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Department of Agriculture
Rural Utilities Service

Cooperating Agency
United States
Department of the Interior
Bureau of Land
Management
Eagle Lake Field Office

Environmental Assessment

Fort Sage to Herlong 120kV Interconnect Project

Plumas-Sierra Rural Electric Cooperative

Lassen County, California and Washoe County, Nevada

July 2011

Fort Sage to Herlong 120kV Interconnect Project

Environmental Assessment

Prepared by:

U.S. DEPARTMENT OF AGRICULTURE
RURAL UTILITIES SERVICE
WASHINGTON D.C.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
EAGLE LAKE FIELD OFFICE

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LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ACSR	aluminum conductor steel reinforced
agl	above ground level
AN	audible noise
AQMD	Air Quality Management District
APLIC	Avian Power Line Interaction Committee
ATV	all-terrain vehicle
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	Best Management Practice
CAISO	California Independent System Operator
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDNR	California Department of Natural Resources
CEQ	Council of Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CPUC	California Public Utilities Commission
CSLC	California State Lands Commission
dB	decibel
dBA	A-weighted measurement of decibel
DOD	Department of Defense

LIST OF ACRONYMS AND ABBREVIATIONS, CONTINUED

DOE	Department of Energy
EA	Environmental Assessment
EDMS	Emissions and Dispersion Modeling System
EEI	Edison Electric Institute
EO	Executive Order
EPA	Environmental Protection Agency
EPAct	Energy Policy Act
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FONSI	Finding of No Significant Impact
FR	Federal Register
Kcmil	thousand circular mills
GHG	greenhouse gas
HMA	Herd Management Area
H_2S	hydrogen sulfide
KOP	Key Observation Point
kV	kilovolt
LCAPCD	Lassen County Air Pollution Control District
Ldn	Day Night Level
LUST	Leaking Underground Storage Tank
m	meter
m^2	square meter
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation Monitoring and Reporting Program
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mph	miles per hour
MW	megawatt
NAAQS	National Ambient Air Quality Standards

LIST OF ACRONYMS AND ABBREVIATIONS, CONTINUED

NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NNHP	Nevada Natural Heritage Program
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
O_3	ozone
OHV	off-highway vehicle
PCA	Pesticide Certified Applicator
PEIS	Programmatic Environmental Impact Statement
PG&E	Pacific Gas & Electric
PM	particulate matter
$PM_{2.5}$	particulate matter of 2.5 micrometers in diameter or smaller
PM_{10}	particulate matter of 10 micrometers in diameter or smaller
PMU	Population Management Unit
POD	Plan(s) of Development
ppm	parts per million
PSD	Prevention of Significant Deterioration
PSREC	Plumas-Sierra Rural Electric Cooperative
RCRA	Resource Conservation and Recovery Act
RCRC	Regional Council of Rural Counties
RMP	Resource Management Plan
ROD	Record of Decision
ROG	Reactive Organic Gas
ROW	right-of-way
ROWs	rights-of-way

LIST OF ACRONYMS AND ABBREVIATIONS, CONTINUED

RPS	Renewable Portfolio Summary
RUS	Rural Utilities Service
SB	Senate Bill
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control and Countermeasure Plan
SRMA	Special Recreation Management Area
SWA	State Wildlife Area
SWPPP	Stormwater Pollution Prevention Plan
U.S.C.	U.S. Code
UPRR	Union Pacific Railroad
U.S.	United States
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VOCs	volatile organic compound
VRM	Visual Resource Management
WCB	California Wildlife Conservation Board
WCRM	Western Cultural Resource Management, Inc.
WHR	Wildlife-Habitat Relationships
WRCS	Western Regional Corridor Study
$\mu g/m^3$	micrograms per cubic meter

Chapter 1
Project Overview

1.0 PROJECT OVERVIEW

1.1 Introduction

Plumas-Sierra Rural Electric Cooperative (PSREC) proposes to construct the Fort Sage to Herlong 120kV Interconnect Project, a 13.67-mile, 120 kilovolt (kV) transmission line originating in Nevada at the Fort Sage Substation in Section 33, T26N, R18E and terminating at the new proposed Herlong Substation, adjacent to the existing Herlong Substation, located at the intersection of U.S. 395 and Garnier Road (Lassen County Road A26) in T26N, R16E, Section 22 (Proposed Project) (see Map 1-1). The Proposed Project includes permitting the design, construction, operation, and maintenance of the Fort Sage to Herlong 120kV Interconnect Project (Proposed Action).

Construction of the Proposed Action would encompass 10 acres of new disturbance for the new Herlong Substation and a 200-foot-wide construction right-of-way (ROW) for the proposed 120kV transmission line. The final operational ROW would be 100 feet wide. The proposed ROW alignment crosses 4.24 miles of Bureau of Land Management (BLM) land; 0.51 mile of the Doyle State Wildlife Area (SWA), owned by the California Department of Fish and Game (CDFG); 3.52 miles of land owned by the California State Lands Commission (CSLC); 3.36 miles of private property; and 2.04 miles of other lands (i.e., Lassen County, Caltrans, Union Pacific Railroad [UPRR]). The Proposed Action would include 0.13 acre of permanent land disturbance for the transmission line structures (pole placement); 3.75 acres for the new Herlong substation; and up to 26.9 acres of temporary land disturbance for access, laydown, and line-stringing activities. No new permanent access roads would be constructed. To minimize surface disturbance and land use effects, a portion of the proposed ROW alignment parallels existing transmission lines and ROW easements. Line stringing (and pole placement on Doyle SWA, if possible) would be completed by helicopter.

Generally, the existing environment within the proposed ROW includes native desert shrub and grassland habitats, previously disturbed areas (e.g., roads, off-highway vehicle [OHV] tracks, motorcycle tracks), grazing allotments, and hunting areas. The design, construction, operation, and maintenance of the project would conform to the requirements of the U.S. Department of Agriculture's (USDA's) *Electric Transmission Specifications and Drawings, 115kV through 230kV* (April 1998), National Electrical Safety Code (NESC), and U.S. Department of Labor Occupational Safety and Health Standards, as well as all permits, leases, and easements obtained for the Proposed Project.

1.2 Proponent

PSREC is a member-owned electric cooperative that is required to provide electric and related services to its member owners in accordance with the reliability standards defined by the Rural Utilities Service (RUS), Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation, and Western Electric

Coordinating Council. It also must comply with the regulations of the California Independent System Operator (CAISO), under the direction of FERC.

The PSREC electric system currently supplies electricity to its member-owners via a 156-mile 69kV radial transmission system that originates in East Quincy, California and ends at the PSREC Leavitt Substation in Susanville, California. PSREC takes delivery of electrical energy at the PSREC East Quincy Substation from the two Pacific Gas & Electric (PG&E)/CAISO 60kV lines that originate at Caribou, approximately 30 miles west of Quincy, California. PSREC serves 6,500 customers in Lassen, Plumas, and Sierra counties in California, and the western edge of Washoe County in Nevada.

1.3 Purpose and Need

The purpose of and need for the Proposed Project is to address regional limitations of current power capacity; stabilize voltage service levels; meet expected demand, particularly the needs of the Federal Government at the Sierra Army Depot and at the Federal and State Correctional Facilities; and satisfy regulatory requirement. Specifically, the project's construction and operation would: a) provide a second source of power into PSREC's system, increasing the reliability of power delivery to the area and stabilizing the PSREC electric system and b) provide sufficient power to meet the anticipated area's traditional growth.

Regarding the need for reliability and stability to meet traditional growth, federal and state regulations require PSREC to perform studies to determine the health of its electric system. The studies include: 1) VIASYN, Inc. *Plumas-Sierra Rural Electric Cooperative, 2008 Power System Stability Study, 120 kV Service from Sierra Pacific Power Company* and 2) *Sierra Pacific Power Company Small Generation Interconnection Study, Plumas-Sierra Leavitt Power Project, December 2005*. The studies indicate the PSREC system has underlying problems that expose its member-owners to outages, interruptions, and stability problems that must be mitigated and corrected. The studies also show the PSREC system is at or near capacity and is unreliable due to its relative low voltage and the location and age of the infrastructure serving the PSREC system. Overall, the system is comprised of 20- to 50-year-old wooden structures, and the 69kV system is already undersized for the load it serves today.

As it exists today, April 2011, the electric system is at capacity. During the past winter months of 2010/2011, numerous outages occurred due to the stress on the existing system as a result of winter storms, generator failures, maintenance outages, and equipment failures of other electrical utilities that provide power to the PSREC system.

Regarding load requirements, the area's current energy needs have increased due to high-profile facilities in Lassen County, California, including the maximum-security High Desert State Prison and the California Correctional Center (both located in Susanville, California), and the Federal Correctional Institution and U.S. Department of Defense Sierra Army Depot (both located in Herlong, California).The load requirement should

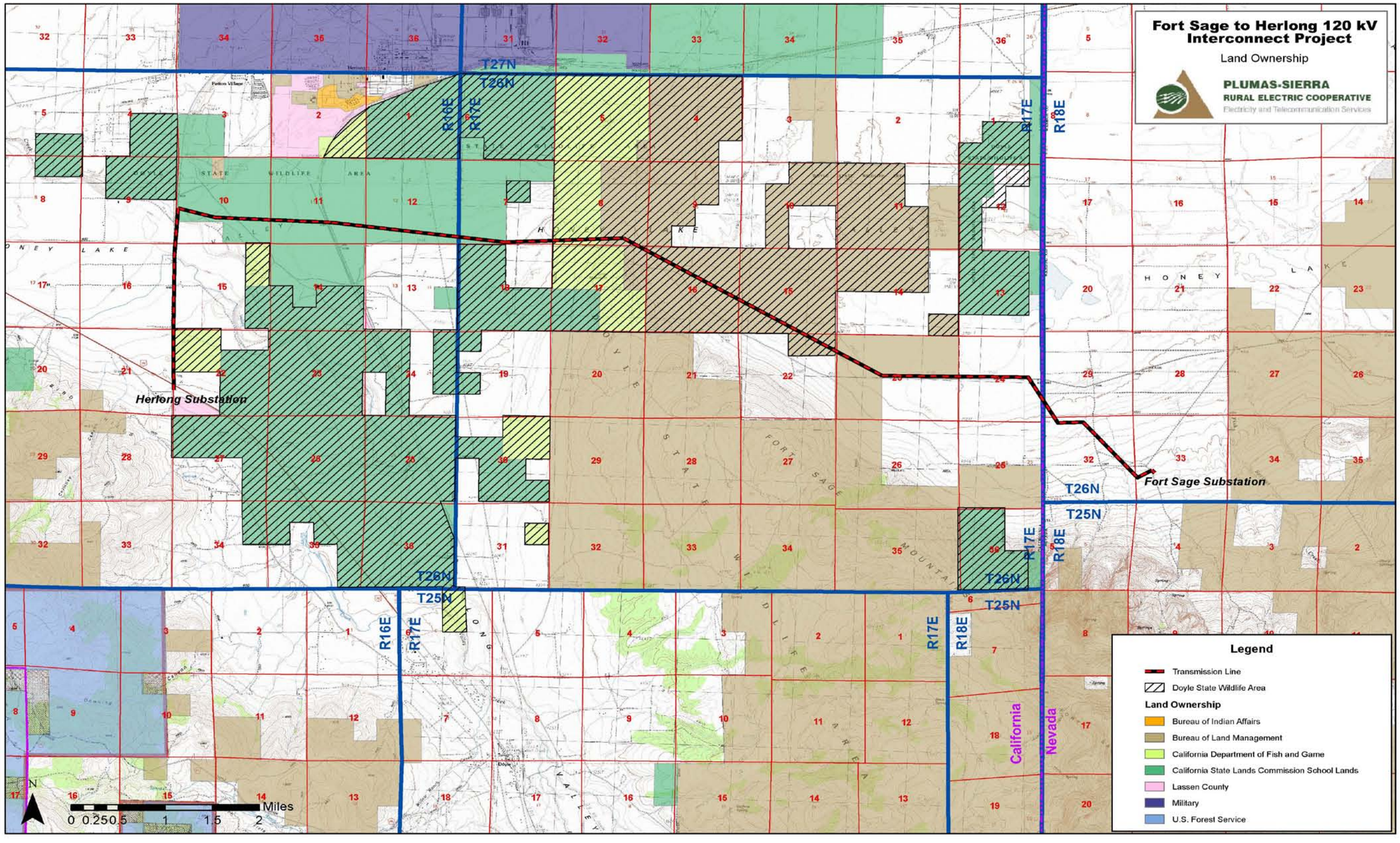
meet the projected population growth, which is approximately 1.9% per year, predominanty the result of the regional federal and state correctional facilities and the needs of the Sierra Army Depot.

Regarding voltage stability requirements, the current 69kV system does not allow for required energy generation to meet current needs because the existing system cannot support more than 10 or 15 megawatts (MW) of additional electricity generation without resulting in an uncompensated voltage rise above the American National Standards Institute standard that protects electric consumers from such events. For example, the closure of the Sierra Pacific Industries (NV Energy) Co-Generation Plant in Loyalton, California in August 2010 and the potential closure of the plant in Quincy, California would adversely affect PSREC's ability to serve its customers. PSREC does not have the current capacity to compensate for this system loss.

The solution to these stability and reliability issues is to connect the PSREC system to a higher voltage source that increases the electromotive force behind the system, raises the distance over which electric current may be transmitted, and increases current flow. The Proposed Project also would reduce the overall impedance on the system by interconnecting at a mid-point (proposed Herlong Substation), thereby, reducing the length of the electrical power line – and distance – to the major and high priority loads as previously described.

Furthermore, and pursuant to the governing regulations of the State of California, PSREC must support a portfolio of renewable energy projects. Renewable energy projects require reliability and stability components due to the inherent fluctuations in renewable energy projects. Currently, the PSREC system cannot compensate for these fluctuations without a higher voltage connection to the Bulk Electric System.

In summary, the goals and objectives of the Proposed Action would be to meet regional electrical energy needs that are time sensitive, increase the reliability of power delivery to the area, and stabilize the PSREC electric system.



Map 1-1 Fort Sage to Herlong 120kV Interconnect Project – Land Ownership

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1.4 Regulatory Process

1.4.1 Federal

The Rural Utilities Service (RUS), an agency which administers the USDA's Rural Development Utilities Programs, may provide financing assistance for the construction of the proposed facilities. RUS, under the USDA, is the federal lead agency responsible for preparation of the Environmental Assessment (EA). BLM is a Cooperating Agency on the project. A *Memorandum of Understanding (MOU) CA-350-08-01* (March 11, 2008) was signed between RUS and BLM.

1.4.2 State

In addition to federal agency approvals, the Proposed Action requires the state and local approvals presented in Table 1-1.

Table 1-1 Approvals Required for the Proposed Action

Agency	Action
California Department of Fish and Game California Wildlife Conservation Board U.S. Fish and Wildlife Service, Wildlife and Sport Fish Restoration Program	Grant of easement for a portion of T26N, R17E, Section 8 on the Doyle SWA
U.S. Department of Agriculture, Rural Utilities Service U.S. Department of the Interior, Bureau of Land Management	Approval of the EA and issuance of Finding of No Significant Impact (FONSI); approval of loan of federal funds to construct the proposed project. Standard Form (SF) 299, Application for Transportation and Utility Systems and Facilities on Federal Lands when applying for a ROW, permit, license, lease, or certificate for the use of federal lands.
U.S. Environmental Protection Agency	Air Quality & Construction Stormwater Permit
Federal Aviation Administration	Determination of No Hazard to Air Navigation for the Herlong Airport owned by Lassen County, California.
California State Lands Commission	Lease to cross State School Lands in T26N, R26E, Sections 10, 11, 12 and T26N, R17E, Section 7 - Lease W26302
California State Water Resources Control Board & Regional Water Quality Control Board	National Pollutant Discharge Elimination System (NPDES) Construction Activities Stormwater General Permit

Table 1-1 Approvals Required for the Proposed Action, continued

Agency	Action
California Transportation Department	Standard Encroachment Permit Transportation Permit
Lassen County Air Pollution Control District Washoe County District Health Department, Air Quality Management Division	Dust Control Plan
Lassen County, California	Road Encroachment Permit Transportation Permit Grading Permit
Washoe County, Nevada	Special Use Permit for Development and Grading at Fort Sage Substation
Union Pacific Railroad	Encroachment Permit for overhead line crossing of tracks at milepost 369.43 on Winnemucca Branch near town of Herlong, Lassen County, California.

1.5 BLM Land Use Plan Conformance

The Proposed Action conforms with the BLM's Eagle Lake Field Office Resource Management Plan (RMP), Record of Decision (ROD), April 2008, as amended by the *Programmatic Environmental Impact Statement, Designation of Energy Corridors on Federal Land in the 11 Western States* (West-Wide Energy Corridor Programmatic Environmental Impact Statement [PEIS] [U.S. Department of Energy (DOE)/BLM 2008]) ROD, January 14, 2009.

The Proposed Action would occur in an area identified as compatible in the RMP and is consistent with the following Land Use Plan decisions (objectives, terms, and conditions) and implementation plan decisions:

> "New ROWs would be located within or adjacent to existing ROWs, to the extent practicable, in order to minimize adverse environmental effects."
>
> "Utility corridors included in the Western Regional Corridor Study (WRCS) and the Tuscarora Pipeline Empire Lateral (within the Eagle Lake Field Office) will be available for ROW development, unless environmental analysis reveals the likelihood of significant adverse impacts on other resources. In the WRCS, the Alturas transmission line route (along U.S. 395) was found to be the most appropriate and likely site for future ROW development, and this route will be recommended for designation. Transmission lines of 69kV (or greater) and pipelines 10 inches in diameter (or greater) would be located within these corridors. Corridor width would be a maximum of 2,000 feet (1,000 feet on either

side of centerline), unless adjacent to an exclusion area. In such a case, corridor width would be 2,000 feet opposite the special management area boundary."

1.5.1 West-Wide Energy Corridor PEIS

The Energy Policy Act of 2005 (EPAct), Public Law 109-58 (H.R. 6), enacted August 8, 2005, directs the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior (the Agencies) to designate (under their respective authorities) energy corridors on federal lands in 11 western states for oil, gas, and hydrogen pipelines and electric transmission and distribution facilities. As required under the EPAct, the Agencies issued the final West-Wide Energy Corridor PEIS in November 2008 (DOE/BLM 2008).

In the West-Wide Energy Corridor PEIS, the Action considered (designation of corridors) and No Action Alternative (no designation of corridors) were evaluated for potential environmental impacts associated with the designation of Section 368 energy corridors on federal lands and the amendment of land use plans to incorporate the corridor designations. In addition, the types of impacts that may occur from development of future energy transport projects also were identified. Because the West-Wide Energy Corridor PEIS evaluated the designation of corridors and not the construction and operation of any energy transport projects, only a qualitative evaluation was provided of the types of impacts that could result from development of an energy transport project, regardless of project location. More quantitative impact analyses, including identification of the magnitude and extent of potential impacts to specific social, cultural, economic, and natural resources, can only be conducted at the project level, which will be completed in the future, where applicable.

Consolidation of ROW development would reduce the proliferation of separate ROWs on federal lands. Corridor designation and the amendment of land use plans do not authorize the development of projects within the corridors, or require the use of a designated corridor. Project applicants could continue to request project-specific ROWs elsewhere on federal and nonfederal lands to meet their specific energy transport objectives, just as they currently do and would continue to do under the No Action Alternative.

There are 131 corridor segments that comprise the West-Wide Energy Corridor PEIS corridors. Table 1-2 provides a state-by-state breakdown on number, total linear miles, and acres of federal energy corridors designated under Section 368.

The BLM issued a ROD for the West-Wide Energy Corridor PEIS on January 14, 2009. The Proposed Action is located within or adjacent to existing ROWs, including corridors designated pursuant to the West-Wide Energy Corridor PEIS, to the extent practicable.

Table 1-2 Federal Energy Corridor Summary by State

State	Number of Corridors	Miles of Corridors	Corridor Area (acres)	Miles Incorporating Existing Developed Utility ROWs[1]	Miles Incorporating Existing Developed Transportation ROWs[1]	Percentage of Length Incorporating Existing Developed Utility and Transportation ROWs[2]
Arizona	16	650	386,567	505	74	81
California	20	823	672,503	684	304	86
Colorado	19	426	260,954	354	59	86
Idaho	14	314	123,108	173	39	60
Montana	8	236	49,308	51	36	33
Nevada	34	1,622	904,771	973	276	69
New Mexico	4	293	121,064	225	31	79
Oregon	12	565	230,593	240	72	54
Utah	14	692	370,382	371	155	68
Washington	2	51	6,198	51	9	100
Wyoming	18	438	185,592	286	82	72
Total	**131[3]**	**6,112[4]**	**3,311,041[3]**	**3,914**	**1,138**	**71**

Source: (DOE/BLM 2008)

[1] Miles of corridors that would be designated under the PEIS that follow or incorporate authorized ROWs with existing utility or transportation infrastructure.

[2] Because some proposed corridor locations may incorporate both "developed utility" and "developed transportation" ROWs, the stated percentages cannot be obtained by simply summing the mileages of the existing utility and transportation ROWs, since summing these mileage estimates would overestimate the actual mileages of developed ROWs within the proposed corridors.

[3] The total, then, is the sum of the state numbers because some corridors cross state boundaries, and these are included in each appropriate state total.

[4] Slight differences between the indicated total and the sum of the stated entries are due to rounding.

1.6 Relationship to Statutes, Regulations, and Plans

The planning decision for this EA will be compatible with the following existing plans and policies of adjacent local, state, tribal, and federal agencies to the extent practical, and consistent with state and federal law and regulations.

- National Environmental Policy Act (NEPA)
- Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S. C. 470; 36 CFR 800), Executive Order 11593
- Archaeological and Historic Preservation Act of 1966 (16 U.S.C. 469a-1 et seq.).
- Antiquities Act of 1906, officially *An Act for the Preservation of American Antiquities* (16 U.S.C. 431–433)
- Archaeological Resources Protection Act of 1979
- RUS Environmental Policies and Procedures (7 CFR 1794)
- California Environmental Quality Act (CEQA)

- Federal Endangered Species Act (ESA)
- California Endangered Species Act
- National Historic Preservation Act (NHPA)
- Federal Clean Water Act
- California Porter-Cologne Water Quality Control Act
- Federal Land Policy and Management Act of 1976
- Energy Policy Act (EPAct) of 2005 (Public Law 109-58) and West-Wide Energy Corridor PEIS in November 2008 (DOE/BLM 2008)
- California Senate Bill (SB) 1078 - Renewable Energy Portfolio: Creates a Renewable Portfolio Summary (RPS) goal of 20% by 2017
- California Executive Order (EO) S-21-09, September 15, 2009, setting the RPS goal of 33% by 2020
- California SB 107 - Accelerated Renewable Energy Portfolio for Investor-Owned Utilities: (20% by 2010) (also included in the 2003 California Energy Action Plan)
- California SB 1368 - Greenhouse Gas Emissions Performance Standard: Prohibits long-term, base-load generation/contracts, if emissions are more than natural gas
- California Assembly Bill (AB) 32 - Global Warming Solutions Act: Reduce emissions to 1990 levels by 2020
- California AB 380 - Resource Adequacy: Requires load-serving entities to maintain adequate physical-generating capacity
- Lassen County General Plan 2000 Noise Element 1999 and Energy Element 1993
- Master Plan of Washoe County, Comprehensive Plan, High Desert Area Plan 2002, amended 2010

1.7 Processes

1.7.1 Identification of Issues

Pre-scoping meetings were held with the PSREC, BLM, RUS, CDFG, California Public Utilities Commission (CPUC), and Lassen County Community Development. The following Native American tribes were contacted and included in on-site meetings on April 1, 2008, and April 8, 2008, to discuss preservation of historic/cultural, visual, and biological resources:

- Nevada: Washoe Tribe (Darrel Cruz, on April 8, 2008)
- California: Pyramid Lake Paiute Tribe (no representative sent to on-site meetings), Reno-Sparks Indian Colony (Michon R. Eben, on April 1, 2008), Susanville Indian Rancheria (Melany L. Johnson, on April 1, 2008), and Greenville Indian Rancheria (Lisa Bowater, on April 8, 2008)

Scoping packets were distributed to regulatory agencies, city and county jurisdiction, Native American tribes (in addition to the aforementioned), and interested individuals. The summary of public comments may be found in Chapter 5 and Appendix A.

Issues identified during project scoping included the following:

- Cultural and historic resources protection
- Crossing the Doyle SWA

Other primary issues and concerns addressed:

- Air quality (fugitive dust and greenhouse gas [GHG] emissions during construction)
- Vegetation restoration
- Noxious and/or invasive weeds control
- Direct, indirect, short-term, and long-term impacts to wildlife resources
- Increased traffic on local roads during construction
- Recreation effects at Fort Sage OHV Special Recreation Management Area (SRMA) during construction
- Native American religious concerns

1.7.2 NEPA EA

This document constitutes the EA and contains a description of the Proposed Action, description of the existing environment, identification of environmental consequences or impacts, and mitigation measures.

1.7.3 NEPA Public Review

This document will be circulated for public review, including review by any applicable federal, state, and local agencies, for a maximum of 30 days consistent with NEPA requirements.

1.7.4 NEPA Response to Comments on the EA

Following the public review period, a Final EA may be prepared if substantive comments are received. RUS will respond to written comments received during the public review period, if applicable.

1.7.5 Adoption of the EA/Project Consideration

Upon review and consideration of the EA and public comments, RUS will take action to approve, revise, or reject the Proposed Action. A decision to approve the Proposed Action will be accompanied by written findings in accordance with 40 Code of Federal Regulations (CFR) 1503.4.

1.7.6 Finding of No Significant Impact

In accordance with NEPA and the Council on Environmental Quality (CEQ) Guidelines, the primary purpose of conducting an EA is to determine whether a proposed action

would have a significant impact on the human environment and, therefore, require the preparation of an Environmental Impact Statement (EIS). As defined in 40 CFR 1508.13, the Finding of No Significant Impact (FONSI) is a document that briefly presents the reasons why an action would not have a significant effect on the human environment. The regulations further define the term "significantly" in 40 CFR 1508.27 and require that the context and intensity of impacts be considered in analyzing significance, as the following describes further:

Context. The significance of an action must be analyzed in several contexts, such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance usually depends upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered while evaluating intensity:

- Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that the overall effect would be beneficial.
- The degree to which the Proposed Action affects public health or safety.
- Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
- The degree to which the effects on the quality of the human environment are likely to be highly controversial.
- The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
- Whether the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
- Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
- The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources.

- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA of 1973.
- Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment." (40 CFR 1508.27)

1.7.7 Relationship to CEQA

The Proposed Action also is subject to the requirements of CEQA, based on the needed approvals by the CSLC on the application to lease State School Lands and by the CDFG to lease a portion of the Doyle SWA. The EA is designed to meet the requirements of CEQA, and public notice of the EA and FONSI will be circulated, as required by State CEQA Guidelines section 15225 (14 California Code of Regulations [CCR] section15225). The CSLC intends to use the EA and FONSI as the CEQA-equivalent of a mitigated negative declaration (State CEQA Guidelines section 15221).

Chapter 2
Proposed Action and Alternatives

2.0 PROPOSED ACTION AND ALTERNATIVES

The purpose of this chapter is to identify and describe the proposed Fort Sage to Herlong 120kV Interconnect Project (Proposed Action), including a detailed description of its design criteria, committed environmental protection measures, and the alternatives considered. In addition, this chapter describes the alternatives that were considered but eliminated from detailed analysis. The alternatives examined for this EA adhere to the regulations in 40 CFR 1502.14(a) and requirements of the Council of Environmental Quality (CEQ) in Federal Register (FR) 4646, 18026 (March 23, 1981), as amended.

2.1 Project Alternatives

The Proposed Action involves the feasibility planning, permitting, design, coordination, construction, operation, and maintenance of a 13.67-mile, single-circuit, three-phase 120kV transmission line from Nevada to California. The Proposed Action is described in detail in Section 2.3.

Criteria utilized to develop feasible alternative transmission line routes included the following factors and constraints:

- Avoid steep terrain in the area of the Fort Sage Mountains due to the presence of known biological resources (e.g., raptor nest sites), potential conflicts with the Fort Sage OHV SRMA, visual effects, and difficulty and expense of construction.
- Avoid areas of cultural and historic properties.
- Avoid lands administered by the Department of Defense (DOD) due to the nature of high-level security at the Sierra Army Depot.
- Utilize existing access roads and utility ROWs, where practical.
- Minimize the length to ensure efficiency and reliability and to reduce land disturbance.
- Minimize crossing of the Doyle SWA, which is “critical mule deer winter range” managed by the CDFG and encompasses portions of riparian habitat along Long Valley Creek.

This EA analyzes the following two alternatives in detail in Chapter 4:

- No Action Alternative
- Proposed Action

A brief description of these alternatives is provided below.

2.1.1 No Action Alternative

Under the No Action Alternative, no new 120kV transmission line would be constructed to accommodate regional load growth within the PSREC service territory. RUS, as the federal lead agency, would not issue approval for financing assistance for the proposed project, the BLM would not issue a ROW Grant Amendment approval, the CSLC would not approve the requested ROW lease on state lands, and the CDFG would not grant a ROW lease across a portion of the Doyle SWA.

