhouse Gas Emissions	Less than significant	Less
Hazards and Hazardous Materials	Less than significant	Less
Hydrology and Water Quality	No impact	Similar
Land Use and Planning	No impact	Similar
Minerals	No impact	Similar
Noise	Less than significant	Less
Population and Housing	No impact	Similar
Public Services	No impact	Similar
Recreation	No impact	Less
Transportation	Less than significant	Less
Tribal Cultural Resources	Less than significant	Similar
Utilities and Service Systems	No impact	Similar
Wildfire	Less than significant	Less

## 7.5 Environmentally Superior Alternative

CEQA requires the identification of an environmentally superior alternative (CEQA Guidelines 15126.6(a) and (e)(2)). The environmentally superior alternative is the alternative to the proposed Project that would result in the least damage to the environment. Based on the analysis presented in Chapter 3, the environmentally superior alternative is the No Project Alternative.

The impacts associated with the proposed Project and the No Project Alternative are qualitatively similar. Although impacts associated with ground-disturbing activities (Cultural Resources, Hydrology, Minerals) under the No Project Alternative may be slightly reduced compared to the proposed Project, these impacts would remain less than significant. Temporary impacts on Recreational facilities (i.e., Howard Ranch Trail) would be less than the under the No Project Alternative; however, impacts would be temporary, and the addition of conserved area in the long term would likely benefit the trail facility.

The proposed Project would provide for a greater level of conservation in the Plan Area. The Conservation Strategy would provide greater species conservation and improvements to existing banks. The proposed Project would result in benefits due to its approach of preserved habitat in larger blocks. The overall benefit to species would therefore be greater under the proposed Project without a measurable difference in impacts on the environment.

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