Under the No Action Alternative, no secondary power transmission source would be implemented for PSREC's regional electric reliability and system stabilization as part of the state power service agreements to the CPUC and Public Utilities Commission of Nevada. These agreements state the utility is obligated to serve any person requesting service and whose plans for building are approved by the local, state, and/or federal agencies in the respective counties. New transmission is required to meet existing demand and to provide needed voltage stability to the existing system.

2.1.2 Proposed Action Alternative

The Proposed Action Alternative is presented in the BLM ROW Grant application by the Project Proponent (PSREC). PSREC has attempted to reduce potential Proposed Action impacts through project design, application of Best Management Practices (BMPs), use of helicopters to minimize project effects, development of design criteria/committed environmental protection measures, and consideration of input from Native American tribes and public scoping efforts. The Proposed Action is discussed in detail in Section 2.3. A summary of design criteria/committed environmental protection measures (including BLM's ROW Grant conditions and PSREC's standard BMPs) and the complete project's Mitigation Monitoring and Reporting Program (MMRP) are presented in Section 2.6 and Appendix B, respectively.

2.2 Alternatives Considered but Eliminated from Detailed Study

The following four project alternatives were investigated for possible transmission line routing and dismissed from detailed consideration for the reasons provided below.

2.2.1 North Alignment

The 14.5-mile-long North Alignment would follow the Reno-Alturas 345kV transmission corridor for 6.3 miles northwest of the Fort Sage Substation to the UPRR in T27N, R17E, NW¼ Section 34. At that location, the alignment would parallel the railroad in a westerly direction for approximately 3 miles, crossing the railroad, and continuing through the Sierra Army Depot and the town of Herlong to the intersection of Garnier Road (Lassen County Road A-26). This alignment was eliminated from detailed study based on the following rationale:

- It would be difficult to obtain an easement through the Sierra Army Depot and the town of Herlong, due to the proposed transmission line's 100-foot ROW.

- There are known cultural and historic resources along the ROW.

- The route would cross 1.25 miles of Doyle SWA.

2.2.2 South Alignment

The 15-mile-long South Alignment would follow the Reno-Alturas 345kV transmission line for 4.5 miles. It would cross Calneva Road in T26N, R17E, Section 14, turn west and remain north of Turtle Mountain for 4 miles, before turning south and following the section line between Sections 19 and 20, 30 and 29, and 31 and 32. At the township boundary between T26N and T25N, the alignment would head west, cross U.S. 395, and 1 mile farther west it would parallel U.S. 395 until it reached the Herlong Substation. This South Alignment would have numerous angle poles and would change direction five times to avoid most of the Doyle SWA. This alignment was eliminated from detailed study based on the following rationale:

- This route would be longer and more expensive.

- This route would cross 2.84 miles of Doyle SWA.

- It would be difficult to obtain easements across residential and agricultural property. The Energy Element of Lassen County's General Plan requires that transmission line routes minimize impacts to those areas with established concentrated residential development.

2.2.3 Sub-Alternative Transmission Routing Along Garnier Road

In 2002-2003, a PSREC 69kV transmission line was constructed on the west side of Garnier Road. PSREC examined the following options as sub-alternate routing for the proposed new 120kV transmission line:

1. Co-locate Proposed 120kV Line with Existing 69kV Transmission Line
   This alignment was eliminated from detailed study because it would not be economical to rebuild the existing 69kV line to co-locate both the 120kV and 69kV circuits on the same structure. Specifically, co-locating the two circuits would require a taller pole along this entire segment and the taller structures would encroach into the airspace at the Herlong Airport.

2. Locate Second Line West of Existing 69kV Transmission Line
   Locating a second ROW west of the existing 69kV ROW to accommodate the 120kV transmission line would require crossing the 69kV line twice and extending the ROW into cultivated fields. This alignment was eliminated from

detailed study because, although technically feasible, this routing would be cost-prohibitive and there would be strong opposition by the local residents. Additionally, discussions in 2007 with Lassen County, California about use of the ROW alignment suggested difficulty in permitting this option.

2.2.4 Undergrounding the 120kV Transmission Line

The primary benefit to burying the proposed 120kV transmission line would be the reduction in impacts to visual resources. However, there are no anticipated significant impacts to long-term aesthetics from the Proposed Action or alternatives, and undergrounding the transmission line was eliminated from detailed consideration, primarily based on: 1) the degree of increased environmental disturbance and impacts anticipated for a project of this magnitude, 2) maintenance and operational issues, and 3) increased costs.

Specifically, this project alternative was deemed infeasible for the following reasons:

- Construction Disturbance: Construction of an underground line would require trenching along the entire length of the route, resulting in a great level of disturbance to biological resources, soils, and cultural resources (i.e., to a much greater extent than constructing an overhead line). Additionally, the trench could be as deep as 5 to 6 feet with access vaults every 750 to 1,000 feet requiring areas 25 feet long x 12 feet wide x 11 feet deep. It is currently unknown, but given these depths, blasting may be required for underground construction, adding to potential impacts to area residents. Finally, there is less opportunity to avoid sensitive resources.

- Maintenance and Operational Issues: Undergrounding a power line does not necessarily improve electric reliability (Edison Electric Institute [EEI] 2004). Failure of an underground line can be more difficult to locate and repair, and requires specialized equipment and crews to locate, dig up, and repair the fault; therefore, repairs to underground lines are more costly and generally take much longer to service than overhead lines. During the first 3 to 4 years, underground lines are less reliable than overhead lines due to design and installation issues, and underground lines have a shorter lifespan than overhead lines: 25-35 years with decreased reliability after 15 years. The average duration of an outage on an underground line is approximately 60% longer than on an overhead line (EEI, 2004). Additionally, maintenance and repairs can create additional ground disturbance, requiring further revegetation.

- Cost: Undergrounding an overhead power line may cost up to $1 million/mile or almost 10 times the costs more than equivalent overhead line construction (EEI 2004). The time and construction methods required to construct an underground line are much greater and more complex, resulting in a substantial increase in construction costs. The additional expense is compounded by the shorter expected lifespan of an underground line. Additionally, maintenance

costs typically are greater, since outages are more difficult to locate and repair, as discussed for maintenance and operational issues.

2.3 Proposed Action

The Proposed Action would encompass construction of a 120kV transmission line originating in Washoe County, Nevada at the existing Fort Sage Substation in T26N, R18E, Section 33 and terminating in Lassen County, California, at the proposed new Herlong Substation, a distance of 13.67 miles (Map 1-1). A total of 1.7 miles of the ROW is located in Nevada; the remaining 11.97 miles are located in California. The new substation would be located adjacent to the existing Herlong Substation at the intersection of U.S. 395 and Garnier Road (Lassen County Road A26), in T26N, R16E, Section 22.

The Proposed Action would require approximately four months to construct. Proposed construction ideally would occur between the months of May and October; however, a number of variables may affect the construction schedule. These factors could include spring and fall precipitation, high fire risk during the summer months, restrictions related to bird nesting, scheduled recreational events, or other mitigating factors identified during the pre-construction planning.

2.3.1 Transmission Line Description

The proposed transmission line would be designed for a single-circuit, 120kV three-phase line (three conductors and two overhead static wires). The proposed line would be constructed with two-pole, H-frame structures, the exceptions being at angle points, which require three-pole H-frame structures, and along Garnier Road where single-pole structures are proposed. Illustrations of a typical 120kV two-pole H-frame structure, a three-pole structure, and a single-pole structure are provided in Figure 2-1, Figure 2-2, and Figure 2-3, respectively. The poles would be wooden, except where steel may be required for stability or strength. Generally, an area of 16 square feet would be required for each wood pole; steel poles would require 25 square feet and anchors would require 48 square feet. Since the structure configuration would be based on field conditions (e.g., slope), the EA analyses assume a conservative 25-square-foot disturbance area for each pole and 10 angle structures that would require 48 square feet for anchors/guys.

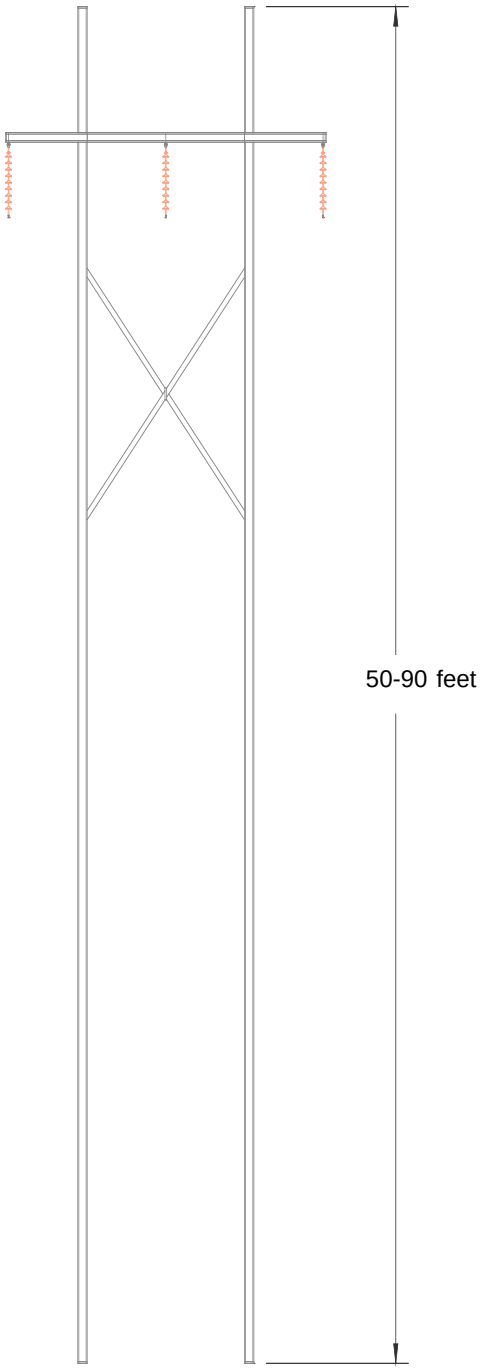

Figure 2-1 Typical Two-Pole H-Frame Structure

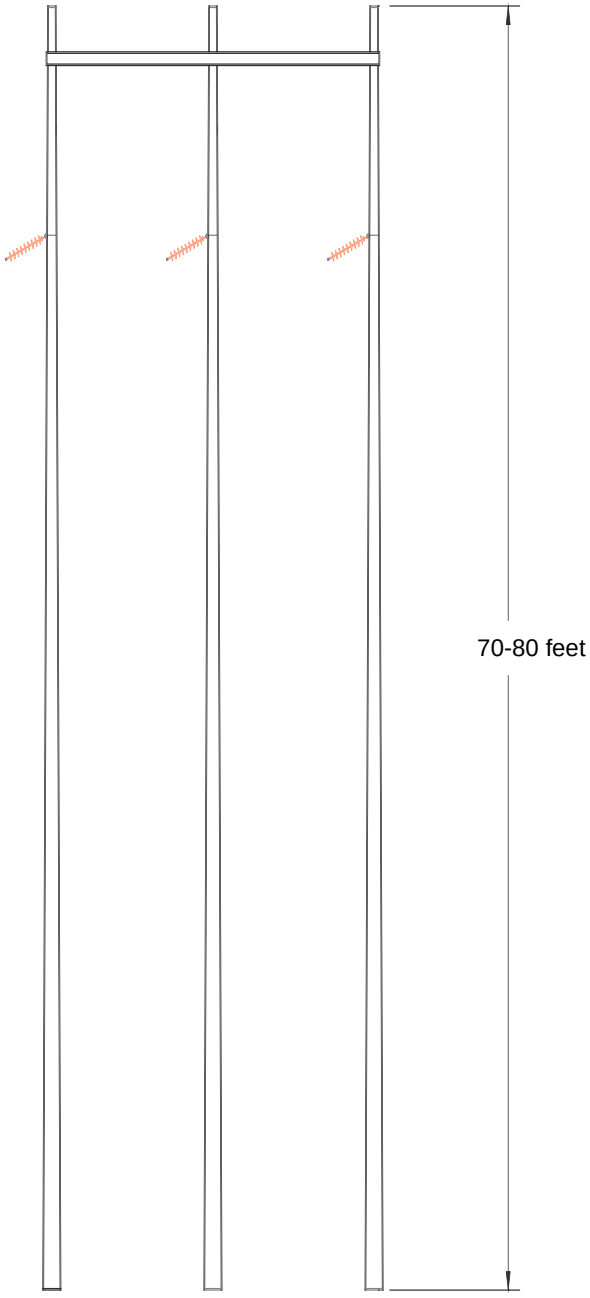

Figure 2-2 Typical Three-Pole Structure

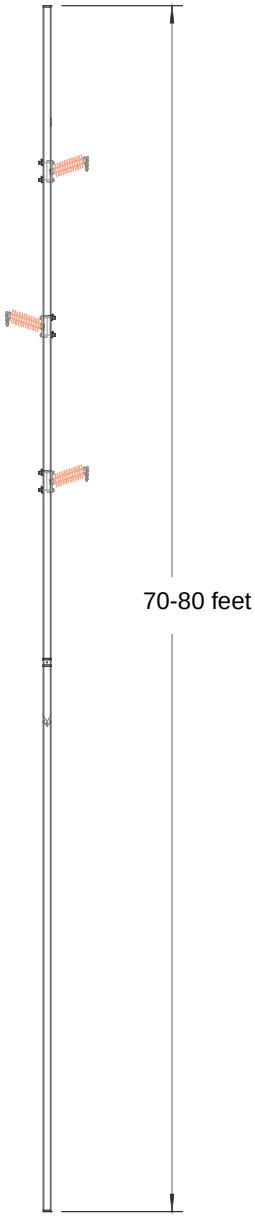

Figure 2-3 Typical Single-Pole Structure

The span length between H-frame structures would range between 700 and 900 feet; single-pole spans would be approximately 300 feet. Any modification to structure design, based on site-specific field conditions, would be minor and would adhere to the construction standards and specifications, including the design criteria/committed environmental protection measures developed for this Proposed Action. Project design standards are listed in Table 2-1. These design standards would allow for a future increase in line capacity, including installation of two circuits and a wider use of steel poles, depending on future energy demands.

Table 2-1 Project Design Standards

Project Component	Design Characteristics
Overall Project	
Line Length	13.67 miles
Structure Type (wood or steel)	Approximately 117 structures including approximately 69 two-pole H-frame structures, 38 single-pole structures, and 10 three-pole H-frame structures. Pole #1 is located inside the fenced area of the existing Fort Sage Substation.
Structure Height	50 to 90 feet (43 to 79 feet above ground level [agl])
Typical Span Length	Approximately 700 to 900 feet for two- or three-pole H-frame structures and approximately 300 feet for single-pole structures
Number of Structures (per mile)	Approximately seven for two- or three-pole H-frame structures and 18 for single-pole structures
ROW Width	100-foot-width; approximately 141 acres total (Lassen County's Garnier Road ROW width not specified)
Temporary Land Disturbed (approximate)	
Structures	Temporary equipment workspace (for maneuvering construction equipment) would include a 100-foot x 100-foot area around each structure for a total disturbance of **19.51 acres** within the ROW. At each angle pole, it is estimated an additional 0.5 acre of temporary disturbance would occur (total of 5 acres), for a total of **24.51 acres** of temporary disturbance over the entire route.

Table 2-1 Project Design Standards, continued

Project Component	Design Characteristics
• ***Doyle SWA Structure Sites*** *(see Section 2.4, page 2-13):*	
- Option A (helicopter use)	Temporary impacts would be avoided on the 0.5 mile of Doyle SWA, assuming hand drilling (i.e., augering) of the poles would be feasible (enabling use of a helicopter for pole placement – Option A, Table 2-4, Poles 52-54).
- Option B (standard construction)	Temporary work areas on Doyle SWA for the structure sites would result in **0.69 acre** of short-term impacts (if standard construction methods are used per Option B, Table 2-4, Poles 52-54).
Access Routes	No permanent access roads would result from implementation of the Proposed Action. During construction, existing roads and OHV tracks would be used for access to structure sites, except for certain portions on BLM land that would require access along the ROW. Temporary access routes between existing access roads and the poles would require minimal vegetation cutting and driving over existing brush in 20-foot-wide area. Therefore, temporary access routes during project construction would result in a total of **8.58 acres** affected in the short term for the entire project.
• Doyle SWA Access Routes:	
- Option A (helicopter use)	No additional disturbance
- Option B (standard construction)	Standard construction methods would temporarily impact an additional 10,500 square feet (**0.24 acre**).
Wire-Pulling and Splicing Sites	Sites for tensioning equipment would be located approximately 10,000 feet apart. Each impact area would be 150 feet x 60 feet, totaling **1.47 acres** disturbed in the short term (see Structure Sites in Section 2.5.2.2). There would be no tensioning sites on Doyle SWA.

Table 2-1 Project Design Standards, continued

Project Component	Design Characteristics
Construction Yards	Yard #1 – On private land, adjacent to Pole 4, temporary disturbance of 400 feet x 100 feet (**0.92 acre**). Yard #2 – On Lassen County-owned land at the Herlong Transfer Station; previously disturbed ground. Yard #3 – On PSREC-owned land at the new Herlong Substation; previously disturbed ground.
Total Temporary Disturbance Includes structures sites, access routes, wire-pulling and splicing sites, construction yards, and Option A (helicopter use on Doyle SWA for pole placement) Includes structures sites, access routes, wire-pulling and splicing sites, construction yards, and Option B (standard construction on Doyle SWA for pole placement)	**35.48 acres** disturbed (Option A) **36.41 acres** disturbed (Option B)
Permanent Land Disturbed (approximate)	
Structures **Substation** **Access** **Total Permanent Disturbance** Includes structure sites and substation site.	Approximately 25 square feet per pole; an additional 48 square feet in the 10 locations the pole is anchored/guyed; totaling 5,630 square feet (**0.13 acre**) of permanent disturbance. At the Herlong Substation site PSREC owns 10 acres, which were previously disturbed during reconstruction and widening of U.S. 395. Construction of the new Herlong Substation would require 14,615 cubic yards of soil to be excavated and utilized on site. The new Herlong Substation would require **3.75 acres,** which would be fenced for equipment and buildings; a portion of the 3.75 acres would be utilized as a construction yard and helicopter pad. No new permanent access roads would be required. **3.88 acres**
Existing Access Routes (approximately 16 miles of existing routes)	Use existing access routes, including 2.15 miles of existing OHV routes, where possible.
Voltage	120kV transmission

Table 2-1 Project Design Standards, continued

Project Component	Design Characteristics
Circuit Configuration	Single-circuit 120kV
Conductor Size	795 thousand circular mills (kcmil) aluminum conductor steel reinforced (ACSR) for 120kV
Height/Ground Clearance of Conductor	25 feet minimum would meet or exceed NESC safety standards and the RUS-recommended design's vertical clearance for conductors above ground.
Raptor Protection	The line design would comply with raptor-friendly construction standards that require 72 inches between energized surfaces and grounded structures for 120kV voltage. All steel poles with either horizontal suspension insulators or post-type insulators would be fitted with attachment hardware and insulators rated at 161kV and specified at 72 inches or greater. Single-pole wood structures either would incorporate a 72-inch buffer between energized and grounded surfaces or application of cover-up materials on each pole's groundwire (e.g., wire molding).
Pole Foundation Depth	7 to 14 feet

2.3.2 Substation Description

The proposed 120kV line must terminate at a PSREC substation that provides for voltage transformation, protection for equipment and public safety in the event of a fault, and control of system configuration to facilitate repair and maintenance. The required protection schemes (e.g., under and over voltage, over current, under and over frequency, transfer trip, load shedding, and restoration schemes) must be installed in conjunction with the circuit breakers, fuses, and circuit switchers that provide safe, reliable operation of an electric transmission and distribution system. Traditionally, terminal substations are located where the transmission voltage is either: 1) stepped down or stepped up in magnitude or 2) where the line is divided into two or more lines, requiring the installation of protection devices. They also are located near geographic or Control Area boundaries where change of ownership or jurisdiction occurs.

PSREC is proposing to construct the new Herlong Substation adjacent to the existing distribution substation at Herlong, where two 69kV transmission lines terminate at this facility. A new substation is required because the existing substation is physically constrained and does not have the requisite space for the new equipment. Additionally, the proposed delivery point at Herlong would electrically divide the PSREC system near its load mid-point. By dividing the load with a higher voltage and higher capacity source, PSREC is able to meet its system requirements for power stability and reliability.

The proposed expansion of the Herlong Substation is required as part of the Proposed Action for operational, protection, and safety reasons. The 3.75-acre site is located in T26N, R16E, Section 22, and is across the access road from the existing Herlong Substation. The new Herlong Substation would be constructed as 75 megavolt-amperes 120/69kV, with two circuits initially constructed at the substation. The substation would be fenced to contain new substation equipment and buildings on the 3.75-acre site. The fenced area also would be used as a temporary construction yard and helicopter landing pad during project construction.

PSREC purchased the substation property from Lassen County. The southern portion of this property originally was proposed by Lassen County to be a borrow pit and cell phone tower site. No cell phone site is currently proposed. Lassen County constructed the borrow pit south of the proposed Herlong Substation (see Map 2-1 Sheet 8).

Approximately 14,615 cubic yards of material would be excavated and utilized on site as part of the fill material for the transformer and bus work concrete pads.

2.4 ROW Acquisition, Easements, and Leases

PSREC would have to acquire new easement rights for the transmission line. The transmission line would cross federal, state, private, and other lands as outlined in Table 2-2.

With respect to federal and state lands, a ROW Grant application has been submitted for a 4.24-mile, 100-foot-wide ROW (51.4 acres) for the portion of the transmission line that would cross federal lands administered by the BLM. A total of 0.51 mile (6.2 acres) of the proposed route would cross the Doyle SWA, and requires an easement from the CDFG. PSREC coordinated with the CDFG, State Wildlife Conservation Board, and U.S. Fish and Wildlife Service (USFWS) to develop a site-specific mitigation plan for Doyle SWA, if standard construction methods were required (i.e., if hand augering for pole placement and helicopter use for erecting structures were not feasible). The approved plan would support the requested easement and is included in Appendix B as part of the MMRP. In addition, a lease has been requested from the CSLC for the portion of the transmission line that would cross state school trust lands for 3.52 miles (42.7 acres).

With respect to private lands, such lands necessary for transmission line ROWs generally would be obtained as easements or fee purchases. Although PSREC, as an electric corporation under California Public Utilities precedent (Public Utilities Code Sections 218 and 612), is authorized to condemn property for public use under the Eminent Domain Law, PSREC would negotiate with private landowners for easements on private lands upon approval of the EA. Property owners would be reimbursed for their properties according to the fair market value, as determined by third-party appraisal.

With respect to other lands, the transmission line would remain in Lassen County's Garnier Road ROW for 2.04 miles and would be permitted as an encroachment. The transmission line would span the 200-foot-wide UPRR ROW between Poles 71 and 72, which are both located on CSLC lands. The transmission line also would span the U.S. 395 200-foot-wide ROW between Pole 118 and the new Herlong Substation.

Table 2-2 delineates land ownership and percentage of total project area. Table 2-3 summarizes the number of poles, types of structures, and area of surface disturbance by land ownership categories. Table 2-4 outlines a detailed Project Access Plan for each structure. This plan was developed to protect environmentally sensitive areas; specifically to avoid creating unauthorized trails outside of the OHV-designated trail system, to avoid cultural and historic sites, and to avoid unnecessary vegetation disturbance.

Given the additional protection measures to cross the Doyle SWA, two construction options were developed to avoid or minimize impacts to vegetation. Implementing Option A would entail no new temporary access routes on the Doyle SWA parcel, hand augering the structure pole holes on site, and using a helicopter to install the poles. Construction Option B was developed in the event the structure holes cannot be hand augered and equipment would be necessary to drill these pole sites. Under Option B, temporary access routes would be required to access the three pole sites on the 0.5-mile ROW segment on Doyle SWA. The Project Access Plan (Table 2-4) delineates these construction options specific to the Doyle SWA for Poles 52, 53, and 54.

2.5 Project Construction, Operation, and Maintenance

The following section describes the activities expected to occur before, during, and after project construction and throughout project operation and maintenance. PSREC's design criteria and committed environmental protection measures are detailed in Section 2.6 for project construction.

2.5.1 Preconstruction Activities

A number of preconstruction surveys were identified for the project, encompassing the following required activities and their associated schedules.

2.5.1.1 Engineering Surveys

On-ground investigations were completed to accurately locate the ROW centerline and boundaries. The centerline and structure locations were identified, flagged, and staked, reflecting both project design criteria and the applicable mitigation or committed protection measures developed as part of the NEPA review and compliance. Flagging and staking also facilitated site-specific field surveys conducted by interdisciplinary resource specialists for the federal and state ROW easement applications (e.g., BLM, CDFG, CSLC).

Table 2-2 Land Ownership of ROW for Proposed Action

Landowner	Miles	Percent of Linear ROW	Acres	Location
BLM	4.24	31.04	51.4	T26N, R17E, portions of Sections 23, 22, 15, 16, and 8, Lassen County, California
CSLC	3.52	25.77	42.7	T26N, R17E, Section 7, Lassen County, California T26N, R16E, Sections 12, 11, and 10, Lassen County, California
Private (Nevada and California)	3.36	24.53	40.7	T26N, R18E, Sections 33, 32, and 29, Washoe County, Nevada T26N, R17E, Sections 24, 23, and 7, Lassen County, California
CDFG (Doyle SWA)	0.51	3.73	6.2	T26N, R17E, Section 8, Lassen County, California
Other (i.e., Lassen County, Caltrans, UPRR)	2.04	14.93	N/A[1]	Lassen County: T26N, R16E, Sections 10, 15, and 22, Lassen County, California Caltrans: T26N, R16E, Section 22, Lassen County, California UPRR: T26N, R16E, Section 11, Lassen County, California
Total	**13.67**	**100**	**141**	

[1]The Lassen County encroachment permit does not specify the ROW width along Garnier Road.

Table 2-3 Proposed Action Permanent Disturbance Estimates

Landowner	Approximate Linear Feet (lf)	Length (miles)	ROW Width (feet)	ROW Area (acres)	Estimated Total Poles	Proposed Type and Number of Structures[1]	Area of Permanent Disturbance[2] (square feet)
BLM	22,400	4.24	100	51.4	64	29 two-pole 2 three-pole	1,600
CSLC	18,600	3.52	100	42.7	52	6 single-pole 20 two-pole 2 three-pole	1,300
Private (Nevada and California)	17,690	3.36	100	40.6	52	17 two-pole 6 three-pole	1,300
Lassen County	10,770	2.04	The encroachment permit does not specify width of ROW	--	32	32 single-pole	800
CDFG (Doyle SWA)	2,700	0.51	100	6.2	6	3 two-pole	150
Caltrans	200	<0.1	No defined width		N/A	No poles	N/A
UPRR	200	<0.1	No defined width		N/A	No poles	N/A
TOTALS	**72,160**	**13.67**	**100**	**141**	**117**	**Pole Structures**	**5,150**
						Area of 10 Anchors/Guys	**480**
					117	**TOTAL STRUCTURES**	**5,630 (0.13 acre)**

[1]The proposed type and number of pole structures is representative and may change based on field conditions/requirements.
[2]It is assumed each pole excavation would disturb 25 square feet and each of the 10 anchor/guy areas would disturb an additional 48 square feet.

Table 2-4 Project Access Plan

Pole #	Typical Structure Type[1]	Land Ownership - State	ROW and Facility Access[2]	Total Permanent Ground Disturbance[3] (square feet)	Temporary Disturbance of 20-Foot-Wide Access Road (square feet)
1	Fort Sage Tap	Private - NV	Inside the fenced Fort Sage Substation area.	NA	NA
2	3 poles, angle	Private - NV	Existing dirt roads (assume tensioning site).	123	0
3	3 poles, angle	Private - NV	Existing dirt roads (assume tensioning site).	123	0
4	2 poles, H-frame	Private - NV	Existing dirt roads.	50	0
5	2 poles, H-frame	Private - NV	Existing dirt roads adjacent to Poles 4 or 12.	50	13,720
6	2 poles, H-frame	Private - NV	Existing dirt roads adjacent to Poles 4 or 12.	50	13,160
7	2 poles, H-frame	Private - NV	Existing dirt roads adjacent to Poles 4 or 12.	50	12,800
8	2 poles, H-frame	Private - NV	Existing dirt roads adjacent to Poles 4 or 12.	50	12,260
9	3 poles, angle	Private - NV	Existing dirt roads adjacent to Poles 4 or 12.	123	11,620
10	2 poles, H-frame	Private - NV	Existing dirt roads adjacent to Poles 4 or 12.	50	12,140
11	3 poles, angle	Private - NV	Existing dirt roads adjacent to Poles 4 or 12 (assume tensioning site).	123	12,160
12	2 poles, H-frame	Private - NV	Existing dirt roads adjacent to Poles 4 or 12.	50	13,100
13	2 poles, H-frame	Private - CA until termination of project at new Herlong Substation	Existing dirt roads adjacent to Poles 4 or 12.	50	13,240
14	2 poles, H-frame	Private - CA	Would be accessed from the north-south dirt road located east of the pole with equipment accessing the ROW through the fence and proceeding northwest along the ROW to the pole site.	50	14,000
15	3 poles, angle	Private - CA	Fort Sage Road (assume tensioning site).	123	500
16	2 poles, H-frame	Private - CA	Fort Sage Road.	50	500
17	2 poles, H-frame	Private - CA	Fort Sage Road.	50	500
18	2 poles, H-frame	Private - CA	Fort Sage Road.	50	500
19	2 poles, H-frame	Private - CA	Fort Sage Road.	50	500
20	2 poles, H-frame	Private - CA	Fort Sage Road.	50	500
21	2 poles, H-frame	BLM	Fort Sage Road.	50	500
22	2 poles, H-frame	BLM	Fort Sage Road.	50	500

Table 2-4 Project Access Plan, continued

Pole #	Typical Structure Type[1]	Land Ownership - State	ROW and Facility Access[2]	Total Permanent Ground Disturbance[3] (square feet)	Temporary Disturbance of 20-Foot-Wide Access Road (square feet)
23	2 poles, H-frame	BLM	Fort Sage Road.	50	500
24	2 poles, H-frame	BLM	Fort Sage Road.	50	500
25	2 poles, H-frame	BLM	Fort Sage Road.	50	500
26	2 poles, H-frame	BLM	Fort Sage Road.	50	500
27	3 poles, angle	BLM	Fort Sage Road (assume tensioning site).	123	500
28	2 poles, H-frame	BLM	Dirt road that originates from Fort Sage Road southwest of Pole 27.	50	3,000
29	2 poles, H-frame	BLM	Proceed along the dirt road northeast of the surveyed ROW to northeast of the ROW where there is a playa that provides a direct route to Pole 29. Vehicles should avoid the raised areas above the playa to avoid disturbing vegetation.	50	4,000
30	2 poles, H-frame	BLM	Proceed northwest along the ROW in the surveyed area. Vehicles would turn around at Pole 31 and return to Fort Sage Road along the previously defined path.	50	12,880
31	2 poles, H-frame	BLM	Proceed northwest along the ROW in the surveyed area. Vehicles would turn around at Pole 31 and return to Fort Sage Road along the previously defined path.	50	12,480
32	2 poles, H-frame	BLM	ROW from Pole 35.	50	0
33	2 poles, H-frame	BLM	ROW from Pole 35.	50	12,540
34	2 poles, H-frame	BLM	ROW from Pole 35.	50	12,720
35	2 poles, H-frame	BLM	OHV Trail #3, which extends northeast from OHV Trail #2 and parallels the ROW.	50	22,700
36	2 poles, H-frame	BLM	OHV Trail #2.	50	5,400
37	2 poles, H-frame	BLM	OHV Trail #2.	50	5,000
38	2 poles, H-frame	BLM	OHV Trail #2.	50	4,000
39	2 poles, H-frame	BLM	OHV Trail #2.	50	0

Table 2-4 Project Access Plan, continued

Pole #	Typical Structure Type[1]	Land Ownership - State	ROW and Facility Access[2]	Total Permanent Ground Disturbance[3] (square feet)	Temporary Disturbance of 20-Foot-Wide Access Road (square feet)
40	2 poles, H-frame	BLM	Through the fence at Pole 39. (A new path from Pole 39 to Pole 40 would be surveyed to provide access to Pole 40. Exercise caution in this area due to obstacles and residual wildfire effects.)	50	23,400
41	2 poles, H-frame	BLM	Proceed along the south side of the surveyed ROW until clear of the obstacles then travel along the north side of the ROW. (Obstacles exist southwest of the pole site, so exercise caution.)	50	15,000
42	2 poles, H-frame	BLM	Proceed west along the north side of the surveyed ROW from Pole 41 to avoid the obstacles southwest of Pole 41.	50	15,840
43	2 poles, H-frame	BLM	ROW from Pole 42. Vehicles would turn around at Pole 42 and return to OHV Trail #1 and Fort Sage Road via the approved and surveyed route.	50	15,980
44	2 poles, H-frame	BLM	Fort Sage Road north along OHV Trail #5 to OHV Trail #4 then to OHV Trail #8. Proceed northeast along the trail to the surveyed ROW east of Pole 47. Proceed overland to Pole 46. Travel east along the surveyed ROW. Turn around at Pole 44 and return to Pole 47 and proceed to OHV Trail #8 via the surveyed and approved route.	50	0
45	2 poles, H-frame	BLM	Fort Sage Road north along OHV Trail #5 to OHV Trail #4 then to OHV Trail #8. Proceed northeast along the trail to the surveyed ROW east of Pole 47. Proceed overland to Pole 46. Travel east along the surveyed ROW. Turn around at Pole 44 and return to Pole 47 and proceed to OHV Trail #8 via the surveyed and approved route.	50	7,540

Table 2-4 Project Access Plan, continued

Pole #	Typical Structure Type[1]	Land Ownership - State	ROW and Facility Access[2]	Total Permanent Ground Disturbance[3] (square feet)	Temporary Disturbance of 20-Foot-Wide Access Road (square feet)
46	2 poles, H-frame	BLM	Fort Sage Road north along OHV Trail #5 to OHV Trail #4 then to OHV Trail #8. Proceed northeast along the trail to the surveyed ROW east of Pole 47. Proceed overland to Pole 46. Turn around at Pole 44 and return to Pole 47. Turn around and proceed to OHV Trail #8 via the surveyed and approved route.	50	18,160
47	2 poles, H-frame	BLM	Fort Sage Road north along OHV Trail #5 to OHV Trail #4 then to OHV Trail #8. Proceed northeast along the trail to the surveyed ROW east of Pole 47. Proceed overland to Pole 46. Travel east along the surveyed ROW. Turn around at Pole 44 and return to Pole 47 and proceed to OHV Trail #8 via the surveyed and approved route.	50	20,000
48	2 poles, H-frame	BLM	Proceed west along OHV Trail #4 to the intersection with OHV Trail #6, which originates on OHV Trail #4 and proceeds north to a point west of Pole 48 within the surveyed ROW.	50	5,000
49	3 poles, angle	BLM	ROW from Pole 48 (assume tensioning site).	123	9,000
50	2 poles, H-frame	BLM	ROW from Pole 48. Egress from Pole 50 is accomplished by turning around and proceeding east to OHV Trail #7 and returning to OHV Trail #4.	50	8,700
51	2 poles, H-frame	BLM	OHV Trail #4 (south of Pole 51).	50	3,000
52	2 poles, H-frame	CDFG – Doyle SWA	Option A - On foot from Fort Sage Road. (Structure holes would be dug by hand and poles erected with a helicopter.) Option B – Fort Sage Road. (Utilizing conventional line-construction equipment.)	50 50	0 6,000

Table 2-4 Project Access Plan, continued

Pole #	Typical Structure Type[1]	Land Ownership - State	ROW and Facility Access[2]	Total Permanent Ground Disturbance[3] (square feet)	Temporary Disturbance of 20-Foot-Wide Access Road (square feet)
53	2 poles, H-frame	CDFG – Doyle SWA	Option A - On foot from Fort Sage Road. (Structure holes would be dug by hand and poles erected with a helicopter.) Option B – Fort Sage Road. (Utilizing conventional line-construction equipment.)	50 50	0 4,000
54	2 poles, H-frame	CDFG – Doyle SWA	Option A - On foot from Fort Sage Road. (Structure holes would be dug by hand and poles erected with a helicopter.) Option B – Fort Sage Road. (Utilizing conventional line-construction equipment.)	50 50	0 500
55	2 poles, H-frame	Private	Fort Sage Road.	50	500
56	2 poles, H-frame	Private	Fort Sage Road.	50	1,500
57	2 poles, H-frame	Private	Fort Sage Road.	50	500
58	3 poles, angle	Private	Existing pole line road (assume tensioning site).	123	0
59	2 poles, H-frame	CSLC	Existing pole line road.	50	0
60	2 poles, H-frame	CSLC	Existing pole line road.	50	0
61	2 poles, H-frame	CSLC	Existing pole line road.	50	0
62	2 poles, H-frame	CSLC	Existing pole line road.	50	0
63	2 poles, H-frame	CSLC	Existing pole line road.	50	0
64	2 poles, H-frame	CSLC	Existing pole line road.	50	0
65	2 poles, H-frame	CSLC	Existing pole line road.	50	0
66	2 poles, H-frame	CSLC	Existing pole line road.	50	0
67	2 poles, H-frame	CSLC	Existing pole line road.	50	0
68	2 poles, H-frame	CSLC	Existing pole line road.	50	0
69	2 poles, H-frame	CSLC	Existing pole line road.	50	0

Table 2-4 Project Access Plan, continued

Pole #	Typical Structure Type[1]	Land Ownership - State	ROW and Facility Access[2]	Total Permanent Ground Disturbance[3] (square feet)	Temporary Disturbance of 20-Foot-Wide Access Road (square feet)
70	2 poles, H-frame	CSLC	Existing pole line road.	50	0
71	3 poles, angle	CSLC	Existing pole line road (assume tensioning site).	123	0
72	2 poles, H-frame	CSLC	Existing pole line road.	50	0
73	2 poles, H-frame	CSLC	Existing pole line road.	50	0
74	2 poles, H-frame	CSLC	Existing pole line road.	50	0
75	2 poles, H-frame	CSLC	Existing pole line road.	50	0
76	2 poles, H-frame	CSLC	Existing pole line road.	50	0
77	2 poles, H-frame	CSLC	Existing pole line road.	50	0
78	2 poles, H-frame	CSLC	Existing pole line road.	50	0
79	2 poles, H-frame	CSLC	Existing pole line road.	50	0
80	3 poles, angle	CSLC	Existing pole line road (assume tensioning site).	123	0
81	Single pole	CSLC	Existing pole line road.	25	0
82	Single pole	CSLC	Spur road to the existing pole line road.	25	0
83	Single pole	CSLC	Existing pole line road.	25	0
84	Single pole	CSLC	Existing pole line road.	25	0
85	Single pole	CSLC	Existing pole line road.	25	0
86	Single pole, angle	CSLC	Garnier Road and junction with existing power line road access road.	25	0
87	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
88	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
89	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
90	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
91	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0

Table 2-4 Project Access Plan, continued

Pole #	Typical Structure Type[1]	Land Ownership - State	ROW and Facility Access[2]	Total Permanent Ground Disturbance[3] (square feet)	Temporary Disturbance of 20-Foot-Wide Access Road (square feet)
92	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
93	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
94	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
95	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
96	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
97	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
98	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
99	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
100	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
101	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
102	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
103	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
104	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
105	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0

Table 2-4 Project Access Plan, continued

Pole #	Typical Structure Type[1]	Land Ownership - State	ROW and Facility Access[2]	Total Permanent Ground Disturbance[3] (square feet)	Temporary Disturbance of 20-Foot-Wide Access Road (square feet)
106	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
107	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
108	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
109	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
110	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
111	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
112	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
113	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
114	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
115	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
116	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
117	Single pole	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0

Table 2-4 Project Access Plan, continued

Pole #	Typical Structure Type[1]	Land Ownership - State	ROW and Facility Access[2]	Total Permanent Ground Disturbance[3] (square feet)	Temporary Disturbance of 20-Foot-Wide Access Road (square feet)
118	Single pole, angle	Lassen County, Garnier Road ROW	Garnier Road within the County Road ROW.	25	0
Total New Ground Disturbance (Option A - helicopter use for pole placement on Doyle SWA)				**5,630 (0.13 acre)**	**373,540 (8.58 acres)**
Total New Ground Disturbance (Option B – no helicopter pole placement on Doyle SWA)				**5,630 (0.13 acre)**	**384,040 (8.82 acres)**

[1]The proposed type and number of pole structures are representative and may change based on site-specific field conditions/requirements.
[2]The exact location of equipment areas and tensioning sites depends on the final structure placement. It is assumed a tensioning site would disturb 0.41 acre for each angle structure, totaling 4.10 acres.
[3]It is assumed that an additional 48 square feet per anchor would be required for 10 pole angle structures; this has been included in the total area disturbed.

Note: Unless otherwise indicated, all digging, setting, and framing work would be performed within the surveyed 200-foot-wide construction ROW utilizing conventional line construction equipment. Additionally, unless noted, no travel along the transmission line ROW would be allowed.

2.5.1.2 Cultural Resource Surveys

BLM-permitted (third-party NEPA) contractors surveyed the proposed route. Their initial findings resulted in two re-routes to avoid significant cultural resources. Cultural resources that may be directly or indirectly impacted by the Proposed Action would be subject to evaluation and determination through Section 106 consultation in accordance with the National Historic Preservation Act. As committed to by PSREC, project engineers would work with the federal land agencies, Native American tribes, and archaeologists to avoid or minimize impacts to identified cultural resources (see Section 2.6).

As part of the cultural consultation process, a Memorandum of Agreement (MOA) has been developed with an established protocol for any inadvertent archaeological discoveries found during construction. During construction, three archaeological monitors would be onsite. One monitor would represent the Native American tribes, one monitor would be a qualified independent archaeologist, and one monitor would represent the Proposed Action applicant.

2.5.1.3 Biological Surveys

Biological surveys were conducted within and adjacent to the ROW ("project area"). Specific environmental protection measures for biological resource areas were developed as part of the Proposed Action to minimize potential impacts from project construction, operation, and maintenance activities. These are summarized in Section 2.6. Because there are no federally listed species present in the project area, the federal lead and cooperating agencies determined that section 7 consultation under the federal ESA was not warranted. Additionally, no state-listed threatened or endangered species would be "taken" as defined in state law; therefore, there is no need for a California ESA permit. This determination and supporting documentation were communicated with the USFWS (see Appendix A).

2.5.2 Construction Activities

Construction activities would include digging holes, assembling and erecting structures, stringing wire, cleanup, and reclaiming/rehabilitating sites, where necessary. The duration of construction would be a maximum of 4 months, with construction activities spread along the 13.67-mile ROW at any one time, depending on the activity, construction sequence, and season. The expected workforce and equipment needed to construct the proposed transmission line are provided in Table 2-5.

Table 2-5 Estimated Personnel and Equipment Required

Project Activity	Number of Personnel	Equipment
Survey	3	2 pickup trucks
Hole Digging	2	1 hole digger 1 pickup truck
Pole Haul	2	1 pole haul truck 1 helicopter (Doyle SWA, Option A)
Structure Erection	4	1 line truck/crane 1 pickup truck 1 helicopter (Doyle SWA, Option A)
Conductoring	12	1 drum puller 1 splicing truck 1 double-wheeled tensioner 1 wire reel trailer 1 line truck 1 sagging equipment 2 pickup trucks 1 helicopter
Cleanup	4	2 pickup trucks
Reclamation/Rehabilitation	2	1 pickup truck
Total Personnel	**31**[1]	

[1]More personnel may be used to meet project construction schedule.

To minimize surface disturbance, helicopter construction methods are proposed to pull sockline (i.e., the pulling rope to which the conductor wire is attached) and conduct platform/skid work with linemen ferried to pole tops, as appropriate. Additionally, the Proposed Action allows for either helicopter construction methods, assuming ground conditions allow hand augering or hand drilling (Option A), or standard construction methods (Option B) to complete pole installation on Doyle SWA. The impacts discussion in Chapter 4 analyzes both options.

Detailed helicopter operations are discussed in Section 2.5.2.4. The following helicopter construction activities would be implemented to minimize time and ground disturbance:

- **Sockline Pulling** – With the use of "needles" directly attached to the aircraft, the sockline (pulling rope) is placed into travelers. Averaging speeds of 10 to 12 miles per hour (mph), the line can be pulled into position with a minimum of manpower, time, and environmental disturbance. If this activity were to be

completed by standard construction methods (i.e., use of heavy construction equipment such as a bulldozer), it would require 10 to 15 days. By using a helicopter, this sockline pulling activity would require 10 to 15 hours of flight time. In addition, the need to drive heavy equipment along the entire length of the ROW to complete this sockline pulling task would be eliminated.

- **Pole Installation on Doyle SWA** – To avoid antelope bitterbrush shrubs (*Purshia tridentata*) (i.e., mule deer habitat) while placing the three structures along the 0.5 mile of ROW on the Doyle SWA, PSREC proposes to use helicopter construction methods for Poles 52, 53, and 54, assuming hand augering is feasible at those locations (Table 2-4). This approach (Option A) would utilize helicopters for construction activities such as personnel transportation and pole installation on those CDFG lands.

The following sections describe work areas required for line construction.

2.5.2.1 ROW and Facility Access

Sockline pulling by helicopter would avoid the need for temporary access along the entire ROW, since standard transmission line construction methods typically require vehicles move to each structure site along the ROW. For this project, existing access routes would be used, where possible. A detailed accounting of the access routes is provided Table 2-4.

Given the additional protection measures to cross the Doyle SWA, two construction options were developed to avoid or minimize impacts to vegetation, specifically bitterbrush shrubs. Implementing Option A would entail no new temporary access routes on the Doyle SWA parcel, hand augering the structure pole holes on site, and using a helicopter to install the poles. Option B was developed in the event the structure holes cannot be hand augered and equipment would be necessary to drill these pole sites. Under Option B, temporary access routes would be required to access the three pole sites on the 0.5-mile ROW segment on Doyle SWA. As shown in Table 2-3, these temporary access routes would total 10,500 square feet (0.24 acre) of additional surface disturbance.

Under the Option A scenario, use of temporary access routes during project construction would result in 8.58 acres of surface disturbance along the entire 13.67-mile project corridor. These temporary access routes (Table 2-4) would allow construction vehicles and equipment access to the ROW and structure sites. Developing the access routes for the construction sequence would involve cutting and driving over existing vegetation. Selective cutting/removal of vegetation would be performed only when necessary.

If equipment access and standard construction methods were required for the Doyle SWA parcel (Option B), the additional 0.24 acre of surface disturbance would increase the total for the entire project corridor to 8.82 acres.

2.5.2.2 Structure Sites

Equipment Operation Areas. Each structure site would require an area of 100 feet x 100 feet to facilitate the safe operation of construction equipment. Locations for structure anchors/down-guys (i.e., line angles along the route totaling an estimated 10 structures) would require an additional 100 feet of temporary work space (extra 0.5 acre) inside the construction ROW. This extra work space would extend in two directions from the structure site to facilitate construction equipment maneuvering (Map 2-1). The vegetation in the work area would be trampled, not cleared, unless directed by the BLM, state of California, or landowner.

Foundation Installation. Pole excavations would be completed with power equipment; a vehicle-mounted power auger or backhoe typically is used. Assuming hand augering is feasible on the Doyle SWA, the pole locations shown on Table 2-4 would be dug using hand tools (Option A). All pole holes, regardless of excavation method, would meet the required specifications in RUS Bulletin 1728F-811 (USDA, 1998), *Electric Transmission Specifications and Drawings, 115 through 230kV*: "Unless otherwise indicated, all poles must be embedded in soil to a minimum depth of 10% of the pole length plus 2 feet and not to exceed 3 inches deeper." Thus, excavations would range from 7 to 14 feet. After the hole is augured, poles would be set, backfilled, and tamped; soil would be mounded around the poles using existing spoils, unless soil conditions dictate otherwise. Remaining spoils (approximately 0.5 cubic yard) would be spread over the ground to minimize impacting existing vegetation.

Structure Assembly and Erection. Trucks would transport poles and associated hardware to structure sites. Structures would be assembled and associated line hardware would be mounted at each site. The assembled structure then would be raised and placed in the pre-dug holes. On the Doyle SWA (under Option A), the poles would be assembled off site, transported to the site by helicopter, and aerially installed.

Once the poles are erected, the line would be prepared for the pilot line. For public protection during wire installation, guard structures would be erected over obstacles such as railroads, state highways, existing power lines, and structures. Guard structures consist of H-frame poles placed on either side of the obstacle. These structures prevent groundwire, conductors, or other equipment from falling on an obstacle. Equipment for erecting guard structures would include augers, line trucks, pole trailers, and cranes. Temporary guard structures would be needed at the railroad crossing and at the U.S. 395/Garnier Road crossing to the new Herlong Substation; however, no new permanent ground disturbance would occur from erection of these structures. On smaller roads, other safety measures would be used, such as barriers, flagmen, or other traffic control. PSREC does not anticipate using guard structures on any other federal or state property.

A pilot line would be pulled from structure to structure by helicopter and threaded through the stringing sheaves at each tower. This procedure is "sockline pulling." Next, a larger diameter, stronger line (the pulling line) would be attached to the pilot line and

strung using equipment at the tensioning sites. The groundwire and conductor are then strung using power-pulling equipment at one end and power braking or tensioning equipment at the other end. Sites for tensioning equipment and pulling equipment would be approximately 10,000 feet apart or from angle pole to angle pole in order to be constructed in an efficient and economic manner. Areas to accommodate pulling sites are shown on Map 2-1.

Each tensioning site would be approximately 150 feet x 60 feet (9,000 square feet or 0.21 acre). The tensioner, line truck, and wire trailer needed for stringing and anchoring the groundwire or conductors would be located at this site. The tensioner, along with the puller, maintains tension on the groundwire or conductor. Maintaining tension ensures adequate ground clearance and is necessary to avoid damage to the groundwire, conductor, or any objects below them during the stringing operation.

2.5.2.3 Construction Yards

Three temporary construction yards would be required. Facilities would be 1 to 6 acres and fenced with locked gates where necessary. Yard #1 would be located on private property within the ROW at T26N, R18E, SE¼ Section 32, adjacent to Pole 4 (Map 2-1 Sheet 1). Temporary ground disturbance is expected to be 400 feet x 100 feet (0.92 acre) at this site. Yard #2 would be located in a fenced area at the Herlong Transfer Station (i.e., landfill) on previously disturbed land (Map 2-1 Sheet 7). Yard #3 would be located at the new Herlong Substation (Map 2-1 Sheet 9). There would be no permanent ground disturbance for construction yard activities at these locations.

2.5.2.4 Helicopter Operations

To facilitate construction and minimize ground disturbance, a helicopter would be used to pull the sockline and to ferry personnel during line pulling. It is proposed to use three areas for helicopter mobilization and fueling. Helicopter operations would be conducted from the existing Herlong Airport, Herlong Transfer Station, and construction Yard #1 site adjacent to Pole 4. When ferrying construction personnel, the helicopter would land on an existing road as the helicopter skid width is 10 feet.

Using helicopters would reduce construction time from an estimated 10 to 15 days for line stringing down to approximately 10 to 15 hours. Therefore, this approach would reduce the: 1) degree of ground disturbance to vegetation and soils, 2) construction traffic, 3) dust, 4) air emissions, 5) human presence, and 6) potential disturbance to wildlife and livestock.

A light duty helicopter would pull the sockline. Examples of light duty helicopters could include a Bell 206 (i.e., commonly known as a Jet Ranger) or a McDonald Douglas MD 500 (commonly known as a Hughes 500). It is estimated light duty helicopter use would occur 2 to 3 hours per day for 3 days. An additional 5 hours is estimated to ferry 3 personnel to construction sites, totaling 10 to 15 hours for the light duty helicopter.

A medium lift helicopter would be used to set the three, 2-pole structures on the Doyle SWA. Examples of medium duty helicopters could include a Bell 204, 205, 212, 214, 412, or Sikorsky S-61 (H-3 Viking). It is estimated these pole structures could be set in 1 hour using a medium duty helicopter.

Support fueling for the light duty helicopter would likely consist of a pickup truck with an approved fuel tank mounted in the back. The fuel truck for the medium lift helicopter would likely be a medium-duty, two-axle truck with a tank approved for fueling. Helicopter operations would use one fueling and staging area at a time to limit the extent of dust abatement measures and personnel movement.

2.5.2.5 Cleanup

Construction sites, material storage yards, and access routes would be kept orderly during construction. Stakes, flags, and other refuse would be removed from the sites and disposed of properly. No oil or fuel would be drained on the ground. Oils and chemicals would be hauled to the PSREC approved site at the Portola yard for disposal. No open burning of construction trash would be permissible on any lands.

2.5.2.6 Reclamation/Rehabilitation

Following construction and cleanup, temporary disturbance areas would be reclaimed as discussed in Section 2.5.3.

2.5.3 Stabilization and Rehabilitation

The BLM's ROW Grant and the terms and conditions from state or private leases, easements, or permits would provide specific guidelines, as applicable. Additionally, PSREC's design criteria/committed environmental protection measures, detailed in Section 2.6 and Table 2-6, outline the specific reclamation and rehabilitation approaches to be used. However, the extent of site-specific reclamation techniques may be modified based on dialog with the landowner.

2.5.4 Operation and Maintenance

Ground maintenance patrols would inspect the line periodically. Routine maintenance would include replacing damaged insulators, tightening nuts and bolts, and general line and structure repair. This type of maintenance is intermittent and under most conditions can be accomplished from existing roads or on foot. No new permanent access routes would be required for line operations or maintenance. For routine maintenance procedures on Doyle SWA, PSREC would coordinate with the CDFG regarding pole access, in the event pole access were required.

2.6 Design Criteria/Committed Environmental Protection Measures

PSREC has committed to implement the following design criteria and environmental protection (i.e., mitigation) measures for the Proposed Action. The BLM's ROW Grant conditions have been incorporated, as have PSREC's established BMPs. These BMPs are the company's standard procedures for projects, based on location and land ownership. The mitigation measures are set forth in Appendix B as the Proposed Action's MMRP developed in accordance with Section 21081.6 of CEQA to ensure potential impacts from the project are "less than significant."

Table 2-6 summarizes the design criteria/committed environmental measures for the Proposed Action by resource category and PSREC's BMPs are indicated, where applicable. The interdisciplinary impact analyses presented in Chapter 4 incorporate these measures to better define anticipated impacts to natural and human resources from the proposed construction and operation of the Proposed Action.

Table 2-6 Design Criteria/Committed Environmental Protection Measures

Category	Committed Protection Measure
Right-of-Way Construction	
ROW-1 PSREC BMP	All design; material; and construction, operation, maintenance, and termination practices would be in accordance with safe and proven engineering practices.
ROW-2 PSREC BMP	PSREC would survey and clearly mark the centerline and/or exterior limits of the ROW, where applicable. On state- or federally administered lands, this may be determined by the respective authorized officer.
ROW-3	Access routes would be flagged with a highly visible marker. The route must be approved by the landowner or authorized officer in advance of use (reference Table 2-4 for specific details). All construction vehicle movement outside of the ROW would be restricted to pre-designated access routes, contractor-acquired access routes, or public roads.
ROW-4 PSREC BMP	The limits of construction activities would be pre-determined, with activity restricted to those limits. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate survey or construction activity limits. The access route would be flagged to avoid environmentally sensitive areas.
ROW-5 PSREC BMP	PSREC would limit excavation to the areas of construction. No borrow areas for fill material would be excavated on the ROW. Waste material resulting from construction, operation, or maintenance would be removed from the site.
ROW-6 PSREC BMP	Waste rock from structure foundation construction would be used on site.
ROW-7 PSREC BMP	PSREC would ensure the safety of the public entering the ROW. This would include, but would not be limited to, barricades for open trenches, flagmen with communication systems for single-lane roads without visible turnouts, and attended gates for blasting operations, as appropriate.
ROW-8 PSREC BMP	PSREC would protect all survey monuments found within the ROW. Survey monuments include, but are not limited to, General Land Office and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coast and Geodetic Survey benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of disturbance or destruction of any of the features summarized above, PSREC would report the incident, in writing, to the federal or state authorized officer and the respective installing authority, if known. If General Land Office or BLM ROW monuments or references were damaged during operations, PSREC would secure the services of a registered land surveyor or a BLM cadastral surveyor to restore the disturbed monuments and references using surveying procedures from the *Manual of Surveying Instructions for the Survey of the Public Lands of the United States*, latest edition. PSREC would record such survey in the appropriate county and forward a copy to the BLM authorized officer, if on BLM lands. If the BLM cadastral surveyors or other federal surveyors were used to restore a disturbed survey monument, PSREC would be responsible for the survey cost.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
ROW-9	Prior to construction, all construction personnel would be instructed on protection of cultural and ecological resources. To assist in this effort, the construction contract would address (a) federal and state laws on antiquities, fossils, plants, and wildlife, including collection and removal and (b) the importance of these resources and the need to protect them.
ROW-10	Where warranted, modified structure design would be utilized to minimize ground disturbance, operational conflicts, visual contrast, or avian conflicts.
ROW-11	In designated areas, structures would be placed to avoid sensitive features such as riparian areas, water courses, and cultural sites, or to allow conductors to clearly span the features, within limits of standard tower design. Structure placement would minimize the amount of disturbance to sensitive features.
ROW-12	During transmission line construction, operation, or maintenance, the ROW would be maintained free of construction-related, non-biodegradable debris generated by PSREC-related activities.
ROW-13	All existing roads would be left in a condition equal to, or better than, their condition before construction of the transmission line.
ROW-14	Fences and gates, if damaged or destroyed by construction activities, would be repaired or replaced to their original pre-disturbed condition, as required by the landowner or land management agency. Temporary gates would be installed only with permission of the landowner or the land management agency.
ROW-15	Existing roads and trails on federal or state lands that would be blocked as a result of construction would be rerouted as directed by the applicable authorizing officer.
ROW-16	The agency's authorized officer or the landowner would be consulted from construction through rehabilitation and reclamation.
ROW-17	PSREC would apply necessary mitigation to minimize problems of induced currents and voltages to conductive objects sharing the ROW.
Reclamation	
Reclamation-1 PSREC BMP	In construction areas where re-contouring is not required and as requested by the landowner, vegetation would be left in place wherever possible to avoid excessive root damage and allow for re-sprouting.
Reclamation-2 PSREC BMP	In construction areas where ground disturbance requires more extensive re-contouring and surface restoration, PSREC would communicate with the landowner or land management agency on the techniques to be used before ground-disturbance activities begin. The method of restoration typically consists of returning disturbed areas to their natural contour (to the extent practical), installing cross drains for erosion control, placing water bars in the road, and filling ditches.
Reclamation-3 PSREC BMP	At pole locations, disturbed areas to be reclaimed would be stabilized by redistribution of topsoil, reseeding, and placement of a chopped, certified weed-free straw, reinforced with paper or synthetic netting to hold the matting in place.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Reclamation-4 PSREC BMP	A silt fence would be installed along the perimeter of temporary topsoil stockpile areas where runoff from a storm would be filtered for sediment prior to its release into a natural drainage. It is anticipated that no material would be spoiled or hauled off site. Excavated materials would be re-graded to maintain the general drainage profile.
Reclamation-5 PSREC BMP	Following construction, PSREC would minimize residual rubble or debris that could provide microhabitats for small and medium-sized mammals. This measure would limit the potential increase in the site's prey base that may attract raptors or other predators.
Reclamation-6 PSREC BMP	PSREC would uniformly spread topsoil over disturbed areas for site reclamation. Spreading would not be done when the ground or topsoil is frozen or wet.
Reclamation-7 PSREC BMP	As part of PSREC's project reclamation plan, local native seed would be used to the extent possible, in accordance with the California Native Seed Policy, focusing on using native plant species common to the project area for surface reclamation following construction activities (including *Eriogonum* sp.). However, this seed mixture would not apply to Section 8 of the Doyle SWA parcel crossed by the Proposed Action, as discussed below. The Doyle SWA Mitigation Plan is presented in detail in Appendix B, specific to construction Option B. In areas disturbed by either Option A (helicopter use) or Option B (standard construction) on Doyle SWA, the seed mixture(s) would be planted in the amounts specified in pounds of pure live seed per acre. There would be no primary or secondary noxious weed seed allowed in the seed mixture. Seed would be tested and the viability testing of seed would be done in accordance with state law(s) and no more than 6 months prior to purchase. Commercial seed would be either certified or registered seed. The seed mixture container would be tagged in accordance with state law(s) and available for inspection by the federal and state authorized officers.
Reclamation-8 PSREC BMP	Seed would be planted in an economic and efficient manner, using techniques such as hydroseeding, broadcasting, or pre-planted seed mats. The seed mixture would be evenly and uniformly distributed over the disturbed area. When broadcasting, the pounds per acre noted below would be doubled. On federal and state lands, the seeding would be repeated for a maximum of 2 years, if necessary. Evaluation of growth would not be made before completion of the second season after seeding. On federal and state lands, the authorized officer would be notified at least 14 days prior to seeding.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Reclamation-9	PSREC would develop a construction environmental monitoring program per communications with the applicable landowner or land management agency that includes: • Ensuring compliance with the requirements of this EA, the mitigation measures and BMPs proposed by PSREC, and other environmental permits and approvals. • Identifying, documenting, and overseeing corrective actions, as necessary, to bring an activity back into compliance. • Verifying that the limits of all authorized construction work areas and locations of access roads are properly marked before clearing. • Verifying the location of signs and highly visible flagging that mark the boundaries of sensitive resource areas, drainages, water bodies, or areas with special requirements along the construction work area. • Identifying erosion/sediment control and soil stabilization needs in all areas. • Ensuring that subsoil and topsoil are tested to measure compaction and determine the need for corrective action. • Advising the construction contractor when conditions (such as wet weather) make it advisable to restrict construction activities to avoid excessive vehicle rutting. • Ensuring restoration of contours, replacement of topsoil, and monitoring of revegetation efforts. • Verifying that any soils or materials imported for use have been certified free of noxious weeds. • Determining the need for erosion control measures and ensuring that these measures are properly installed, as necessary, to prevent sediment flow into drainages, water bodies, and sensitive areas and on to roads. • Inspecting and ensuring the maintenance of temporary erosion control measures at least: · on a daily basis in areas of active construction or equipment operation; · on a weekly basis in areas with no construction or equipment operation; and · within 24 hours of each 0.5-inch rainfall. • Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification. • Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Air Quality	
Air Quality-1	All requirements of the Lassen County Air Pollution Control District (LCAPCD) in California, and the Washoe County District Health Department, Air Quality Division, in Nevada, as applicable, would be followed and any necessary permits for construction activities would be obtained. Consultation with LCAPCD in June 2009 indicated no air quality permits would be required. A permit is required to operate a portable engine in excess of 50 horsepower; however, PSREC typically would obtain a statewide permit to do so.
Air Quality-2 PSREC BMP	PSREC would furnish and apply water on construction areas for dust control.
Air Quality-3 PSREC BMP	PSREC would be responsible for controlling dust by reducing travel speed and/or applying dust suppressants (e.g., magnesium chloride or other materials approved by the landowners or land managers). Dust would be considered a nuisance or hazard when a visible dust plume extends more than 300 feet from the source and has an estimated opacity exceeding 20% (objects are partially obscured). Additional methods of dust control that may be used by PSREC include, but are not limited to: • Application of water or magnesium chloride to access roads or sections of the ROW. • Application of water to specific activities on the ROW that generate dust plumes (i.e., trenching or blasting). • Curtailing of dust-generating activities during high winds. • Implementation of speed limits on vehicles using access roads or traveling the ROW. • Limitation of number of vehicles allowed on the ROW.
Air Quality-4	All requirements of those entities having jurisdiction over air quality matters would be followed and any necessary permits for construction activities would be obtained. Open burning of construction debris (cleared brush, etc.) would not be allowed.
Air Quality-5 LCAPCD BMP	Reasonable precautions would be taken to prevent particulate matter (PM) from becoming airborne including, but not limited to, the following provisions: • Covering open-bodied trucks when used for transporting materials likely to cause airborne dust. • Installation and use of hoods, fans, and other fabric filters to enclose and vent the handling of dusty materials. Containment methods may be employed during sandblasting and other similar operations. • The application of asphalt, oil, water, or suitable chemicals to dirt roads, material stockpiles, land-clearing activities, excavation, grading, or other surfaces that can give rise to airborne dusts. • The prompt removal of earth or other material from paved streets that have been deposited by earth-moving equipment, water, or other means.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Cultural Resources	
Cultural-1	An intensive cultural resources inventory survey has been conducted. In addition, supplemental surveys of the access routes have been undertaken, as needed. A Memorandum of Agreement (MOA) was developed by the federal agencies, RUS and BLM, to comply with section 106 of the National Historic Preservation Act (see Appendix B4).
Cultural-2	Any cultural resources inadvertently discovered during construction by PSREC or any person working on PSREC's behalf on private, state, or federal land would be reported immediately to the authorized officer and environmental monitors. The MOA identifies the protocol and treatment of inadvertent discoveries of cultural and historic properties on federal and private lands. For inadvertent discoveries on land owned by the state of California under the jurisdiction of the CSLC, the RUS shall notify CSLC staff concerning the actions it proposes to take to implement avoidance measures or mitigate significant impacts. The notification will include an assessment of whether the discovery is eligible for listing in the California Register of Historical Resources (California Pub. Resources Code § 5024.1 and Cal. Code Regs., tit. 14, §. 4850 et seq.) or is a "unique archaeological resource" (California Pub. Resources Code § 21083.2(g)). Mitigation may include data recovery through excavation, if avoidance is not practicable. RUS shall make a recommendation to CSLC staff for curation of artifacts collected from sites on state land under the jurisdiction of the CSLC that are determined to be significant. RUS shall submit a written request to transfer title to the artifacts from the CSLC to a museum or curation facility that has been reviewed by the California SHPO and that agrees to accept the artifacts for curation at no cost to the CSLC. Artifacts from sites that are determined not to be significant will be returned to the CSLC for return to the culturally affiliated tribe(s)..
Cultural-3 PSREC BMP	If an area proposed to be disturbed (e.g., off-site reclamation parcel) has not been surveyed for cultural artifacts, a cultural resources inventory survey would be conducted before reclamation or construction activities begin, in accordance with the MOA developed for this project.
Cultural-4 PSREC BMP	During construction, three archaeological monitors would be onsite. One monitor would represent the Native American tribes, one monitor would be a qualified independent archaeologist, and one monitor would represent the Proposed Action applicant. If human remains are discovered, PSREC would immediately suspend construction and any further disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains, notify the county coroner, notify the applicable landowner or land management agency, and follow the applicable California/Nevada state law. In California, if the county coroner determines the remains to be Native American, the coroner shall contact the California Native American Heritage Commission within 24 hours of the discovery (California Health & Safety Code sec 7050.5(c). Work shall not resume in the area until the remains have been treated or disposed of, with appropriate dignity, as provided in California Public Resources Code section 5097.98.

Category	Committed Protection Measure
Cultural-5 PSREC BMP	No surface disturbance or construction activity would be allowed within 100 feet of any eligible cultural sites, as specified by the federal or state authorized officer. Any deviation from this requirement would be negotiated with the authorized officer under the terms and conditions of the MOA or with CSLC personnel.
Soils	
Soils-1 PSREC BMP	Temporary erosion and sediment control devices for the new Herlong Substation, including sediment barriers, would be installed promptly after soil disturbance, in accordance with the NPDES requirements. These devices would be inspected on a daily basis in areas of active construction; on a weekly basis in areas with no active construction; and within 24 hours of each 0.5-inch or greater rainfall. PSREC would install temporary sediment barriers (e.g., staked straw bales) on either side of a water body channel, across the width of the substation construction site, and around spoil and topsoil stockpiles. Sediment barriers would be maintained, as necessary, to ensure effectiveness during construction. In steep terrain, temporary sediment barriers would be installed during clearing to prevent the movement of disturbed soil off the substation construction site. Temporary slope breakers consisting of wattles or compacted soil would be installed across the substation construction site, as necessary.
Soils-2	Following structure placement, PSREC would place fill around each pole, using the soil excavated from the pole holes. PSREC would tamp the soil into place and mound the soil around each pole base. Approximately 1 cubic yard of excavated soil would be placed around each pole, resulting in an estimated 247 cubic yards of soil excavated for the project. Most of the soil would be used as fill and mounding around the poles; the remaining amount, no more than 0.5 cubic yard per pole, would be spread in the ROW so as to not destroy any existing vegetation.
Soils-3	In site-specific areas where soils are sensitive to disturbance, no widening or upgrading of existing access roads would occur during project construction or operation, except for repairs necessary to make roads passable.
Soils-4 PSREC BMP	No construction activities would be performed when the soil is too wet to adequately support construction equipment. If equipment creates ruts more than 6 inches deep, the soil would be deemed too wet and construction would cease in that area.
Soils-5 PSREC BMP	No soil removal is anticipated. If soil removal is deemed necessary, however, before soils are removed, PSREC would ensure soil storage sites are located within the appropriate areas along the ROW to prevent impacts to cultural and biological resources.
Water Resources	
Water-1	If damaged or destroyed by construction activities, water sources or facilities (e.g., tanks, developed springs, water lines, wells) would be repaired or replaced to their pre-disturbed condition, as required by the landowner or land management agency.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Water-2	All construction and maintenance activities would be conducted to minimize disturbance to vegetation, drainage channels, and intermittent and perennial stream banks.
Water-3 PSREC BMP	Surface water quality would be protected from construction impacts by use of sediment barriers that would be maintained until satisfactory reclamation is established.
Water-4 PSREC BMP	PSREC would not refuel equipment within 500 feet of any live water source.
Noise	
Noise-1	The proposed hardware and conductor would limit the audible noise (AN), radio interference, and television interference due to corona. Tension would be maintained on all insulator assemblies to assure positive contact between insulators, thereby avoiding sparking. Caution would be used during construction to avoid scratching or nicking the conductor surface, which may provide points for corona to occur.
Noise-2	If interference occurs, PSREC would respond to any complaints of line-generated radio or television interference by investigating the complaints and implementing appropriate mitigation measures. The transmission line would be patrolled on a regular basis to repair or replace damaged insulators or other line materials that could cause interference.
Noise-3 PSREC BMP	Construction activities would occur during daylight hours, or from 7 a.m. to 7 p.m.
Noise-4	Residents located along the project ROW would be notified 5 days prior to construction occurring within 500 feet of their residence.
Hazardous Materials and Waste	
Hazardous Materials-1 PSREC BMP	Construction sites would be maintained in a sanitary condition at all times; waste materials generated by construction at those sites would be disposed of promptly at an appropriate waste disposal site (e.g., Herlong Transfer Station, Lassen County Bass Hill Landfill). 'Waste' means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.
Hazardous Materials-2	Totally enclosed containment would be provided for all trash and hazardous materials (if needed). All construction waste including trash, litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials would be removed to either the Herlong Transfer Station or Lassen County Bass Hill Landfill.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Hazardous Materials-3 PSREC BMP	PSREC would comply with all applicable federal, state, and local laws and regulations, existing or hereafter enacted or promulgated, with regard to any hazardous materials, as defined in this paragraph, that would be used, produced, transported or stored on or within the ROW or any of the ROW facilities or used in the construction, operation, maintenance, or termination of the ROW or any of its facilities. "Hazardous material" means any substance, pollutant, or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended, 42 U.S. Code (U.S.C.) 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste," as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 U.S.C. 6901 et seq. and its regulations. The term "hazardous material" also includes any nuclear material or byproduct as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.
Hazardous Materials-4 PSREC BMP	PSREC, as cited by BLM ROW Grant No. CA 350-2008-27, application CACA48916, agrees to indemnify the U.S. against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined by CERCLA or RCRA) on the ROW unless the release or threatened release is wholly unrelated to PSREC's activity on the ROW. This agreement applies without regard to whether a release is caused by PSREC, its agent, or third parties.
Vegetation	
Vegetation-1 PSREC BMP	PSREC would ensure the appropriate biological resource surveys have been conducted before construction begins, per coordination with the federal and state agencies.
Vegetation-2	Where possible, PSREC would trim (rather than cut) brush, and would cut (rather than blade) brush. Blading would be allowed only if terrain and brush present a clear hazard to personnel and equipment.
Vegetation-3	To minimize the potential to spread invasive weeds, PSREC would clean off-road equipment (power or high-pressure cleaning) of all mud, dirt, and plant parts before moving equipment onto the project lands.
Vegetation-4	In site-specific areas where vegetation is sensitive to disturbance (and has been identified as such by the landowner or land manager, prior to construction), no widening or upgrading of existing access roads would occur during project construction, except for repairs necessary to make roads passable.
Vegetation-5	The BLM's Eagle Lake Field Office pamphlet on noxious weeds (BLM 2000) would be provided to all contractors and PSREC personnel. The terms and conditions of the CSLC lease also would be met relative to minimizing the potential spread of invasive plant species.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Vegetation-6	Prior to construction activities, PSREC would identify and provide a list of any noxious weeds present.
Livestock Grazing	
Livestock-1 PSREC BMP	Construction excavations left open overnight would be covered to prevent injury to livestock. Covers would be secured in place and would be strong enough to prevent livestock from falling through the opening.
Recreation	
Recreation-1	PSREC would restrict construction activities in the Fort Sage OHV SRMA during the biannual spring motorcycle races to prevent potential impacts to race participants on BLM-administered lands.
Recreation-2	PSREC would coordinate with the BLM after project construction to verify actual structure and guy wire placement would not conflict with established trails and to mitigate any safety hazards to OHV users on designated trails. Potential mitigation could include minor trail route changes by the BLM.
Wildlife	
Wildlife-1 PSREC BMP	PSREC would ensure the appropriate biological resource surveys have been conducted prior to the initiation of construction, per coordination with the federal and state agencies.
Wildlife-2	Structures would be constructed to conform to RUS raptor-friendly specifications. Additional resources used in design would be the Avian Power Line Interaction Committee's (APLIC's) *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* and *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994*, scheduled to be updated in 2011.
Wildlife-3 PSREC BMP	Construction excavations left open overnight would be covered to prevent injury to wildlife. Covers would be secured in place and would be strong enough to prevent wildlife from falling through the openings.
Wildlife-4	With the exception of emergency repair situations, ROW construction, restoration, and termination activities in designated areas would be modified or discontinued during sensitive periods (e.g., nesting and breeding periods) for target animal species. Species would be identified during the preconstruction surveys (e.g., raptor nest clearance survey, bank swallow breeding survey), and potential restricted areas would be species dependent and approved in advance by the authorized officer of the BLM and CDFG, as noted in the MMRP. This measure would apply to target bird species either documented in the project area or potentially occurring. As assessed in Section 4.17, Special Status Wildlife Species, these species could encompass any of the following: • Golden eagle, red-tailed hawk, Swainson's hawk, prairie falcon, American kestrel, Cooper's hawk, sharp-shinned hawk, northern harrier, great horned owl, long-eared owl, burrowing owl and bank swallows along Long Valley Creek.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Wildlife-5	If project construction activities were to occur during the raptor breeding season (February 1 - August 31), raptor nest clearance surveys would be conducted in proximity to the project (e.g., transmission line ROW, access roads) by a qualified biologist. If active raptor nests (i.e., containing eggs or young) are documented, PSREC would coordinate with the BLM wildlife biologist and CDFG environmental scientist to determine if construction activities should be restricted near active raptor nests for a specified distance (e.g., 0.25 or 0.5 mile) and for a specified period. The potential construction buffer and extent of the seasonal restriction would be determined on a case-by-case and species-specific basis in conjunction with the BLM's established buffer zones and seasonal restrictions for raptor species outlined in Table 4-9 and the Eagle Lake Field Office RMP and ROD (BLM 2007, 2008). On state lands, PSREC would coordinate with the designated CDFG biologist to assess and protect nesting raptors within 0.5 mile of the project ROW on a site-specific basis. Some raptor species are more tolerant of human presence and disturbance than other species and whether a nest is within line-of-sight of the construction activities is integral to determining whether protection measures would be warranted. The applicable buffers and seasonal restrictions can vary and should take into account the species affected, topography, habitat suitability, degree of existing disturbance, associated prey base, breeding phenology, and degree or extent of proposed disturbance. Protection of active raptor nests would apply during project construction and the breeding season period until the young had fledged or if the nesting attempt fails.
Wildlife-6	PSREC would design site lighting at the substations to minimize bird attraction or nocturnal insect attraction and swarming. At a minimum, lights would be down shielded to minimize attracting birds or insects. This measure would minimize the potential for nocturnal bird foraging (e.g., nighthawks).
Wildlife-7	In conjunction with the pre-construction raptor nest clearance surveys (see Measure Wildlife-5), PSREC would contract with qualified wildlife biologists to conduct ground surveys for American badger dens and burrowing owl nest burrows to identify the location of active den or burrow sites for both species, parallel to survey methodology used in 2010. Active burrows within construction areas or access routes would be flagged and avoided during project construction by both pole placement and equipment use to prevent crushing of active den sites. Additionally, a 0.25-mile buffer would be developed around active burrowing owl nests until the young had left the nest burrow.
Wildlife-8	In conjunction with the pre-construction raptor nest clearance surveys (see *Measure Wildlife-5*), PSREC would contract with a qualified wildlife biologist to conduct additional nest surveys for active loggerhead shrike nest sites prior to construction initiation. If active nest sites are documented within 200 feet of the ROW, PSREC would coordinate with the BLM wildlife biologist or CDFG environmental scientist to determine if construction activities should be restricted near these nest sites and, if so, determine the applicable buffer area.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Doyle SWA	
Doyle SWA-1	Assuming traditional construction methods (no helicopter use, Option B), a mitigation plan was developed by PSREC, CDFG, California Wildlife Conservation Board (WCB), and the Wildlife and Sport Fish Restoration Program of the U.S. Fish and Wildlife Service (USFWS) for the ROW easement crossing the Doyle SWA in Section 8 to further support the maintenance and enhancement of wintering mule deer. Detailed measures are outlined in the Final Mitigation Plan (see Appendix B of this EA). Measures unique to Option B construction scenario on the Doyle SWA are reiterated in this corresponding tabular summary and listed below:
Doyle SWA-2	On-site reclamation measures applicable to Option B on Doyle SWA would include the following: • Plant antelope bitterbrush seedlings with *Vexar* tubing protection, with the planting density goal to reflect existing bitterbrush cover upon final reclamation. Before planting, PSREC would coordinate with the CDFG to determine the plant density goal. This determination would be based on findings by a qualified botanist and/or reclamation specialist retained by PSREC and approved by the CDFG. • The optimal planting period for bitterbrush is when soil moisture is the highest, which typically occurs during the spring. PSREC would coordinate with the CDFG on this planting period. • During project construction under Option B, three temporary perpendicular access routes would be constructed to the ROW and each of the three structures along this 0.5-mile segment of Doyle SWA, using a culvert and clean drain rock to fill the ditch level at the access road intersections with Fort Sage Road. Following project construction, the fill would be excavated and removed from the area. If necessary, the v-cut in the ditch adjacent to Fort Sage Road would be deepened (processes pending approval from Lassen County) to deter OHV recreationalists from using the two-track access roads to the ROW. To further discourage OHV use, during site reclamation efforts, PSREC would erect temporary orange plastic construction fencing across the three access routes near the existing county road to block access. PSREC would maintain this fencing and subsequently remove it once native vegetation becomes established along these three access roads.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Doyle SWA-2, continued	• PSREC and the CDFG would communicate and coordinate on these measures to ensure an acceptable success rate at a reasonable cost and effort. Before initiating these measures, PSREC and the CDFG would define the reclamation targets and goals, as described above, with remedial options available in case planting success is not achieved in the pre-determined time frame. Examples of applicable remedial measures may include on-site watering of seedlings during periods of insufficient precipitation on the Doyle SWA parcel, additional plantings of bitterbrush at a density or cost not to exceed that expended by PSREC for the initial plantings, etc., with measures determined by ongoing dialog between PSREC and the CDFG.
Doyle SWA-3	Off-site enhancement measures applicable to Option B on the Doyle SWA to mitigate the 0.5-mile ROW crossing would include the following: • The CDFG would identify an off-site 1-acre parcel where habitat enhancement of the existing antelope bitterbrush community would benefit area mule deer in the long term. • PSREC would identify a qualified contractor that would be responsible for seeding the off-site parcel in accordance with this enhancement plan. • PSREC would fence the 1-acre parcel with materials approved by the CDFG. These materials may include: o Wooden posts 10 feet above ground surface level used for "H" braces. o 10-foot steel "T" posts used in-line for fence support, not to exceed 20-foot spacing. o Mesh wire at a gauge and mesh size specified by the CDFG up to 6 feet agl. o Two to three strands of smooth wire above mesh wire. • Prior to fencing, PSREC and the seeding contractor would determine if equipment use within the 1-acre parcel would allow adequate coverage. • Antelope bitterbrush would be seeded at approximately 6 pounds per acre. • The CDFG would provide the bitterbrush seeds to PSREC for this seeding. • The contractor would use a rangeland drill for bitterbrush seeding. • Recommended seeding methods are presented in Clements and Young (2005). • Seeding would be completed during the fall, with October being optimal.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
Doyle SWA-3, continued	• PSREC would monitor the 1-acre parcel annually to determine the relative success rate of the seeding and fencing program. Success is defined as sufficient survival of bitterbrush seedlings at the end of the 5-year monitoring period so that, upon maturity, bitterbrush cover at the enhancement site would be equal to or greater than the density of bitterbrush in the vicinity (as determined by the botanical surveys described above).Before initiating the seeding program, PSREC would implement noxious weed control measures, if warranted, in accordance with methods mutually agreed upon by PSREC and the CDFG.
Doyle SWA-4	Under the Option B standard construction scenario, PSREC and the CDFG would communicate and coordinate on these measures to ensure an acceptable success rate at a reasonable cost and effort. Before initiating these measures, PSREC and the CDFG would define the reclamation targets and goals, with remedial options available in case planting success is not achieved in the pre-determined time frame. Remedial measures may include additional plantings of bitterbrush at a density or cost not to exceed that expended by PSREC for the initial plantings. As stated above, these reclamation goals would be based on findings by a qualified botanist and/or reclamation specialist retained by PSREC.
Doyle SWA-5	Under both construction options A and B and to prevent hunter conflicts, PSREC would cease construction activities along the project ROW during the period immediately before and during the CDFG's M3 Doyle Muzzleloading Rifle Buck Hunt. Specifically, construction activities would not occur from the second Saturday in November (1 week prior to the start of this hunt), through the end of the 9-day hunt. Construction would be allowed to continue at the Herlong and Fort Sage substations during this 16-day period.
Doyle SWA-6	Under both construction options A and B, the BLM's California Native Seed Policy would <u>not</u> apply to the portion of the Doyle SWA crossed by the Proposed Action. The Doyle SWA land would be reseeded with a native seed mix to be determined by the CDFG for the transmission line ROW and along the reclaimed access routes.
Doyle SWA-7	Under both construction options A and B, PSREC has committed to avoiding bitterbrush vegetation during pole placement on the 0.5-mile segment of the Doyle SWA. This approach will be feasible, based on line design and a manual siting approach.
Aesthetics / Visual	
Visual-1	Standard structure design would be modified to correspond with spacing of existing transmission line structures, where feasible, to reduce visual contrast or potential operational conflicts.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
BLM ROW Grant and State of California Lands	
The following measures were developed for BLM lands and the associated BLM ROW Grant. Where applicable, these measures also would apply to lands owned by the California State Lands Commission. PSREC would coordinate with the applicable land management agency or state landowner, as warranted.	
BLM ROW Grant	
ROW Grant-1 PSREC BMP	PSREC would submit a Plan (or Plans) of Development (POD) to BLM that describe in detail the construction, operation, maintenance, and termination of the Proposed Action's ROW and its associated improvements and facilities. The degree and scope of these plans would vary depending on 1) the complexity of the ROW or its associated improvements and facilities, 2) the anticipated conflicts requiring mitigation, and 3) additional technical information required by the authorizing officer. The approved POD would become part of the ROW Grant.
ROW Grant-2 PSREC BMP	PSREC would construct, operate, and maintain the facilities, improvements, and structures within the BLM ROW Grant in strict conformity with the Plan (or Plans) of Development as approved and made part of the ROW Grant. Any relocation, additional construction, or use not in accord with the approved POD would not be initiated without the prior written approval of the BLM authorized officer. A copy of the complete ROW Grant, including all stipulations and approved POD, would kept on site during construction, operation, and termination and would be provided to the authorized officer upon request. Noncompliance with the above would be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.
ROW Grant-3 PSREC BMP	On BLM land, PSREC would place slope stakes, culvert location and grade stakes, and other construction control stakes, as deemed necessary by the BLM authorized officer, to ensure construction is completed in accordance with the POD. If stakes are disturbed, they would be replaced before proceeding with construction.
ROW Grant-4 PSREC BMP	Specific sites identified by the BLM or state authorized officer where construction equipment and vehicles are not allowed (e.g., archaeological sites), would be clearly marked by PSREC before any construction or surface-disturbing activities begin. PSREC would be responsible for assuring that construction personnel are trained to recognize these markers and understand the equipment-movement restrictions involved.
ROW Grant-5 PSREC BMP	PSREC would contact the BLM's authorized officer at least 10 days before the anticipated start of construction or any surface-disturbing activities. The authorized officer may require, schedule, and attend a preconstruction conference with PSREC within the 10-day period before construction or surface-disturbing activities begin on the ROW. PSREC, PSREC's contractor(s), or agents involved with the construction and surface-disturbing activities on the ROW would attend this conference to review stipulations of the grant, including the POD.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
ROW Grant-6 PSREC BMP	PSREC would designate a representative(s) who would have the authority to implement instructions from the BLM or state authorized officer within a reasonable timeframe when construction or other surface-disturbing activities are underway.
ROW Grant-7 PSREC BMP	PSREC would not initiate any construction or other surface-disturbing activities on the ROW without prior written authorization of the BLM or state authorized officer. Such authorization would be a written Notice to Proceed issued by the authorized officer. Any Notice to Proceed would authorize construction or use only as expressly stated therein and only for the particular location or use described therein.
ROW Grant-8 PSREC BMP	The BLM or state authorized officer may suspend or terminate (in whole or in part) any issued Notice to Proceed when, in his/her judgment, conditions arise that result in the approved terms and conditions being inadequate to protect the public health and safety or the environment.
ROW Grant-9	The holder of the BLM ROW Grant or the holder's successor in interest would comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of Interior issued pursuant hereto.
ROW Grant-10 PSREC BMP	PSREC would conduct all activities associated with the construction, operation, and termination of the ROW within the authorized limits of the ROW.
ROW Grant-11 PSREC BMP	PSREC would permit free and unrestricted public access to and upon the ROW on lands administered by the BLM for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock, or facilities constructed within the ROW.
ROW Grant-12 PSREC BMP	PSREC would plan for safe and accessible conditions at all roadway crossings and access points during construction and restoration on BLM and state lands.
ROW Grant-13 PSREC BMP	Existing roads and trails on public lands that are blocked as the result of the construction project would be rerouted or rebuilt, as deemed reasonable by PSREC and the BLM's authorized officer.
ROW Grant-14 PSREC BMP	Construction-related traffic on BLM or state lands would be restricted to routes approved by the BLM or state authorized officer. New access roads or cross-country vehicle travel would not be permitted unless prior written approval is obtained from the authorized officer. Authorized roads used by PSREC would be rehabilitated or maintained when construction activities are complete, as approved by the authorized officer.
ROW Grant-15 PSREC BMP	If cross-country access is necessary on BLM land, PSREC would contact the BLM authorized officer for review and authorization. Clearing vegetation or grading a roadbed would be avoided whenever practicable. All construction and vehicular traffic would be confined to the ROW or designated access routes, roads, or trails unless otherwise authorized in writing by the authorized officer. All temporary roads used for construction would be rehabilitated after construction is completed. Only one road or access route would be permitted to each site requiring access.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
ROW Grant-16 PSREC BMP	As directed by the BLM authorizing officer, new road segments on BLM land would be winterized by providing a well-drained roadway by constructing water bars, maintaining drainage, and implementing any additional reasonable measures necessary to minimize erosion and other damage to the roadway or the surrounding public lands.
ROW Grant-17 PSREC BMP	Excavation and embankment quantities would be balanced as nearly as design and construction considerations allow. Any waste or borrow needs would be specifically identified by PSREC.
ROW Grant-18 PSREC BMP	Excess excavated, unsuitable, or slide materials would be disposed of as directed by the authorized officer.
ROW Grant-19 PSREC BMP	PSREC would construct water bars on all disturbed areas on BLM land to the spacing and cross sections specified by the BLM authorized officer. Water bars would be constructed to: (1) simulate the imaginary contour lines of the slope, ideally with a 1 or 2% grade; (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock, whenever possible.
ROW Grant-20 PSREC BMP	Clearing and grubbing debris would not be placed or allowed to remain in or under any embankment sections. Clearing and grubbing debris may be placed under waste material with a minimum of 3 inches of cover, as directed by the authorizing officer.
ROW Grant-21 PSREC BMP	Use of pesticides would comply with the applicable federal and state laws. Pesticides would be used in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to using pesticides, the holder would obtain from the authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage, disposal of containers, and any other information deemed necessary by the authorized officer. Emergency use of pesticides would be approved in writing by the authorized officer prior to such use. PSREC would coordinate with the agency, and applications may be made by a Pesticide Certified Applicator (PCA) if warranted.
ROW Grant-22 PSREC BMP	PSREC would be responsible for weed control on disturbed areas within the limits of the ROW. PSREC would be responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations). Before preconstruction activities commence, PSREC would provide a list to BLM of all noxious weeds present on the BLM land included in the ROW Grant. The authorized officer would determine if any noxious weeds require flagging for treatment.
ROW Grant-23 PSREC BMP	If applicable, cattle guards on BLM land would be 5 feet by 16 feet and, at a minimum, would meet the requirements of BLM Manual Section 9113.25. Cattle guards would be set on timber, pre-cast concrete, or cast-in-place concrete bases at right angles to the roadway. Backfill around cattle guards would be thoroughly compacted. A bypass gate would be built adjacent to each cattle guard. Gate materials, dimensions, and construction would conform to the requirements as specified by the BLM authorized officer.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
ROW Grant-24 PSREC BMP	Fences, gates, and brace panels on BLM land would be reconstructed to BLM standards and specifications, as determined by the authorized officer.
ROW Grant-25 PSREC BMP	PSREC would furnish and install culverts of the gauge, materials, diameter, and length indicated and approved by the BLM authorized officer. The minimum diameter for culverts would be specified by a registered engineer. Culverts would be free of corrosion, dents, or other deleterious conditions. Culverts would be placed in channel bottoms on firm, uniform beds that have been shaped to accept them and aligned to minimize erosion. Backfill would be thoroughly compacted. No equipment would be routed over a culvert until backfill depth is adequate to protect the culverts.
ROW Grant-26 PSREC BMP	As directed by the BLM authorized officer, construction stakes would be set for each culvert to show location, inlet and outlet elevations, diameter, and length.
ROW Grant-27 PSREC BMP	As directed by the BLM authorized officer, PSREC would submit a complete culvert list to reflect the drainage plan for the associated road. The list would include, but would not be limited to, size, length, and location of each culvert.
ROW Grant-28 PSREC BMP	All roads and parking areas would be constructed to provide drainage and minimize erosion. If necessary, culverts would be installed to maintain drainage. All areas used for roads and parking would be surfaced with gravel.
ROW Grant-29 PSREC BMP	PSREC would inform the BLM authorized officer within 48 hours of an accident on federal lands that necessitates reporting to the Department of Transportation, as required by 49 CFR Part 195.
ROW Grant-30 PSREC BMP	Construction is not expected to occur from July 1 to Sept. 15; however, if any activities do occur during this time, vehicles, gas-powered equipment and flues would be equipped with spark arresters approved by the BLM authorized officer.
ROW Grant-31 PSREC BMP	During construction, PSREC would maintain a fire watch with fire-fighting equipment at locations and times designated by the BLM authorized officer. PSREC would prepare and implement a Fire Prevention and Management Plan for federal and state lands. The plan would be approved by the BLM's and the state's authorized officers, respectively, prior to the issuance of the notice to proceed.
ROW Grant-32 PSREC BMP	When requested by the BLM authorized officer, PSREC would make on-site equipment temporarily available for fighting nearby wildfires. Payment for such services would be made at rates determined by the BLM authorized officer.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
ROW Grant-33 PSREC BMP	PSREC would be liable for damage or injury to the U.S. to the extent provided by Code of Federal Regulation 43 CFR Section 2803.1-4. PSREC would be held to a standard of strict liability for damage or injury to the U.S. resulting from fire or soil movement (including landslides and slumps, as well as wind- and water-caused movement of particles) caused or substantially aggravated by any of the following within the ROW or permit area: • Activities of PSREC including, but not limited to, construction, operation, maintenance, and termination of the facility. • Activities of other parties including, but not limited to: o Land clearing and logging o Earth-disturbing and earth-moving work o Vandalism and sabotage
ROW Grant-34 PSREC BMP	The maximum limitation for such strict liability damages for any one event and any liability in excess of such amount would be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred. This section would not impose strict liability for damage or injury resulting primarily from the negligent acts or omissions of the U.S.
ROW Grant-35 PSREC BMP	PSREC would be responsible for repairing or replacing any resources lost by BLM grazing permittees or the U.S. as a result of the project. Resources may include, but not be limited to, stock water pipelines, livestock, forage for livestock grazing, spring (water) production, and the ability to graze livestock. Any lost resources would be repaired or replaced in kind or by mutually agreed upon compensation.
ROW Grant-36 PSREC BMP	A bond, acceptable to the BLM authorized officer, would be furnished by PSREC before the issuance of a Notice to Proceed or at such earlier date as specified by the authorized officer. The amount of this bond would be determined by the authorized officer. This bond must be maintained in effect until removal of improvements and restoration of the ROW has been accepted by the authorized officer.
ROW Grant-37 PSREC BMP	Should the bond delivered under this grant become unsatisfactory to the authorized officer, PSREC would furnish a new bond within 30 days of demand.
ROW Grant-38 PSREC BMP	If snow removal from a road on BLM or state lands is undertaken, equipment used for snow removal operations would be equipped with shoes to keep the blade 2 inches off the road surface. PSREC would take special precautions where the ground is uneven and at drainage crossings to ensure the blades do not destroy vegetation.
ROW Grant-39 PSREC BMP	PSREC would maintain the ROW in a safe, usable condition, as directed by the BLM authorized officer. A regular maintenance program would include, but would not be limited to, blading, ditching, culvert installation, and surfacing.
ROW Grant-40 PSREC BMP	PSREC would not use the ROW as a road for purposes other than routine maintenance, as deemed necessary by the authorized officer in consultation with PSREC.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
ROW Grant-41 PSREC BMP	On BLM lands, for the purpose of determining joint maintenance responsibilities, PSREC would make road use plans known to all other authorized users of the road. Within 30 days of the date of the ROW Grant, PSREC would provide the authorized officer with the names and addresses of all parties notified, dates of notification, and method of notification. Failure of PSREC to share proportionate maintenance costs on the common use access road in dollars, equipment, materials, or manpower with other authorized users may be adequate grounds to terminate the ROW Grant. The BLM authorized officer would determine whether this has occurred and whether to terminate the grant. Upon request, the authorized officer would be provided with copies of any maintenance agreement.
ROW Grant-42 PSREC BMP	Ninety days prior to termination of the BLM ROW Grant, PSREC would contact the BLM authorized officer to arrange a joint inspection of the ROW. This inspection would be held to agree to an acceptable termination and rehabilitation plan. This plan would include, but would not be limited to, removal of facilities, drainage structures, or surface material; re-contouring; applying topsoil; and reseeding. The authorized officer must approve the plan in writing before PSREC begins any termination activities.
ROW Grant-43 PSREC BMP	PSREC would set up a construction environmental monitoring inspection program for BLM lands that includes: • Ensuring compliance with the requirements of this EA, the environmental conditions of the ROW Grant authorization, the mitigation measures proposed by PSREC (as approved and/or modified by the ROW Grant), and other environmental permits and approvals. • Identifying, documenting, and overseeing corrective actions, as necessary, to bring an activity back into compliance. • Verifying that the limits of all authorized construction work areas and locations of access roads are properly marked before clearing. • Verifying the location of signs and highly visible flagging that mark the boundaries of sensitive resource areas, drainages, water bodies, or areas with special requirements along the construction work area. • Identifying erosion/sediment control and soil stabilization needs in all areas. • Ensuring that subsoil and topsoil are tested to measure compaction and determine the need for corrective action. • Advising the construction contractor when conditions (such as wet weather) make it advisable to restrict construction activities to avoid excessive rutting. • Ensuring restoration of contours and replacement of topsoil. • Verifying that any soils or materials imported for use have been certified free of noxious weeds. • Determining the need for erosion control measures and ensuring that these measures are properly installed, as necessary, to prevent sediment flow into drainages, water bodies, and sensitive areas and on to roads.

Table 2-6 Design Criteria/Committed Environmental Protection Measures, continued

Category	Committed Protection Measure
ROW Grant-43 PSREC BMP, continued	• Inspecting and ensuring the maintenance of temporary erosion control measures at least: (a) on a daily basis in areas of active construction or equipment operation; (b) on a weekly basis in areas with no construction or equipment operation; and (c) within 24 hours of each 0.5-inch rainfall. • Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification. Keeping records of compliance with the environmental conditions of the ROW Grant, and the mitigation measures proposed by PSREC in the application submitted to the BLM. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase.
ROW Grant-44 PSREC BMP	PSREC would submit its contingency plan to the BLM or state authorized officer before project initiation on BLM-administered or state lands, resepectively. This plan would contain: • Spill control provisions for oil and other pollutants. • The agencies responsible for contingency plans in Lassen County, California or Washoe County, Nevada, which would be among the first to be notified in the event of any transformer failure resulting in a spill of oil or other pollutant. • Provisions to restore of the affected resource. • Provisions that the BLM authorized officer would approve any materials or devices used for oil spill control and any disposal sites or techniques selected to handle oil, matter, or other pollutants. • Separate and specific techniques and schedule outlines for cleanup of spilled oil or other pollutants on land or in water.

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Map 2-1 Legend

Fort Sage to Herlong 120kV Interconnect Project

Map 2-1
Legend

PLUMAS-SIERRA RURAL ELECTRIC COOPERATIVE
Electricity and Telecommunication Services

Vegetation Classifications

AGR	Agriculture
BBR	Bitterbrush
BBR/DP	Bitterbrush & Desert Peach co-dominant
DIST	Disturbed
DP/sgb/bbr	Desert Peach dominant with big sagebrush & bitterbrush
IND	Industrial
MRI	Montane Riparian
PGS	Perennial Grassland with Saltbush and Sagebrush
RES	Residential
ROCK	Rock Outcrop
SGB	Big Sagebrush
SGB/DP	Big Sagebrush and Desert Peach co-dominant
SGB/sb	Big Sagebrush with saltbush and grasses

Wildlife Species Habitat Associations

American Badger	PAS, SGB	**Northern Harrier**	AGR, PAS, SGB
Bank Swallow	MRI	**Northern Leopard Frog**	MRI
Burrowing Owl	PAS, SGB	**Northern Sagebrush Lizard**	PAS, PGS
Golden Eagle	BBR, PAS, PGS, SGB, ROCK	**Prairie Falcon**	BBR, PGS, SGB, ROCK
Greater Sandhill Crane	PAS, MRI	**Short-eared Owl**	PAS, PGS, SGB
Honey Lake Blue	BBR, PAS, SGB	**Swainson's Hawk**	AGR, BBR, PAS, PGS, SGB
Loggerhead Shrike	BBR, PAS, PGS, SGB	**Willow Flycatcher**	MRI
Long-billed Curlew	PAS, PGS	**Yellow-breasted Chat**	MRI
Long-eared Owl	MRI, PAS, SGB	**Yellow Warbler**	MRI

Special Status Wildlife Species, Nests & Dens

- American Badger
- Burrowing Owl
- Golden Eagle
- Honey Lake Blue
- Loggerhead Shrike
- Long-eared Owl
- Prairie Falcon
- Swainson's Hawk

Sources: ○ California Natural Diversity Database 2008
□ Field Surveys 2007
△ Nevada Natural Heritage Program 2008
○ Field Surveys 2010

Sensitive Plant Species

Prior Surveys and Database

- Geyer's Milk-vetch (CNDDB)
- Lance-leaved Scurf-pea (07,08,CNDDB)
- Many-flowered Thelypodium (CNDDB)
- Winged Dock (07,08)

2010 Surveys

- Lance-leaved Scurf-pea
- MacDougal's Lomatium
- Many-flowered Thelypodium
- Winged Dock

Sources: California Natural Diversity Database 2008
Nevada Natural Heritage Program 2008
Field Surveys 2007
Field Surveys 2008
Field Surveys 2010

Other

- Proposed 120kV Transmission Line
- Existing 7.2kV Distribution Line (Desert Tap)
- Cultural Survey Area (within 100 feet from centerline)
- Botanical Survey Area (within 150 feet from centerline)
- Wildlife Survey Area (within 0.5 mile from centerline)
- Existing or New Substation
- Pulling Sites at Angle Poles
- Illegal Dumping

Land Ownership

- Bureau of Land Management
- California Department of Fish and Game
- State of California
- Lassen County

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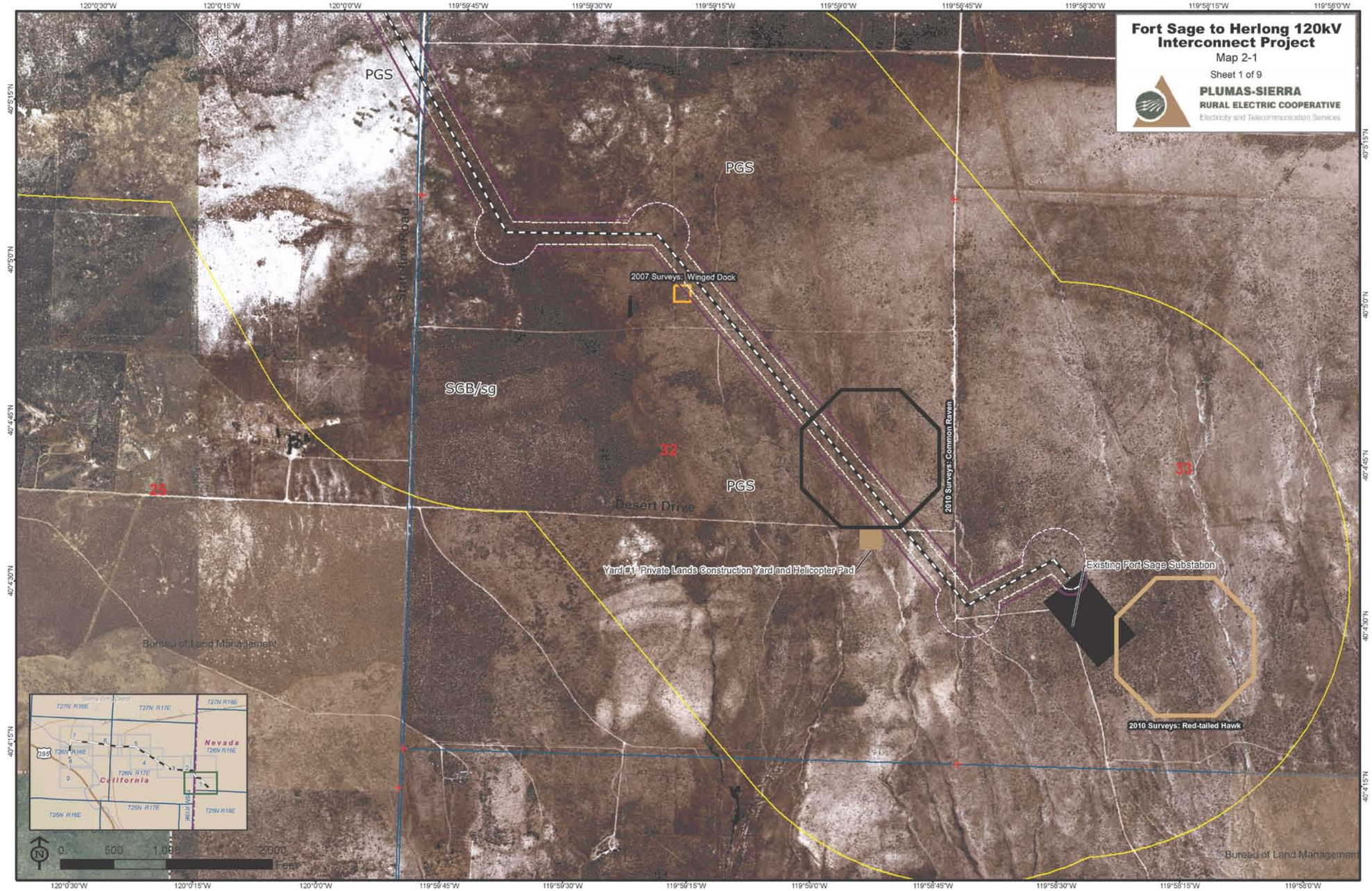

Map 2-1 Sheet 1 Fort Sage to Herlong 120kV Interconnect Project – Aerial Imagery

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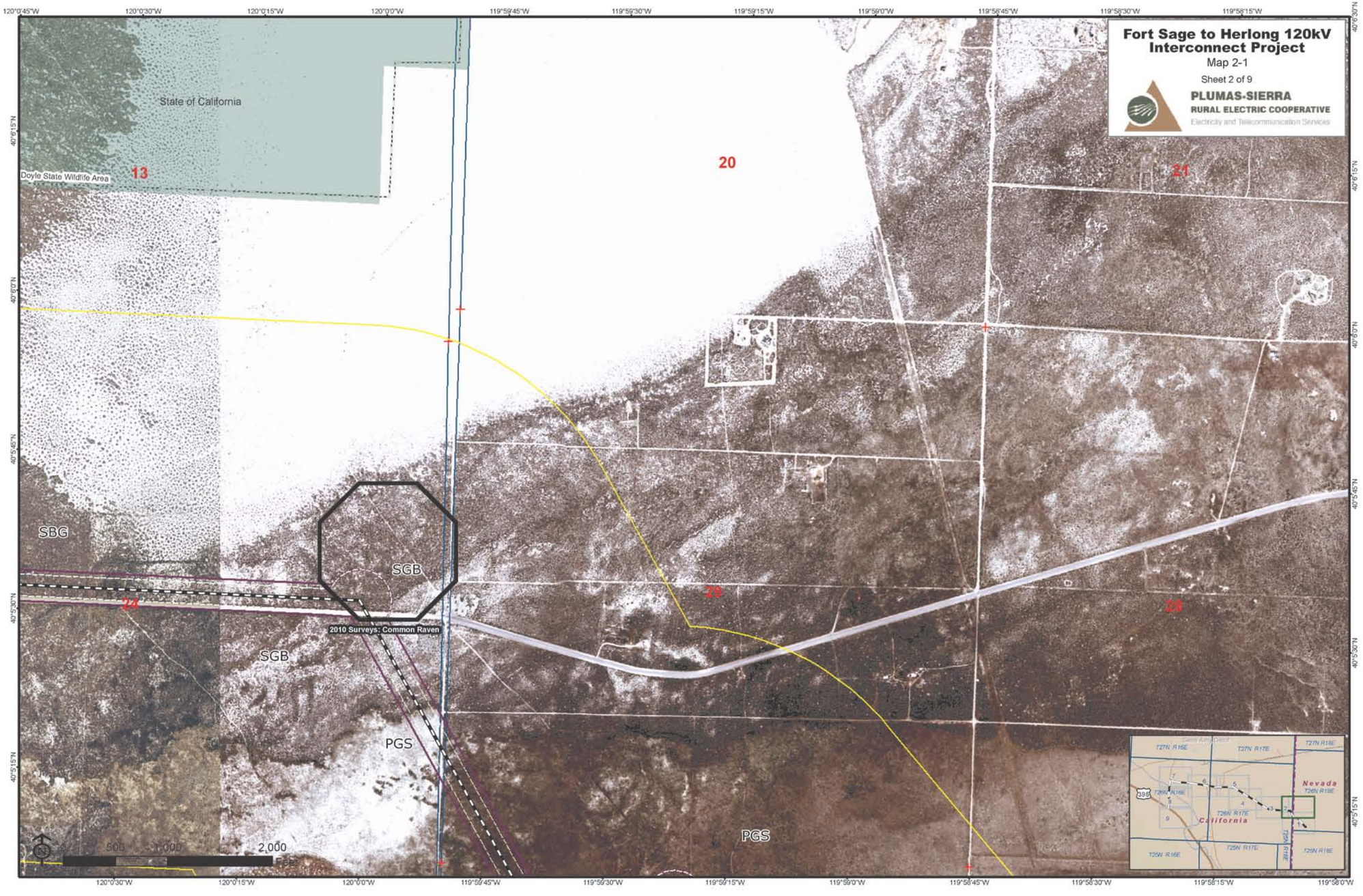

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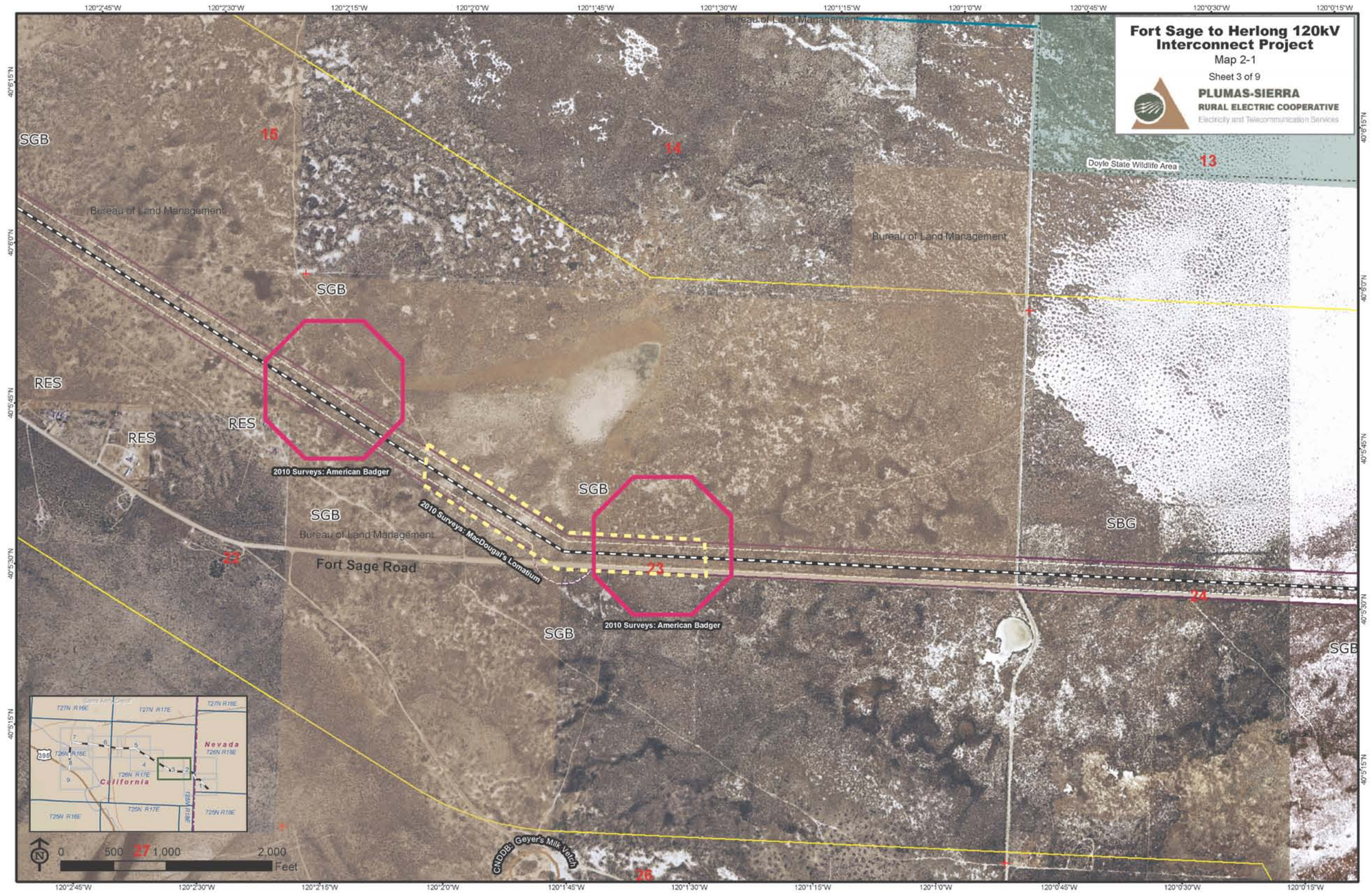

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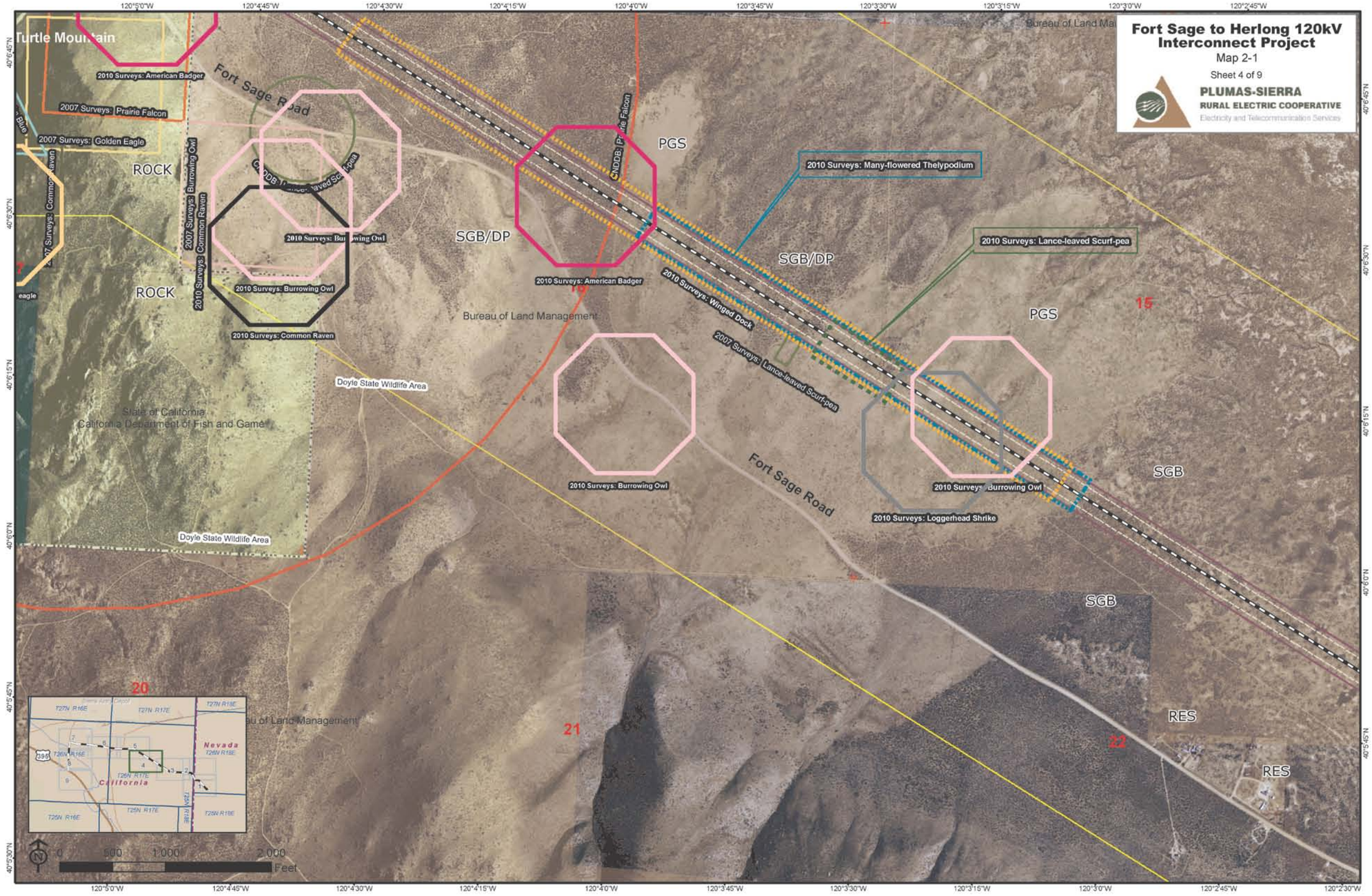

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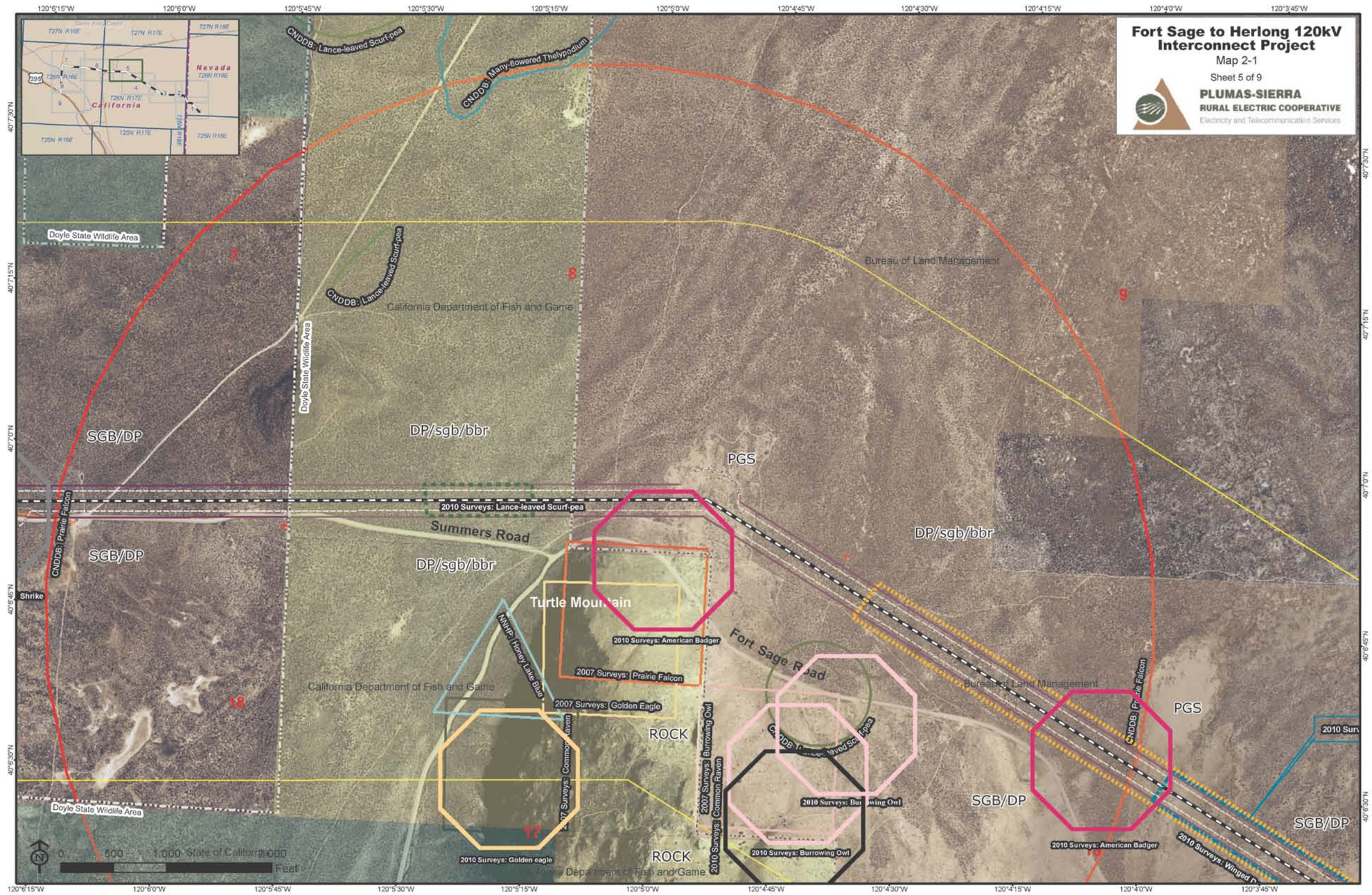

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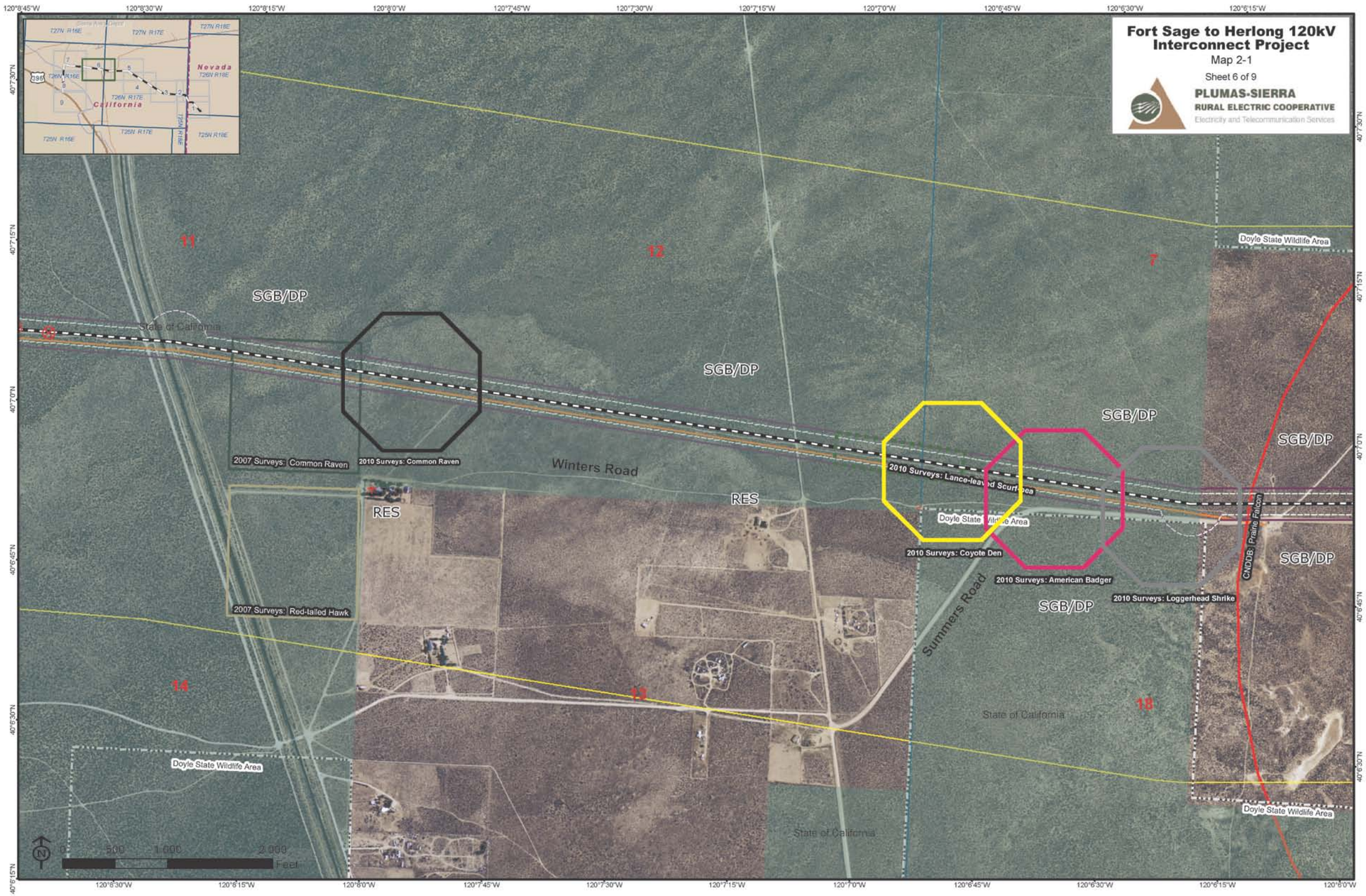

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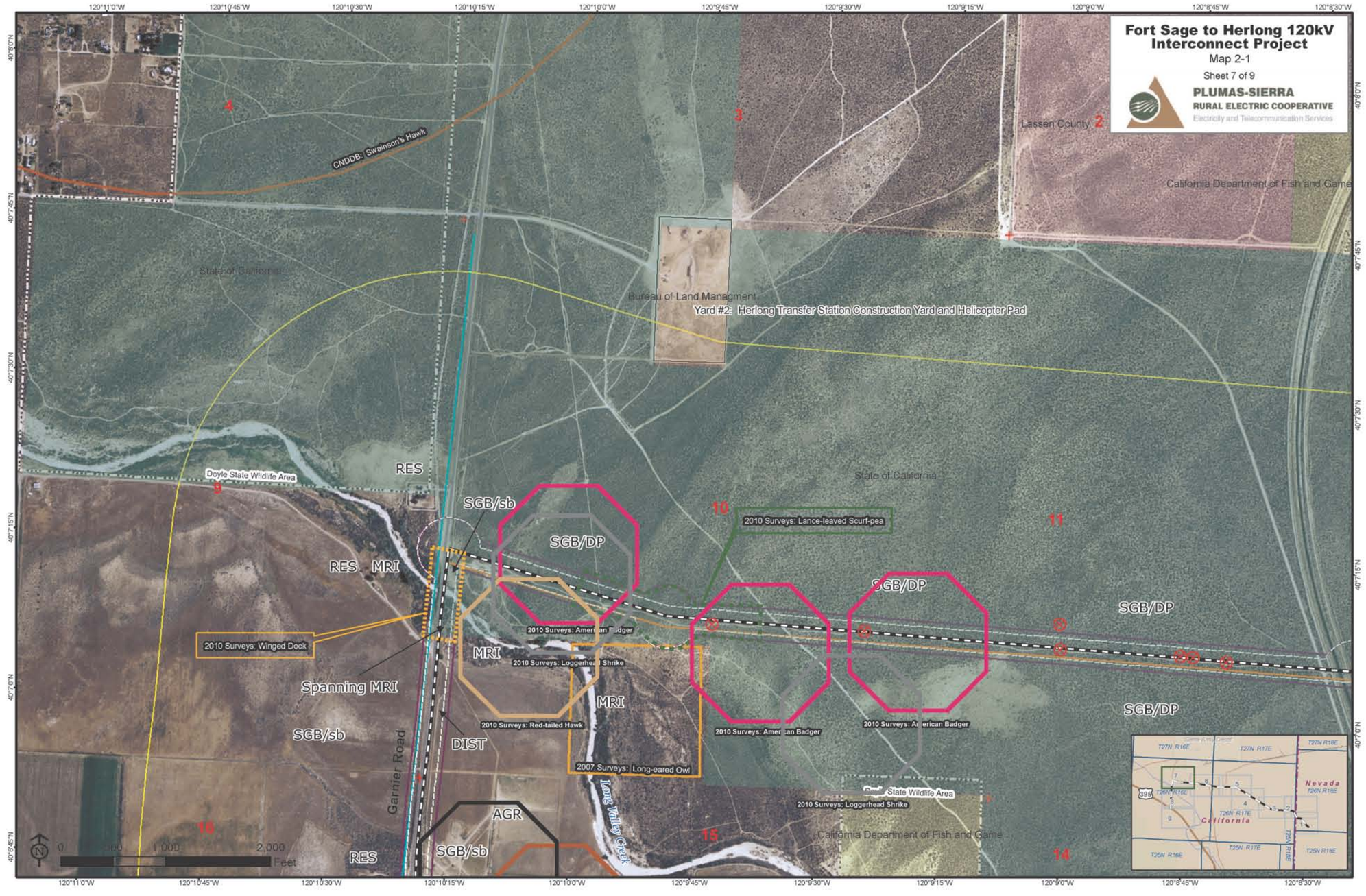

Map 2-1 Sheet 7 Fort Sage to Herlong 120kV Interconnect Project – Aerial Imagery

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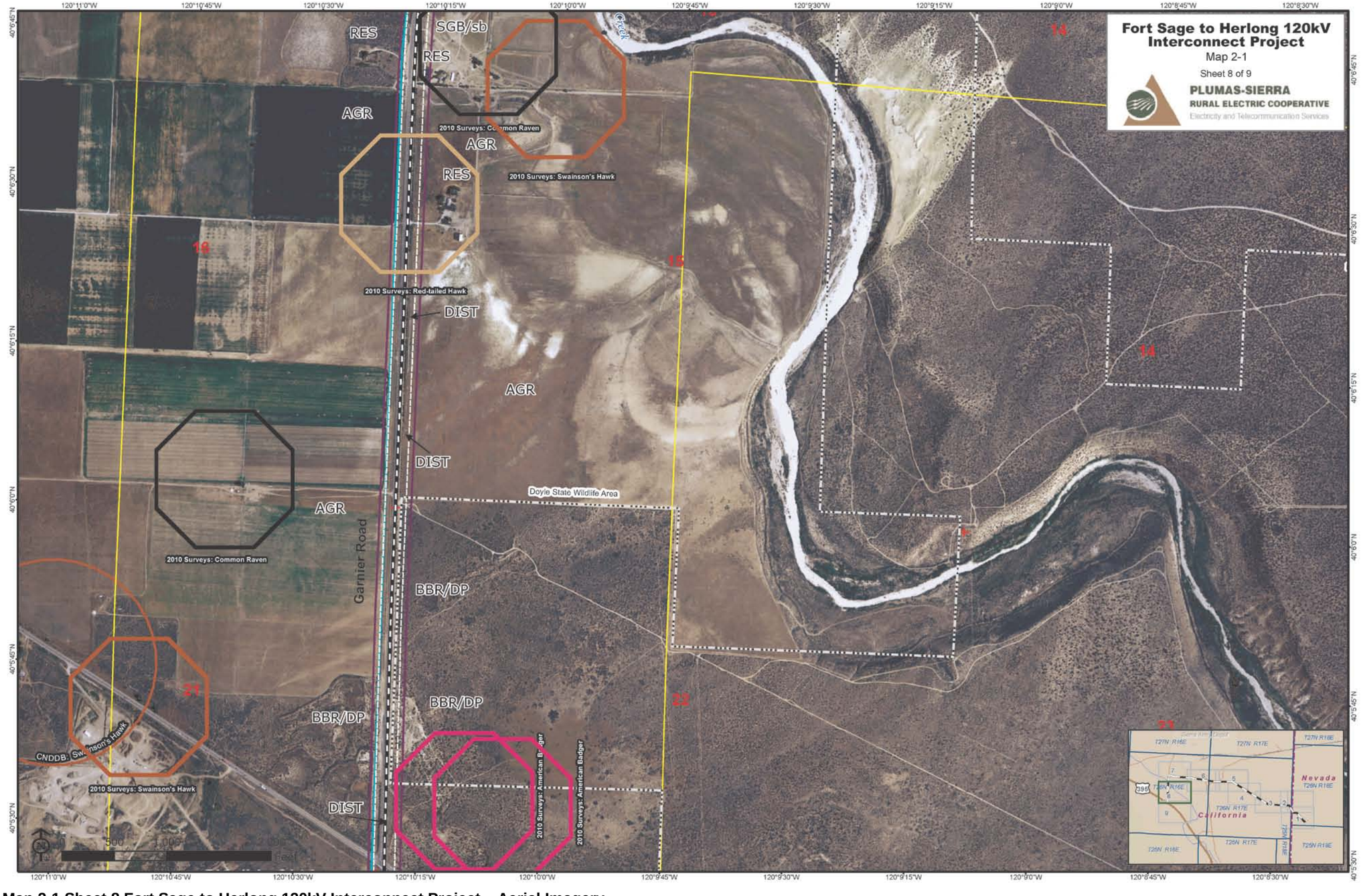

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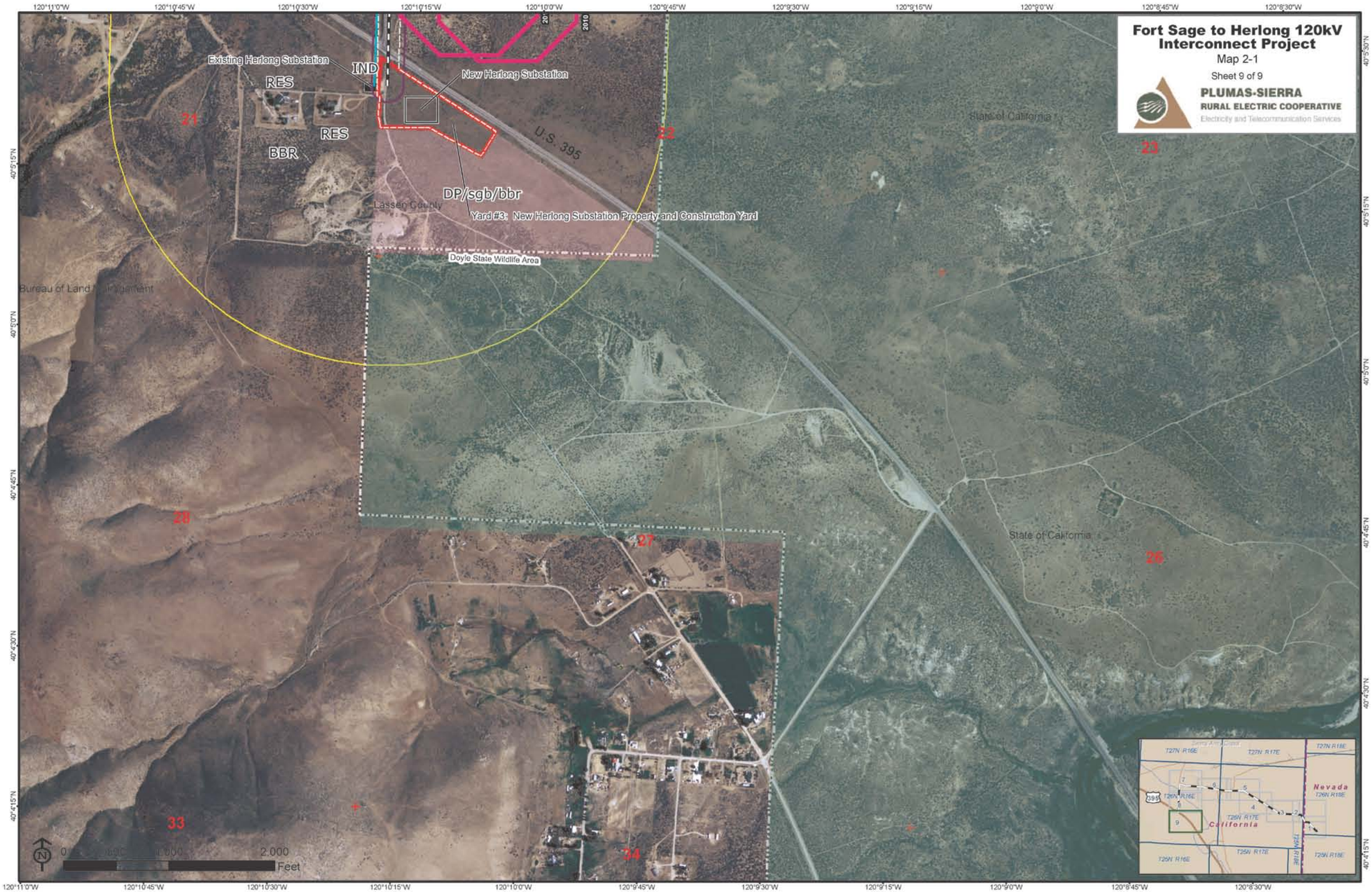

Map 2-1 Sheet 9 Fort Sage to Herlong 120kV Interconnect Project – Aerial Imagery

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Chapter 3
Affected Environment

3.0 AFFECTED ENVIRONMENT

This chapter describes the existing cultural, natural, and human resources that could be affected by the Proposed Action and alternatives. The level of detail provided in this chapter is commensurate with the anticipated impacts discussed in Chapter 4.0.

The following critical elements of the human environment are subject to requirements specified in statute, regulation, or Executive Order (EO) and must be considered in this Environmental Assessment (EA). Elements that may be affected are further described in this EA.

3.1 Air Quality

3.1.1 Climate

The climate in the eastern end of Honey Lake Valley is arid to semiarid (Wegener et al. 2004). Because of the Modoc Plateau to the northwest, a large amount of precipitation from Pacific storms is intercepted (Wegener et al. 2004) and most of the moisture comes in the form of winter snow (Delacorte et al. 1995). Because of these factors, Honey Lake Valley is a temperate desert with low precipitation (less than 4 inches annually) and large temperature differences between summer and winter (Bailey 1996 *In* Wegener et al. 2004). Summers are warm and dry, with temperatures sometimes exceeding 100°F, while winter temperatures can dip below 0°F (Wegener et al. 2004).

3.1.2 Federal, State, and Local Air Quality Standards

The federal Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to set ambient air quality standards (AAQS) for the nation. It also permits states to adopt additional or more stringent air quality standards. The California Air Resources Board (CARB) has set standards for certain pollutants, such as particulate matter (PM) and ozone (O_3) that are more restrictive than the federal air quality standards. California also has set standards for some pollutants that are not addressed by federal standards, such as sulfates, vinyl chloride, and hydrogen sulfide (H_2S).

The federal and state air quality standards for regulated pollutants in the project area are summarized in Table 3-1.

All areas throughout the country are assigned to one of three different classes of air quality protection. These are called Prevention of Significant Deterioration (PSD) Classes I, II, and III. These classes help ensure that air quality in clean-air areas remains clean and does not deteriorate below the level of the National Ambient Air Quality Standards (NAAQS). The mechanism created by Congress to meet this goal is the establishment of "PSD increments." These increments define the maximum allowable increases over baseline concentrations that are allowed in a clean-air area for

a particular pollutant. The increments are promulgated in EPA PSD regulations at 40 CFR 52.21(c).

Table 3-1 Federal and State Ambient Air Quality Standards

Pollutant	Unit of Measure (Average)	California	National
Ozone (O_3)	1-Hour 8-Hour	0.09 ppm 0.07 ppm	*Revoked Standard* 0.08 ppm
Carbon Monoxide (CO)	1-Hour 8-Hour	20.0 ppm 9.0 ppm	35.0 ppm 9.0 ppm
Carbon Monoxide (CO) (Lake Tahoe Basin)	8-Hour	6 ppm	N/A
Nitrogen Dioxide (NO_2)	1-Hour Annual	0.25 ppm N/A	N/A 0.053 ppm
Sulfur Dioxide (SO_2)	1-Hour 24-Hour Annual	0.25 ppm 0.04 ppm N/A	N/A 0.14 ppm 0.030 ppm
Respirable Particulates (PM_{10})	24-Hour Arithmetic Mean[1]	50 µg/m^3 20 µg/m^3	150 µg/m^3 50 µg/m^3
Fine Particulate Matter ($PM_{2.5}$)	24-Hour Arithmetic Mean[1]	N/A 12 µg/m^3	65 µg/m^3 15 µg/m^3
Sulfates	24-Hour	25 µg/m^3	N/A
Lead	30-Day Average Calendar Quarter	1.5 µg/m^3 N/A	N/A 1.5 µg/m^3
Hydrogen Sulfide (H_2S)	1-Hour	0.03 ppm	N/A
Vinyl Chloride	24-Hour	0.010 ppm	N/A
Visibility-Reducing Particles	One Observation	Visibility >10 Miles (>30 Miles for Lake Tahoe) With/Relative Humidity <70%	N/A

Source: CARB 2009

ppm=parts per million; µg/m^3 = micrograms per cubic meter

[1] The state PM_{10} annual standard is for the geometric mean of all measurements. The national PM_{10} and $PM_{2.5}$ annual average standards are based upon the arithmetic mean of all measurements. The NAAQS shown serve as both primary (health-related) and secondary (welfare-related) standards. The standards shown for SO_2, however, are the primary NAAQS; there also is a separate secondary NAAQS for SO_2 of 0.5 ppm. Implementation of the NAAQS for fine particulates has been delayed by litigation and is pending further implementation guidance from the federal court and EPA.

In the 1977 Clean Air Act amendments, Congress designated the following sites as mandatory PSD Class I areas:

- All international parks
- National wilderness areas exceeding 5,000 acres
- National memorial parks exceeding 5,000 acres
- National parks exceeding 6,000 acres

Class I areas receive special protection from degradation of air quality, and the most stringent PSD increments apply in these areas. The nearest Class I area is Lassen National Park, 75 miles northwest of the project area.

The Proposed Action would be located in Washoe County, Nevada and Lassen County, California, in the area defined by the EPA as the Air Quality Control North Sierra Region. The project area in Washoe County, identified as the Truckee Meadows Basin by the Washoe County District Health Department Air Quality Management Division, is outside of the area classified as non-attainment for O_3 (Map 3-1) (Washoe County District Health Department, Air Quality Management Division).

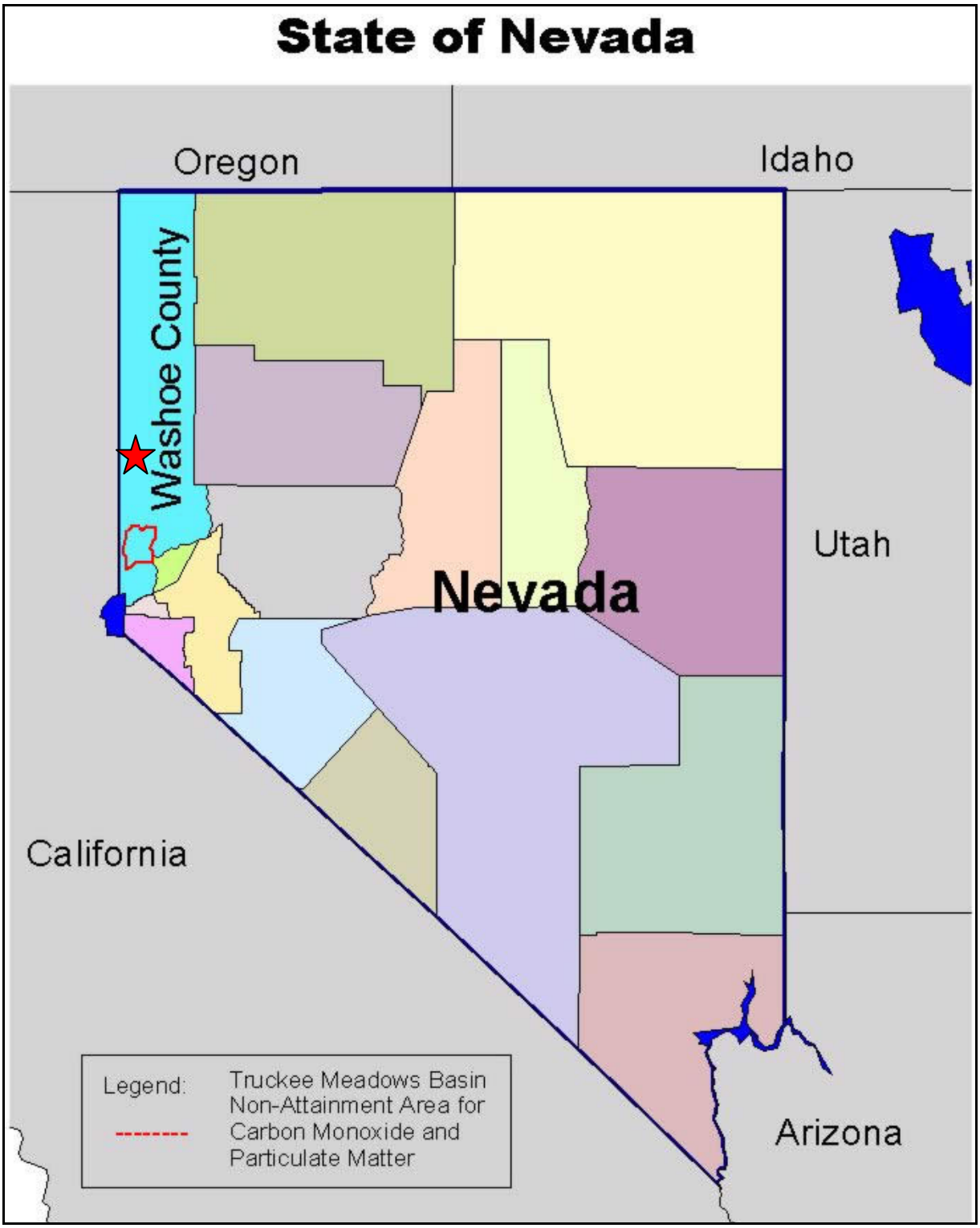
In California, the Proposed Action would occur in the Northeast Plateau Air Basin within the jurisdiction of the Lassen County Air Pollution Control District (LCAPCD). The LCAPCD is responsible for overseeing implementation of the air quality emissions regulations. According to CARB, the LCAPCD is designated as non-attainment for PM_{10} (www.arb.ca.gov). The Northeast Plateau Air Basin is either designated as attainment or unclassified for the remaining federal and state standards for O_3, NO_2, SO_2, CO, H_2S, sulfates, lead, and visibility-reducing particles (www.arb.ca.gov/DRDB/LAS).

3.1.3 Greenhouse Gas Emissions

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change, the efforts devoted to reducing greenhouse gas (GHG) emissions and researching climate change and policy have increased in recent years.

In particular, California has been active in regulating GHGs. On June 1, 2005, California Governor Schwarzenegger signed EO S-3-05. The goal of this EO is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by 2020, and 3) 80% below 1990 levels by 2050. In 2006, this goal was reinforced with the passage of AB 32, the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals, while further mandating that CARB create a plan to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." EO S-20-06 further directs state agencies to begin implementing AB 32 and recommendations made by the state's Climate Action Team.

On August 24, 2007, Governor Schwarzenegger signed SB 97, to provide legislative guidance on how potential project-related GHG emissions should be addressed in CEQA documentation. The Natural Resources Agency has completed the formal rulemaking process and the Office of Administrative Law has adopted the amendments to the CEQA guidelines. The amendments became effective on March 18, 2010. The GHG analysis conducted for this EA was performed to meet the CEQA and NEPA requirements.



Map 3-1 Nevada Air Quality Map

On November 17, 2008, EO S-14-08 was signed; this order directs "All retail sellers of electricity shall serve 33% of their load with renewable energy by 2020. State government agencies are hereby directed to take all appropriate actions to implement this target in all regulatory proceedings, including siting, permitting, and procurement for renewable energy power plants and transmission lines."

3.2 Cultural Resources

3.2.1 Federal

Under federal law, Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their actions on historic properties and provide the Advisory Council on Historic Preservation an opportunity to comment. Historic properties are defined as cultural resources determined eligible for inclusion on the National Register of Historic Places (NRHP) (based upon criteria found at 36 CFR 60). In order to be considered eligible to the NRHP, a cultural resource must satisfy at least one of four significance criteria as defined by 36 CFR 60.4 (National Park Service 1991). The resource must contain qualities that:

- Are associated with events significant to broad patterns of history (36 CFR 60.4a);
- Are associated with the lives of persons significant in the past (36 CFR 60.4b);
- Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess highly artistic values; or represent a distinguishable entity whose components lack individual distinction (36 CFR 60.4c); or
- Have yielded or may yield information important to history or prehistory (36 CFR 60.4d).

The resource must be significant under at least one of those four significance criteria (a through d) to be eligible for listing on the NRHP (National Park Service 1991). The process of evaluating a historic resource for eligibility for inclusion on the NRHP necessitates the placement of the property within a relevant historical context. A commonly accepted definition of a context is "a broad pattern of historical development…that may be represented by historic resources" (Derry et al. 1985:14 *in* Hardesty and Little 2000). A context identifies the thematic, geographical, and chronological framework within which the significance evaluation takes place, thus adding specific detail to the four criteria. Prehistoric resources are generally evaluated under criterion d, the potential to provide additional information.

In the event that a proposed federal activity would adversely affect a historic property, the federal agency and the State Historic Preservation Office (SHPO) would sign a memorandum of agreement that details the methods to resolve any adverse effects.

The following describes the categories of cultural resources to be evaluated under the National Historic Preservation Act:

- Archaeological Properties or resources are places where the remnants of past cultures survive in a physical context that allows for the interpretation of these remains.

- Historic Properties or resources are historic buildings or structures that are 50 years or older and may be eligible for listing in the NRHP or California Register of Historical Resources.

- Paleontological resources are the fossil remains of life that existed in prehistoric or geologic times. These can include plants, animals, and other organisms.

3.2.2 State

Under state law, the California Code defines a historical resource as a resource listed in, or determined to be eligible for listing in, the NRHP or the California Register of Historical Resources. The following types of resources also may be considered historical resources (14 CCR §15064.5):

1. A resource included in a local register of historical resources, or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

2. Any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Public Resources Code §5024.1, Title 14 CCR, Section 4852).

The criteria for inclusion in the California Register include:

- 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 (U.S.) (criterion 1).

- Associated with the lives of persons important to local, California, or national history (criterion 2).

- Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of a master; or possesses high artistic values (criterion 3).

- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (criterion 4).

An archaeological site may be considered a historical resource if it meets the criteria for listing on the California Register of Historic Resources. If it is not a historical resource but meets the definition of a "unique archaeological resource," as defined in Public Resources Code Section 21083.2, then it is treated as a historical resource. The Code specifically defines "unique archaeological resource" as:

> *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:*
>
> 1. *Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
>
> 2. *Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
>
> 3. *Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

3.2.3 Cultural Surveys

A Class III cultural/historic resources inventory was conducted along the entire length of the proposed transmission line and substation site in 2007 and 2008 (Stoner et al. 2009). Additional surveys were completed between July 17 and July 28, 2010 (Ringhoff et al. 2010). During the July 2010 surveys, archaeologists from Western Cultural Resource Management, Inc. (WCRM) conducted Class III cultural resource surveys of 94.8 acres designated for access routes specifically on BLM-administered lands and re-surveyed four previously identified sites (Ringhoff et al. 2010).

The cultural resources work was performed in accordance with the mandates for the protection of archaeological resources on public lands and for publicly funded or permitted projects. These mandates are put forth in the Antiquities Act of 1906, National Historical Preservation Act of 1966 (as amended), National Environmental Policy Act of 1974, and Archaeological Resources Protection Act of 1979. The project was conducted under BLM Cultural Resource Use Permit No. N-49643 (Nevada) and CA-06-23 (California). CEQA guidelines and the California Public Resources Code requirements were considered, and compliance with these state mandates was met.

From the 2007 and 2008 surveys, 33 previously undocumented sites were recorded including: 17 prehistoric, 10 multicomponent, and six historic sites. A total of 23 isolated finds (16 prehistoric and seven historic) also were recorded. Four previously recorded prehistoric sites were revisited (two sites in Nevada and two sites in California), and the documentation for three of these sites was updated. The sites in Nevada have been determined eligible to the NRHP under criterion d, while the sites in California have been determined not eligible to the NRHP. Eleven sites in California are located on lands administered by the CSLC; four of these sites have been determined eligible to the NRHP. These sites also are eligible for listing on the California Register of Historical Resources.

Of the 33 previously undocumented sites inventoried, 22 are considered not eligible for inclusion in the NRHP, eight are recommended eligible to the NRHP under 36 CFR 60.4 criterion d, one is recommended eligible to the NRHP under 36 CFR 60.4 criterion a, and two are recommended eligible to the NRHP under 36 CFR 60.4 criteria a and d. Table 3-2 provides detailed results from the field surveys conducted in 2007 and 2008 and how these apply to both the federal and state eligibility criteria.

Table 3-3 lists the 22 sites that are considered not eligible to the NRHP.

Table 3-2 Cultural Sites in California Recommended Eligible to the NRHP

Temporary Number	Site Type	Eligible Component	NRHP Eligibility Criteria	California Register Eligibility Criteria	Land Status
PH010	Prehistoric lithic and groundstone scatter	Prehistoric	d	N/A	Private
PH011	Prehistoric lithic, groundstone, and fire-cracked rock scatter	Prehistoric	d	N/A	Private
PH015	Historic probable homestead or small ranch	Historic	a, d	N/A	Private
PH020	Prehistoric sparse lithic scatter and fire-cracked rock concentration; historic probable homestead or small ranch	Prehistoric; Historic	d; a and d	N/A	BLM
PH032	Prehistoric lithic, groundstone, and fire-cracked rock scatter; sparse historic debris scatter	Prehistoric	d	N/A	CDFG
PH034	Prehistoric lithic, groundstone, and fire-cracked rock scatter, prehistoric thermal feature; sparse historic debris scatter	Prehistoric	d	N/A	BLM

Table 3-2 Cultural Sites in California Recommended Eligible to the NRHP, continued

Temporary Number	Site Type	Eligible Component	NRHP Eligibility Criteria	California Register Eligibility Criteria	Land Status
PH035	Prehistoric lithic, groundstone, and fire-cracked rock scatter; isolated historic artifact	Prehistoric	d	N/A	BLM
PH040	Prehistoric lithic, groundstone, and fire-cracked rock scatter	Prehistoric	d	4	CSLC
PH041	Prehistoric lithic and fire-cracked rock scatter; historic sparse debris scatter	Prehistoric	d	4	CSLC
PH045	Prehistoric sparse lithic scatter and fire-cracked rock	Prehistoric	d	4	CSLC
PH049	Railroad grade and associated features (utility line, 2 bladed roads)	Historic	a	1	CSLC

Table 3-3 Cultural Sites Recommended as Non-Significant/Not Eligible to the NRHP

Site Type
Prehistoric sparse lithic scatter
Prehistoric sparse lithic scatter
Prehistoric sparse lithic scatter
Multicomponent: prehistoric sparse lithic and groundstone scatter; historic debris scatter
Prehistoric sparse lithic scatter
Prehistoric sparse lithic scatter
Multicomponent: prehistoric sparse lithic scatter; historic debris scatter
Multicomponent: prehistoric sparse lithic scatter; historic debris scatter and three historic debris concentration features
Historic debris scatter
Multicomponent: prehistoric sparse lithic scatter; historic debris scatter
Multicomponent: isolated prehistoric artifact and historic debris scatter
Prehistoric lithic scatter
Prehistoric lithic scatter
Prehistoric sparse lithic scatter
Prehistoric sparse lithic scatter
Prehistoric sparse lithic scatter

Table 3-3 Cultural Sites Recommended as Non-Significant/Not Eligible to the NRHP, continued

Site Type
Prehistoric sparse lithic scatter
Historic roads and associated debris scatter
Historic utility lines with associated roads and debris scatter
Prehistoric sparse lithic scatter
Prehistoric sparse lithic scatter
Prehistoric sparse lithic scatter

An addendum survey and report were completed in July 2010 for access routes on BLM-administered lands. The inventory identified and documented 12 previously unrecorded sites and addenda to four previously recorded archaeological sites; three on CSLC-administered lands (one spanning the UPRR ROW) and one on private land in Nevada. Of the new sites, six are historic and six are multicomponent (Table 3-4). Additionally, nine isolated finds were recorded during the inventory (Table 3-5).

Table 3-4 Cultural Sites Documented in 2010 and/or Expanded Beyond Original Boundaries

Temporary Number	Site Type	Eligible Component	NRHP Eligibility Criteria	California Register Eligibility Criteria	Land Status
PH41 - expanded	Updated. 169 m x 144 m multicomponent site with a lithic scatter, tool scatter, and possible groundstone. Historic debris scatter contains flat-top all steel beverage cans and shot shells.	Eligible (prehistoric component only)	d	4	CSLC
PH49 - expanded	Updated. Railroad grade and associated features. Boundaries increased 127 m to the north and about 36 m to the south.	Eligible - Historic	a	1	CSLC
PH51	Updated. Historic utility line and isolated metate. Boundaries of features extended, one feature added and prehistoric component added.	Not Eligible	N/A	N/A	CSLC and Private

Table 3-4 Cultural Sites Documented in 2010 and/or Expanded Beyond Original Boundaries, continued

Temporary Number	Site Type	Eligible Component	NRHP Eligibility Criteria	California Register Eligibility Criteria	Land Status
PH52	Updated. 119 m x 80 m multicomponent site with a lithic scatter and isolated venthole can.	Not Eligible	N/A	N/A	Private
RO02 - new	176 x 55 m multicomponent site with a lithic scatter and FCR scatter and a sparse scatter of historic artifacts.	Eligible (prehistoric component only)	d	4	CSLC
RO03	182 X 196 m site consists of a historic dump in a borrow pit and two two-track roads	Not Eligible	N/A	N/A	Private
TC04	Historic road with associated debris and dump features	Not Eligible	N/A	N/A	BLM
TC05	43 x 62 m site with three cans and 1 shotgun shell	Not Eligible	N/A	N/A	BLM
TC06	195 x 132 m lithic scatter and sparse historic debris scatter. There are five prehistoric tools and 28 flakes and two sanitary cans and a pipe fragment. This site encompassed IF-5 and IF-6. The site is within 22 meters of site PH11 and may be a part of that site.	Eligible (prehistoric component only)	d	N/A (in NV)	Private
TC07	331 x 5 m long ephemeral road segment with a sparse debris scatter consisting of four cans and two bottles.	Not Eligible	N/A	N/A (in NV)	Private
TC08	115 x 258 m site consists of two pieces of groundstone and a flake and an historic debris scatter with a fence line and a depression.	Not Eligible	N/A	N/A (in NV)	Private

Table 3-4 Cultural Sites Documented in 2010 and/or Expanded Beyond Original Boundaries, continued

Temporary Number	Site Type	Eligible Component	NRHP Eligibility Criteria	California Register Eligibility Criteria	Land Status
TC10	279 x 154 m site with a lithic scatter and a sparse historic debris scatter. There are three prehistoric tools, six pieces of groundstone, and 15 flakes. There are also two brown glass fragments, 13 cans, and two miscellaneous metal objects.	Eligible (prehistoric component only)	d	4	Private
TC12	48 x 13 m site with six flakes and a .22 cartridge.	Not Eligible	N/A	N/A	Private
TC13	23 x 50 m multicomponent site with three chert tertiary flakes, a Rosegate point, and a fallen fenceline	Not Eligible	N/A	N/A	Private
TC14	98 x 67 m historic site with a debris scatter and a historic debris concentration	Not Eligible	N/A	N/A	Lassen County
TC15	135 m long road segment with an associated debris scatter	Not Eligible	N/A	N/A	Lassen County

Table 3-5 Isolated Finds Documented in 2010 on BLM Lands

Final IF#	Type	Description
IF01	Historic	Unknown stovepipe-like object
IF02	Historic	Crushed rectangular fuel can.
IF03	Historic	Sanitary can end
IF04	Historic	Crushed cone-top can
IF05	Historic	Crushed venthole can
IF06	Historic	Flat-top all-steel beverage can
IF07	Historic	Sanitary can lid
IF08	Prehistoric	Small red chert tertiary flake
IF09	Prehistoric	Obsidian Stage III bi-face tip fragment

3.2.4 Native American Religious Concerns

Pursuant to the April 29, 1994 Executive Memorandum signed by President Clinton, RUS initiated formal government-to-government consultation with the following five federally recognized Native American tribal entities: the Washoe Tribes of Nevada and

California, Pyramid Lake Paiute Tribe, Reno-Sparks Indian Colony, Susanville Indian Rancheria, and the Greenville Indian Rancheria. Letters to the tribes are included in Appendix A.

On-site field meetings were held with the Tribal Historic Preservation Officers or other tribal designees in April 2008. In June 2008, RUS initiated consultation with the Native American Heritage Commission to determine which tribes may be included in the project area, and which tribes may have information or concerns about the Proposed Action. Pursuant to the response received from the Native American Heritage Commission, in addition to identification of other interested tribes, 18 letters were forwarded to tribal leaders, representing nine tribes. Comments received from the tribes are included in Appendix A.

As part of on-going tribal relations with the local and regional tribes, the BLM typically holds tribal monthly and quarterly meetings during which time, projects of interest are discussed. For this 120kV Interconnect Project, the BLM has regularly scheduled and attended meetings with the tribal authorities, and continues to do so.

Additionally, a representative from the Greenville Indian Rancheria met with the RUS Environmental Coordinator in July 2008 in RUS offices in Washington, DC.

The tribes continue to be updated by PSREC and their representatives by telephone and email.

3.3 Environmental Justice

The following discussion provides an overview of federal, state, and regional/local policies and regulations related to environmental justice, followed by a discussion of the population information of the region.

3.3.1 Federal

The 1994 EO 12898 on environmental justice (59 FR 7629) requires the EPA and all other federal agencies to identify and address disproportionately adverse human health or environmental effects from their programs, policies, and activities in minority and low-income populations in the U.S.

Subsequently, in 1996, the EPA's Office of Environmental Justice released the *Environmental Justice Implementation Plan*, which supplements the EPA's environmental justice strategy and provides a framework for developing specific plans and guidance for implementing EO 12898. In 1998, the EPA developed a framework for assessing environmental justice in NEPA documents in its *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis*.

3.3.2 California State Lands Commission

The CSLC developed and adopted an Environmental Justice Policy to ensure equity and fairness in its own processes and procedures. The CSLC adopted an amended Environmental Justice Policy on October 1, 2002, to ensure that "Environmental Justice is an essential consideration in the Commission's processes, decisions and programs and that all people who live in California have a meaningful way to participate in these activities." The policy stresses equitable treatment of all members of the public and commits to consider environmental justice in its processes, decision-making, and regulatory affairs. The CSLC's policy is implemented, in part, through identification of and communication with relevant populations that could be adversely and disproportionately affected by CSLC projects or programs. The CSLC staff is required to report how environmental justice is integrated into its programs, processes, and activities (CSLC 2002).

3.3.3 Lassen County Population

Lassen County is a member of the Regional Council of Rural Counties (RCRC). In 2004/2005, the RCRC, in association with the California Environmental Protection Agency, developed an Intra-Agency Environmental Justice Strategy and Plan. No other regional or local environmental justice assessments have been conducted within the study area.

This section discusses the distributional patterns of high-minority and low-income populations in Lassen County, and characterizes the distribution of such populations in the project area. Discussion on whether the Proposed Action may affect one or more minority populations or low-income communities is presented in Chapter 4.

In Lassen County, 63% of lands are publicly owned. Major public land holdings include lands managed by the BLM, U.S. Forest Service (USFS), CDFG, and CSLC. The remaining 37% are privately owned. Lassen County is mostly rural and sparsely populated, with Susanville having the largest population. Susanville and Westwood have higher densities; the population density of Lassen County is 7.4 people (2.6 households) per square mile.

Due to public land ownership and the rural and undeveloped nature of the project area, few residences occur in proximity to the proposed ROW alignment. A total of 12 residences or residential compounds occur within 1,320 feet (0.25 mile) of the proposed ROW centerline in Lassen County, California (see Map 2-1). Two residences are located near the existing and proposed Herlong Substation sites southwest of the intersection of U.S. 395 and Garnier Road. Five residences are located along Garnier Road. Two residences are located south of the existing Desert Tap distribution line and Winters Road; the remaining three residences are located north of Fort Sage Road. There are no residences in the project area in Washoe County, Nevada.

Information regarding racial diversity and income levels is derived from 2000 U.S. Census Bureau information. A summary of census data for the state of California and Lassen County is provided in Table 3-6, Lassen County population demographics are presented in Figure 3-1, and Lassen County population projections are provided in Table 3-7.

Table 3-6 Lassen County and California Census Data

People QuickFacts	Lassen County	California
Population, 2009 estimate	34,473	36,961,664
Population change, April 1, 2000 to July 1, 2009	1.9%	9.1%
Population estimates base (April 1) 2000	33,828	33,871,648
Under 5 years old, 2008	4.2%	7.4%
Under 18 years old, 2008	17.0%	25.5%
65 years old and over, 2008	8.8%	11.2%
Females, 2008	36.1%	50.0%
White, 2008[1]	82.6%	76.6%
Black, 2008[1]	10.0%	6.7%
American Indian and Alaska Native, 2008[1]	3.7%	1.2%
Asian, 2008[1]	1.0%	12.5%
Native Hawaiian and Other Pacific Islander, 2008[1]	0.5%	0.4%
Reporting two or more races, 2008	2.2%	2.6%
Hispanic or Latino origin, 2008[2]	15.3%	36.6%
White (not Hispanic), 2008	68.4%	42.3%
Living in same house in 1995 and 2000, age 5+	45.5%	50.2%
Foreign-born, 2000	2.3%	26.2%
Language other than English spoken at home, age 5+, 2000	13.8%	39.5%
High school graduates, age 25+, 2000	79.6%	76.8%
Bachelor's degree or higher, age 25+, 2000	10.7%	26.6%
Persons with a disability, age 5+, 2000	4,625	5,923,361
Mean travel time to work (minutes), workers age 16+, 2000	19.4	27.7
Housing units, 2008	12,830	13,393,878
Homeownership rate, 2000	68.3%	56.9%
Housing units in multi-unit structures, 2000	8.5%	31.4%

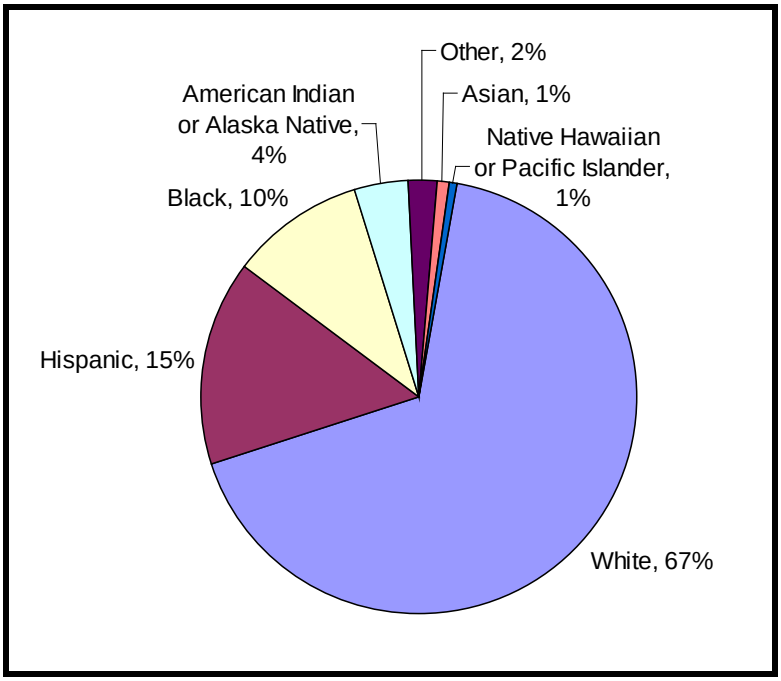
Table 3-6 Lassen County and California Census Data, continued

People QuickFacts	Lassen County	California
Median value of owner-occupied housing units, 2000	$106,700	$211,500
Households, 2000	9,625	11,502,870
Persons per household, 2000	2.59	2.87
Median household income, 2008	$47,333	$61,017
Per capita money income, 1999	$14,749	$22,711
Persons below poverty level, 2008	20.7%	13.3%
Business QuickFacts	**Lassen County**	**California**
Private non-farm establishments, 2007	511	891,997[3]
Private non-farm employment, 2007	3,784	13,771,650[3]
Private non-farm employment, percent change 2000-2007	-3.2%	6.9%[3]
Non-employer establishments, 2007	1,333	2,757,179
Total number of firms, 2002	1,615	2,908,758
Black-owned firms, 2002	--[4]	3.9%
American Indian and Alaska Native-owned firms, 2002	--[4]	1.3%
Asian-owned firms, 2002	--[4]	12.8%
Native Hawaiian and Other Pacific Islander-owned firms, 2002	--[4]	0.2%
Hispanic-owned firms, 2002	--[4]	14.7%
Women-owned firms, 2002	--[5]	29.9%
Manufacturer's shipments, 2002 ($1,000)	NA	378,661,414
Wholesale trade sales, 2002 ($1,000)	--[6]	655,954,708
Retail sales, 2002 ($1,000)	191,436	359,120,365
Retail sales per capita, 2002	$5,690	$10,264
Accommodation and food services sales, 2002 ($1,000)	32,735	55,559,669
Building permits, 2008	47	62,681
Federal spending, 2008	278,461	299,922,630[3]
Geography QuickFacts	**Lassen County**	**California**
Land area, 2000 (square miles)	4,557.27	155,959.34
Persons per square mile, 2000	7.4	217.2
Federal Informational Processing Standard Code	035	06

Table 3-6 Lassen County and California Census Data, continued

QuickFacts	Lassen County	California
Metropolitan or Micropolitan Statistical Area	Susanville, CA Micro Area	

Source: U.S. Census Bureau 2009
[1]Includes persons reporting only one race.
[2]Hispanics may be of any race, so also are included in applicable race categories.
[3]Includes data not distributed by county.
[4]Fewer than 100 firms.
[5]Suppressed; does not meet publication standards.
[6]Suppressed to avoid disclosure of confidential information.



DEMOGRAPHIC OVERVIEW

Age and Gender:

- 63.9% of Lassen County residents are male, 36.1% are female.
- 17.0% of Lassen County residents are under the age of 18.
- 8.8% of Lassen County residents are age 65 and older.

Education:

- 79.6% (age 25 and higher) of Lassen County residents have a high school degree.
- 10.7 % (age 25 and higher) of Lassen County residents have a bachelor's degree or higher.

Figure 3-1 Lassen County Population Demographics

Source: U.S. Census Bureau 2009
California Department of Finance 2009
U.S. Census Bureau 2000

Table 3-7 Lassen County Population Estimates and Projections

Year	Total County Population	Adjusted Population (Excluding Inmates)	Average Annual Rate of Growth
1980	21,800	17,918	--
1990	27,700	23,818	2.89
2000	33,828	25,502	0.69
2007	35,031	25,688	0.10
2008	35,757	26,414	2.83
2020	42,394	TBA[1]	TBA
2030	TBA	TBA	TBA

Sources: Lassen County 1999; California Department of Finance, Community Profile 2007; U.S. Census Bureau 2007; Clarion Associates 2009.

[1] To be announced.

The overall minority population percentage in Lassen County is lower than the state average by 6%. In 2008, the median household income in Lassen County was $47,333, approximately 20% less than the median household income of $61,017 for California. Other Lassen County income characteristics are close to state averages, with 14% of individuals living below the federally defined poverty level and 24% living below 150% of the poverty level, the same as the level for California overall.

Lassen County contains four prison facilities including: the California Correctional Center, High Desert State Prison, and Lassen County Jail (Sheriff Detention Facility) located in Susanville and the Herlong Federal Corrections Institute located in Herlong. A large incarcerated population can affect a demographic analysis. The 2000 census reports a prisoner population of 8,624, or 25% of the total population of Lassen County. However, the prison population comprises a much higher proportion of the Susanville population. (Note: data for the Herlong Federal Corrections Institute were not available from the 2000 census, since the federal prison was not operational until 2005.) Estimated 2008/2009 correctional facility populations are presented in Table 3-8.

Table 3-8 Correctional Facility Populations

Correctional Facility	Opening Date	Estimated 2008-2009 Population
Sheriff Detention Facility – State Inmates	--	151
California Correctional Center	1963	3,731 (center and camps)
High Desert State Prison	1995	4,444
Federal Corrections Institute	2005	1,017
TOTAL		**9,343**

Source: California Department of Corrections, Weekly Inmate Population Estimates, March 2009.
Note: Some prison population data are not available.

The U.S. Census counts prison populations as "group quarters"; group quarters also include nursing homes, college dormitories, convents, and similar facilities. Data for group quarters population are included in some statistics, but not others, as described below:

- The group quarters population is counted in the general population numbers, which affects the population figure, percentage of county population per city, and population of those over 65.

- Disability data do not include the group quarters population.

- Some statistics for people over 65 years of age do not include the group quarters population. However, approximately 45 inmates in Lassen County are over 65, making this population insignificant for purposes of determining the senior population.

- The group quarters population is not included in household income, family income, or non-family income statistics, but is included in estimates of per capita income.

According to the 2008/2009 census data estimate, there were 34,473 people (12,830 households) in Lassen County.

3.3.4 Washoe County Population

There are no residences or businesses located in Washoe County, Nevada along the Proposed Action ROW.

3.4 Prime, Unique Farmland or Farmland of Local Importance

There is no Prime, Unique, or Farmland of Local Importance in the project area. Further, the California Department of Conservation's Farmland Mapping and Monitoring Program does not delineate Lassen County as having "Farmland of Statewide Importance" (California Department of Conservation 2006).

Farmland of Local Importance is defined as land of importance to the local economy, as defined by each county's local advisory committee and adopted by its Board of Supervisors or Commissioners. Farmland of Local Importance is either currently producing, or has the capability of production, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Authority to adopt or to recommend changes to the category of Farmland of Local Importance rests with the Board of Supervisors in each county in California and the Board of Commissioners in Nevada.

3.5 Flood Hazards

Long Valley Creek is a seasonal, ephemeral stream typically containing winter/spring snow runoff with deeply eroded banks. Photo 3-1 and Photo 3-2 provide representative images of this crossing. Photo 3-3 and Photo 3-4 show the proposed ROW crossing of Long Valley Creek along the ROW alignment, looking north and south, respectively.

This portion of Long Valley Creek occurs within the 100-year floodplain (California Department of Natural Resources [CDNR] 2009; Federal Emergency Management Agency [FEMA] 2010). The Proposed Action would span this floodplain and no flood hazards have been identified for this crossing.

3.6 Wetlands

Field analysis of wetlands and other Waters of the U.S. along the ROW was completed simultaneously with the rare plant surveys in 2007, 2008, and 2010 (see Section 3.13). No wetlands occur in Washoe County, Nevada. Two wetlands were noted in the Lassen County portion of the project area. The ephemeral Long Valley Creek crosses beneath Garnier Road and the proposed project approximately 2.5 miles north of the Herlong Substation and is classified as Riverine to Palustrine both upstream and downstream from the project crossing. At the intersection of the Proposed Action ROW, Long Valley Creek is designated by the USFWS as wetland type PEMCx (palustrine, emergent, seasonally-flooded, excavated). The creek channel is approximately 40 feet wide and consists of a sandy wash void of vegetation typical of seasonally flooded systems during most of the year. The terraces immediately upslope from the creek bed consist of a willow-dominated wetland fringe transitioning abruptly to the upland sagebrush and desert peach community type. Refer to the discussion and associated photos in Section 3.13, Vegetation and Special Status Species, and Section 3.5, Flood Hazards.

An additional wetland exists north and outside of the ROW approximately two miles northwest of the Fort Sage Substation (Map 3-2). The USFWS classifies this wetland as PSSA (palustrine, scrub shrub, temporarily flooded). Vegetation within the ROW in this area is typical of the upland sagebrush community type.

Photo 3-1 Overview of Proposed Crossing of Long Valley Creek by Proposed Action

Photo 3-2 Ephemeral Portion of Long Valley Creek at Proposed ROW Crossing

Photo 3-3 Proposed 120kV Transmission Line Crossing of Long Valley Creek along Garnier Road Looking North

Photo 3-4 Proposed 120kV Transmission Line Crossing of Long Valley Creek along Garnier Road Looking South

3.7 Geology and Seismicity

3.7.1 Geology

The eastern Honey Lake Valley is characterized by sedimentary deposits that are generally lacustrine or alluvial, as most of the Honey Lake Basin was dominated by Lake Lahontan until about 12,000 years ago (Wegener et al. 2004). Soils in the area include sands, silts, and sandy loams, especially in the northeast and eastern parts of the basin. The presence of terraces, deltas, gravel bars, and spits (all above the current valley floor) suggest that Honey Lake basin now only holds a fraction of the water that filled it during the Pleistocene (Wegener et al. 2004; Milliken and Hildebrandt 1997). Along with this sedimentary deposition, alluvial and aeolian deposits also are present in the basin (Milliken and Hildebrandt 1997). Near the project area in the southern portion of the valley, the ephemeral Long Valley Creek is responsible for alluvial deposits, and low sand dunes prove testament to aeolian forces in much of the project area. Most of the alluvial and aeolian deposits are superimposed over Lake Lahontan's lacustrine deposits from the earlier era (Milliken and Hildebrandt 1997).

North of Honey Lake Valley, the Modoc Plateau is comprised of volcanic uplands, resulting from basaltic lava flows (Oakeshott 1978 *In* Mackey et al. 2000). Additionally, both the Diamond Mountain uplands to the west and southwest of Honey Lake Valley and the Fort Sage Mountains to the south are the result of uplift during the Mesozoic era and are part of the granitic Sierra Range (Milliken and Hildebrandt 1997). The Fort Sage Mountains located near the south end of the project area show evidence of rhyolitic ash flows and air-fall tuffs, and have formations of andesite, rhyolite, and dacite (McGuire et al. 1997). These rhyolite formations contain silica-rich deposits of toolstone, which outcrop throughout the region (McGuire et al. 1997).

3.7.2 Seismicity

The project area is located near identified hazardous faults. In December 1950, a series of moderate earthquakes occurred along the Honey Lake and Warm Springs Valley fault zones, including a magnitude 5.6 (M5.6) earthquake located about 7.5 miles southeast of the proposed Herlong Substation site, M5.0 and M4.8 earthquakes about 4.3 miles southwest of the site, and a M4.9 event approximately 11 miles south of the site.

On February 22, 1979, a M5.2 earthquake occurred in the southeastern portion of Honey Lake Valley, near the town of Doyle. Damage in the epicenter area was mild (i.e., telephone service was temporarily disrupted, furniture moved, lamps swayed, but no structure damage was reported). The earthquake was strongly felt in Reno, Nevada (37 miles southeast of the epicenter); a few individuals as far away as Sacramento (125 miles southwest of the epicenter) reported feeling the quake. People within the epicentral region reported the earthquake had an audible booming sound.

The most recent earthquake (M4.7) occurred on April 25, 2008. This event was centered approximately 40 miles south of the project area near Reno. No damage was reported in the project area.

3.8 Soils

Soils typical of the project area in the eastern Honey Lake Valley are alkali lacustrine soils, which are not considered potentially irrigable. These soils are fine-textured and poorly drained, allowing for accumulation of salts. Soils have been evaluated by the USDA - Natural Resources Conservation Service (NRCS) and do not qualify as prime farmland according to the provisions of the Farmland Protection Policy Act. The following descriptions are excerpted from the *Soil Survey of Susanville Area, Parts of Lassen and Plumas Counties, California* (NRCS 2004).

3.8.1 Glenbrook Series (#229)

This series comprises approximately half of the project area. The Glenbrook series consists of shallow somewhat excessively drained soils on hill and mountain back slopes. These soils formed in residuum weathered from granite. This sediment is typically loamy course sand on slopes ranging from 5% to 50%. Typical vegetation consists of desert needlegrass; Thurber's needlegrass; big sagebrush; yellow rabbitbrush; antelope bitterbrush; bottlebrush squirreltail; and other shrubs, perennial forbs, and perennial grasses. Major uses include livestock grazing and wildlife habitat.

3.8.2 Mottsville Series (#289)

The Mottsville series consists of very deep, excessively drained soils on alluvial fans and fan aprons. These soils formed in alluvium from granite located on slopes ranging from 0% to 15%. Soils tend to stay moist and wet during winter and spring, and dry during summer and fall. Annual precipitation varies from 4 to 9 inches. Typical vegetation includes Indian ricegrass, antelope bitterbrush, needle and thread, desert peach, desert needlegrass, basin big sagebrush, and bottlebrush squirreltail. Major uses include agriculture (alfalfa), livestock grazing, and some development.

3.9 Water Resources

Nearly 12,500 years ago, Lake Lahontan covered the area surrounding present-day Honey Lake, in addition to much of the Honey Lake Basin and a wide area to the east (Wegener et al. 2004). Runoff from the Truckee, Carson, Walker, Humboldt, Quinn, and Susan rivers flowed into Lake Lahontan, covering approximately 8,600 square miles (Wegener et al. 2004). Today, remnants of Lake Lahontan form several smaller lakes along its original western edge, including Honey Lake, Pyramid Lake, Walker Lake, Winnemucca Lakes, and others in the Humboldt and Carson sinks (Wegener et al. 2004).

The nearest water source to the project area is Honey Lake, located approximately 4 to 5 miles north-northwest of the proposed project alignment. The project ROW also crosses an ephemeral portion of Long Valley Creek along Garnier Road (see Map 1-1). Photo 3-1, Photo 3-2, Photo 3-3, and Photo 3-4 show the ROW crossing of Long Valley Creek. Transmission line structures would be placed along the paved highway corridor, and the line would span the bed, bank, and riparian vegetation associated with this portion of Long Valley Creek.

3.10 Noise

3.10.1 General Characteristics of Community Noise

Existing noise levels in the vicinity of the Proposed Action are estimated to range from 40 to 60 decibels (dB), A-weighted (dBA), based on general land use patterns in and near the project area. To describe environmental noise and assess impacts on noise-sensitive receptors, a measurement scale that simulates human perception is used. The terminology and noise concepts are described in Table 3-9.

Table 3-10 depicts sound levels for common noise sources. Community noise levels are measured in dBA and are usually closely related to the intensity of nearby human activity. Generally, ambient noise level are rated as low below 30 dBA, moderate (45 to 60 dBA), and high (above 60 dBA).

Table 3-9 Noise Definitions

Term	Definition
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates with subjective reactions to noise.
Community Noise Equivalent Level (CNEL)	Because people are generally more sensitive to noise during the evening and nighttime, the CNEL represents a time-weighted 24-hour average noise level based on the A-weighted sound level (dBA). Roughly equivalent to the Day-Night Average Sound Level (Ldn), as described below, CNEL is calculated by adding 5 dB to sound levels in the evening (7 p.m. to 10 p.m.) and adding 10 dB to sound levels in the night (10 p.m. to 7 a.m.).
Day-night Equivalent Noise Levels (Ldn)	The day night equivalent noise levels of a community can be expressed as a logarithmic equation: Ld = day-equivalent noise levels dBA (6 a.m. to 9 p.m.) Ln = night equivalent noise levels dBA (9 p.m. to 6 a.m.) The day hours with respect to assessment of noise levels is fixed from 6 a.m. to 9 p.m. (15 hours) and night hours from 9 p.m. to 6 a.m. (9 hours). A sound level of 10 dB is added to Ln due to the low ambient sound levels during night for assessing the Ldn values.

Table 3-10 Typical Sound Levels of Common Noise Sources

Sound Pressure Level (dBA)	Noise Source
0	Lowest Level Audible to Human Ear
30	Quiet Library, Soft Whisper[1]
40	Quiet Office, Living Room
40-50	Corona Noise Levels
50	Light Traffic, Refrigerator
60	Air Conditioner, Conversation
70	Busy Traffic, Noisy Restaurant (Critical Level Begins)
80	Subway, Heavy City Traffic
90	Truck Traffic, Shop Tools, Lawn Mower
100	Chain Saw, Pneumatic Drill
110	Jet Flyover at 1,000 Feet
120	Rock Concert, Thunderclap (Danger Level)
180	Rocket Pad During Launch (Hearing Loss)

Source: American Academy of Otolaryngology 2007

3.10.2 Regulatory Thresholds

Both Lassen County, California and Washoe County, Nevada have established noise regulations and both use CNEL thresholds, using the Day-Night Average Sound Level (Ldn) described above in Table 3-9.

The Lassen County Noise Element (Lassen County Planning Department 1989) states:

> *"The overall goals of the Lassen County Noise Element are to protect the citizens of Lassen County from the harmful and annoying effects of exposure to excessive noise, and to protect the economic base of Lassen County by preventing the encroachment of incompatible lands uses within areas affected by existing noise-producing uses. [N]oise produced by industrial uses shall not exceed 70dB Ldn/CNEL at the nearest property line".*

However, the established noise contours in the project area vary from industrial (e.g., Sierra Army Depot, Herlong Airport, Garnier Road) at 70 Ldn to residential zones at 65 LdN. Therefore, noise thresholds applicable to the project area range from 65 to 70 Ldn along the proposed ROW and near the Herlong Substation site (Lassen County Planning Department 1989).

The Washoe County Development Code, Article 414.05 (Washoe County Department of Community Development 2010) stipulates:

> *"Noise cannot exceed 75 Ldn at the property line."*

3.10.3 Existing Conditions

The project area is relatively remote and unpopulated. Noise sensitive receptors are limited to a few single-family residences located along the proposed ROW alignment;

the terrain is relatively flat between the ROW and the majority of these residences. Along the 13.67-mile ROW, 12 scattered residences or residential areas (i.e., multiple buildings) occur from approximately 150 feet up to 0.25 mile from the ROW centerline (see Map 2-1). Two residences occur at the intersection of U.S. 395 and Garnier Road (see Map 2-1 Sheet 9); five residences occur along paved Garnier Road (see Map 2-1 Sheet 7 and Map 2-1 Sheet 8), two residences occur along Winters Road south of the Desert Tap distribution line (see Map 2-1 Sheet 6), and three residential compound areas occur along Fort Sage Road (see Map 2-1 Sheet 3).

3.11 Hazardous Materials

According to information obtained from the Department of Environmental Health in Lassen County; Lassen County Hazardous Material data; and the Certified Unified Program Agency, Underground Storage Tank (UST), Leaking Underground Storage Tank (LUST), and Spill files, there are no records of leaking USTs, spills, or any other hazardous material issues in the project area. The Sierra Army Depot has registered USTs at their DOD facility.

Information on USTs and LUSTs from the Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, and Washoe County, Environmental Health Division, indicates that the closest facility in Nevada is located at Bordertown, approximately 39 miles south of the Proposed Action.

Historically, along the existing Desert Tap distribution line ROW and two track road located on CSLC lands in T26N, R16E, S10-12, and T26N, R17E, S7, illegal dumping has occurred (see Map 2-1 Sheet 7). It is currently unknown whether hazardous materials (e.g., motor oil, batteries) could occur in these dump locations. The transmission line would span these areas.

Materials that could be considered hazardous, which are expected to be used during construction of the transmission line and ancillary facilities, would include fuels, motor oil, grease, various lubricants, solvents, soldering equipment, and glues.

3.12 Fire Management

The Proposed Action, situated in the Honey Lake Valley area, is located near Milford and Herlong in Lassen County. Because both communities are considered at risk from wildfire, each has developed a Fire Safe Plan. Due to the proximity of the wildland-urban interface and key wildlife habitat in the project area, all fire management priorities are ranked as high.

Fires are an intricate component of the development and maintenance of natural plant communities in the western U.S. (Brown and Smith 2000). Since the early 1900s, fires have been suppressed on public lands. A consequence of fire suppression is the accumulation of fuels, resulting in more severe fires that burn hotter and have a greater impact on soil stability and structure, hydrological function, biotic integrity, and overall

community dynamics and functionality (Peters and Bunting 1992). This movement away from natural fire regimes has created a need for increased fire management. The National Wildland Fire Plan defines and designates agencies nationally to work together using a cohesive strategy for establishing past conditions, identifying current departure, and recommending future strategies for achieving desired outcomes. Information from the National Fire Management Plan has been used to formulate and define construction methods directly related to the Proposed Action.

3.12.1 Fire History

Fire plays an essential ecological role in the regeneration and maintenance of a diverse mosaic of healthy cover types across ecosystems. More than 100 years of fire suppression has changed the landscape. In recent years, the federal land management agencies have used controlled burning to help reduce these fuels. Controlled burns generally occur in the spring and fall with higher humidity levels and lower temperatures.

3.12.2 Fire Suppression

In Lassen County, both the BLM and USFS manage the federal lands where the suppression prescription is “Control.” There are no areas of modified suppression of “Confine,” “Contain,” or “Let Burn.” All fires receive rapid aggressive initial attack within the limits and capabilities of resources. Available resources are allocated according to risks to public safety, residential developments, growth potential, and suppression difficulty. The primary objective is public and firefighter safety first.

3.13 Vegetation and Special Status Plant Species

3.13.1 Vegetation Community Types

Native vegetation present in and near the project area is typical of the Great Basin desert community. Vegetation occurring along the ephemeral Long Valley Creek encompasses both native and introduced plant species common to the regional desert washes with sporadic flows.

The proposed ROW alignment follows existing area infrastructure, when feasible, including existing county road ROWs, U.S. 395 highway corridor, and existing power line ROWs. Vegetation resources along these ROWs generally reflect more surface disturbance than surrounding native areas. Regional uses of the Great Basin desert community also have impacted native vegetation resources, including OHV use of area dirt roads, livestock grazing, and illegal refuse dumping.

Field surveys were conducted in 2007, 2008 and 2010 to document and map vegetation community types and survey for special status plant species. Appendix D presents the detailed summary of the 2010 surveys and general information pertaining to the 2007 and 2008 surveys. Parallel to the wildlife resources analysis for the Proposed Action,

the vegetation community types were recorded according to the California Wildlife-Habitat Relationships (WHR) System Classification (Mayer and Laudenslayer 1988), focusing on dominant species by vegetation layers. Communities within the project area include variations in dominant sagebrush, bitterbrush, desert peach, grassland, and montane riparian with agriculture, pasture, industrial, and residential uses present. Plant communities are described in Table 3-11 and delineated on Map 2-1, and the representative vegetation communities are shown in Photo 3-5, Photo 3-6, Photo 3-7, Photo 3-8, Photo 3-9, Photo 3-10, and Photo 3-11.

Table 3-11 Vegetation Community Types Occurring within the Proposed Action Area

Vegetation Classification	Abbreviation	Description
Agriculture	AGR	Crops; irrigated pasture.
Bitterbrush	BBR	Antelope bitterbrush (*Purshia tridentata*) dominant with variations of sagebrush species (*Artemisia tridentata* and subspecies), desert peach (*Prunus andersonii*), rabbitbrush (*Chrysothamnus* spp.), and Mormon tea (*Ephedra viridis*) interspersed in the understory.
Bitterbrush and Desert Peach	BBR/DP	Antelope bitterbrush and desert peach co-dominants with sagebrush species, rabbitbrush, and Mormon tea interspersed in the understory.
Desert Peach with Big Sagebrush and Bitterbrush	DP/sgb/bbr	Desert peach dominant with big sagebrush and antelope bitterbrush understory.
Disturbed	DIST	Areas of existing surface disturbance with little vegetative cover or weedy plant species.
Industrial	IND	Industrial typically reflects surface disturbance with non-vegetated areas and some planted patches.
Montane Riparian	MRI	Willow (*Salix* spp.) dominant; limited to Long Valley Creek.
Perennial Grassland with Saltbush and Sagebrush	PGS	Great Basin wild rye (*Elymus cinereus*) dominant with scattered saltgrass (*Distichlis spicata*), four-wing saltbush (*Atriplex canescens*), and sagebrush species.
Residential	RES	Residential homes with planted vegetation and some surface disturbance.
Rock Outcrops	ROCK	Rocky outcrops occurring within 0.5 mile of project ROW alignment.
Big Sagebrush	SGB	Big sagebrush dominant with antelope bitterbrush, rabbitbrush, and Mormon tea interspersed in the understory.

Table 3-11 Vegetation Community Types Occurring within the Proposed Action Area, continued

Vegetation Classification	Abbreviation	Description
Big Sagebrush and Desert Peach	SGB/DP	Big sagebrush and desert peach co-dominants with rabbitbrush and Mormon tea interspersed in the understory.
Big Sagebrush with Saltbush	SGB/sb	Big sagebrush dominant with saltbush, sagebrush species, rabbitbrush, and Mormon tea interspersed in the understory.

Photo 3-5 Big Sagebrush with Saltbush and Antelope Bitterbrush Understory

Photo 3-6 Mature Big Sagebrush with Sparse Bitterbrush and Rabbitbrush Understory

Photo 3-7 Big Sagebrush Habitat with Four-wing Saltbush, Rabbitbrush, and Great Basin Wild Rye Interspersed in the Understory

Photo 3-8 Mature Bitterbrush Habitat with Sagebrush and Desert Peach Understory

Photo 3-9 Perennial Grassland Dominated by Great Basin Wild Rye and Saltgrass

Photo 3-10 Native Willows and Introduced Plant Species at the Garnier Road Crossing of Long Valley Creek

Photo 3-11 Project ROW Alignment along Garnier Road Special Status Plant Species Surveys

Botanical surveys were conducted to document baseline vegetation conditions in areas that could be affected by the Proposed Action. Refer to Appendix D, Botanical Report for details. The 2010 botanical surveys further advance the results from botanical surveys conducted in 2007 and 2008 (Hafen Environmental 2007, 2008).

The USFWS (USFWS 2007a), California Native Plant Society (CNPS) (CNPS 2010), and Nevada Natural Heritage Program (NNHP) (NNHP 2010) threatened and endangered plant species lists were reviewed for potential habitat within the proposed project area. No suitable habitats for federally or state-listed plant species occurs in the project area. CNPS and the NNHP databases were queried for known locations of special status plant species within one mile of the proposed ROW alignment. Map 3-3 depicts these historical locations by species. Map 2-1 provides the results 2010 survey results for sensitive plant species.

The BLM maintains a list of sensitive species for BLM-administered lands. These species are designated by the BLM for special management consideration. Table 3-12 lists the BLM sensitive plant species that have been identified to potentially occur on BLM lands in Lassen County, California. Potential habitat does not exist for BLM sensitive species in the Nevada portion of proposed project (BLM 2003, 2010a).

Table 3-12 BLM Sensitive Plants Potentially Occurring in the Proposed Action Area

Common Name	Scientific Name	Description and Habitat Type
Geyer's milkvetch	*Astragalus geyeri* variety *geyeri*	An annual that blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the proposed project as Lassen County represents the western most extension of this species.
Modoc bedstraw	*Galium glabrescens* ssp. *modocense*	A perennial that blooms from June to August and is typically found in gravelly, rocky, talus areas within the Great Basin scrub plant communities.
Sagebrush loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes, and sand flats in sagebrush scrub.

The CSLC also identified 12 species listed by CNPS that may occur within the project area.

Two of the CNPS species (i.e., Geyer's milkvetch and sagebrush loeflingia) also are identified as BLM sensitive species (see Table 3-12). Table 3-13 lists the status and habitats of these 12 California sensitive species that historically occurred or could potentially occur within the proposed project area (CNPS 2010). Two species, Bailey's

ivesia (*Ivesia baileyi* var. *baileyi*) and western seablite (*Suaeda occidentalis*) may occur regionally, but are associated with habitats not present along the Proposed Action ROW alignment (see Table 3-13). Therefore, these two plant species were not analyzed for the project, resulting in a total of ten California special status plant species examined.

Table 3-13 California Sensitive Plants Potentially Occurring in the Proposed Action Area

Common Name	Scientific Name	Description and Habitat Type	CNPS Status[a]
Geyer's milkvetch	*Astragalus geyeri* var. *g*eyeri	An annual that blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the proposed project area as Lassen County represents the western most extension of this species.	2.2
Cruciform evening-primrose	*Camissonia claviformis* ssp. *cruciformis*	An annual that blooms from May to July and grows in sandy or rocky slopes or washes in the Modoc Plateau. Known sites are north of the proposed project area.	2.3
Dugway wild buckwheat	*Eriogonum nutans* var. *n*utans	An annual that blooms from May to September and grows in sand or gravel flats and slopes. It is known to occur in the northeastern part of Lassen County.	2.3
Bailey's ivesia	*Ivesia baileyi* var. *baileyi*	A perennial that blooms from May to August and is found in volcanic crevices. No potentially suitable habitat for this species occurs along the proposed project ROW.	2.3
Sagebrush loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.	2.2
MacDougal's lomatium	*Lomatium foeniculaceum* var. *macdougalii*	A perennial that blooms from April to July and is found in rocky clayey soils in sagebrush communities typical of the proposed project area.	2.2
Intermontane lupine	*Lupinus pusillus* var. *intermontanus*	An annual that blooms from May to June in open sandy areas.	2.3
Lance-leaved scurf-pea	*Psoralidium lanceolatum*	A perennial that blooms from April to August in sandy soils with a preference for disturbed soils.	2.3
Winged dock	*Rumex venosus*	A perennial that blooms in May and June in dry, sandy soils, preferably in disturbed areas. In California it is found only in the Honey Lake Valley.	2.3

Table 3-13 California Sensitive Plants Potentially Occurring in the Proposed Action Area, continued

Common Name	Scientific Name	Description and Habitat Type	CNPS Status[a]
Currant-leaved desert mallow	*Sphaeralcea grossulariifolia* ssp. *grossularifolia*	A perennial found in dry alkaline or volcanic soils. Known populations are north and northeast of the proposed project area.	2.2
Western seablite	*Suaeda occidentalis*	An annual that blooms from July to September in dry, saline, or alkaline wetland soils. No potentially suitable habitat for this species occurs along the proposed project ROW.	2.3
Many-flowered thelypodium	*Thelypodium milleflorum*	A perennial that blooms April to June in sandy soils.	2.2

[a]CNPS Listing Definitions:
1A = Presumed extinct in California.
1B = Rare, threatened, or endangered in California and elsewhere.
2 = Rare in California but more common elsewhere.
2.1 = Seriously endangered in California
2.2 = Fairly endangered in California
2.3 = Not very endangered in California

3.13.2 Special Status Plant Species Survey Results

Botanical surveys conducted in 2007, 2008, and 2010 for the Proposed Action adhered to rare plant survey protocol and standardized guidelines issued by the USFWS (1996), CDFG (2009), and the CNPS (2001). The 2010 surveys were the most detailed and examined the entire 200-foot-wide construction ROW and angle pole work areas, as shown on Map 2-1. Two field botanists conducted pedestrian surveys walking parallel transects 10 to 40 feet apart the entire length of the proposed transmission line route, focusing on a survey corridor width of 300 feet. Survey corridor width was expanded to 600 feet at pull-site locations (i.e., corner poles), as shown in Map 2-1. Surveyors further characterized the general vegetation community, sensitive plant habitats, and noxious weeds extending beyond the survey corridor width along the project ROW and ancillary features. Detailed survey methods and results are provided in Appendix D.

The botanical surveys focused on the 11 species that may occur in the project area. These 11 species encompassed the 10 California sensitive species that could occur in the project area (habitat for two of the 12 original species identified by the CSLC does not apply to the Proposed Action area) and three BLM sensitive species (two of which coincide with two of the California sensitive species). These surveys corresponded to potentially suitable habitat for these 11 species along the proposed route. The field botanists monitored the phenology of the target plant species at regional reference sites prior to initiating project surveys to ensure the appropriate blooming period coincided with the survey efforts and all 11 species were recognizable in the field.

None of the three BLM sensitive species listed in Table 3-12 was observed during the 2007, 2008 or 2010 surveys. Four California sensitive species were recorded during within the Proposed Action area as identified in Table 3-14. Specific locations of these species populations within the survey corridor are shown on Map 2-1. The results of the 2007, 2008 and 2010 botanical surveys are summarized in Table 3-14 and detailed in the Botanical Report in Appendix D.

Table 3-14 Special Status Plant Species Survey Occurrence in the Proposed Action Area

Common Name	Scientific Name	Status[a]	Survey Occurrence	Location
Geyer's milkvetch	*Astragalus geyeri* var. *geyeri*	BLM-S-CA; CA-S	No	N/A
Cruciform evening-primrose	*Camissonia claviformis* ssp. *cruciformis*	CA-S	No	N/A
Dugway wild buckwheat	*Eriogonum nutans* var. *nutans*	CA-S	No	N/A
Modoc bedstraw	*Galium glabrescens* ssp. *modocense*	BLM-S-CA	No	N/A
Bailey's ivesia	*Ivesia baileyi* var. *baileyi*	CA-S	N/A	N/A
Sagebrush loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	BLM-S-CA; CA-S	No	N/A
MacDougal's lomatium	*Lomatium foeniculaceum* var. *macdougalii*	CA-S	2010	Map 2-1 Sheet 3
Intermontane lupine	*Lupinus pusillus* var. *intermontanus*	CA-S	No	N/A
Lance-leaved scurf-pea	*Psoralidium lanceolatum*	CA-S	2007, 2008, 2010	Map 2-1 Sheet 4, Map 2-1 Sheet 5, Map 2-1 Sheet 6, Map 2-1 Sheet 7
Winged dock	*Rumex venosus*	CA-S	2007, 2008, 2010	Map 2-1 Sheet 1 Map 2-1 Sheet 5, Map 2-1 Sheet 7
Currant-leaved desert mallow	*Sphaeralcea grossulariifolia* ssp. *grossularifolia*	CA-S	No	N/A
Western seablite	*Suaeda occidentalis*	CA-S	No	N/A
Many-flowered thelypodium	*Thelypodium milleflorum*	CA-S	2010	Map 2-1 Sheet 4

[a]BLM-S-CA = BLM sensitive species in California, CA-S = CNPS sensitive species
N/A = Associated with habitats not present along the Proposed Action ROW alignment or does not occur.

MacDougal's Lomatium

In California, the perennial MacDougal's lomatium blooms from April to July and is found in rocky clayey soils in sagebrush communities typical of the project area. During the 2010 surveys, one population containing over 100 plants was found in heavy alkaline clay soils within the project boundary and several plants extended beyond the construction ROW (see Map 2-1 Sheet 3 and Appendix D). The occurrence data were submitted to the California Natural Diversity Database (CNDDB) for their records.

Lance-leaved Scurf-pea

The perennial lance-leaved scurf-pea blooms from April to August in sandy soils with a preference for disturbed soils. It was documented in a small population along a two-track trail during the 2007 and 2008 surveys. Above average annual precipitation in early 2010 resulted in thousands of plants found during the 2010 field surveys in four distinct populations along the ROW (see Map 2-1 Sheet 4, Map 2-1 Sheet 5, Map 2-1 Sheet 6, Map 2-1 Sheet 7, and Appendix D). In addition, several populations were noted outside the project area in disturbed areas and within and along road beds. Occurrence data were submitted to the CNDDB.

Winged Dock

The perennial winged dock blooms in May and June in dry, sandy soils, typically in disturbed areas. This species was recorded during each of three surveys. In 2010, thousands of plants were recorded along the ROW, and several more populations were observed along the roads both in and out of the project area. Three distinct populations along the ROW are shown on Map 2-1 Sheet 1, Map 2-1 Sheet 4, Map 2-1 Sheet 5, and Map 2-1 Sheet 7 and representative photos are provided in Appendix D. The associated occurrence data were submitted to the CNDDB for their records.

Many-flowered Thelypodium

This biennial plant blooms from April to June in sandy soils. The many-flowered thelypodium was surveyed for presence in 2007, 2008 and 2010. No plants were observed in 2007 or 2008, however, one population of over 100 plants was recorded within the Proposed Action area in 2010, which is documented on Map 2-1 Sheet 4 and photographed in Appendix D. A much larger population was apparent on the north slope of Turtle Mountain south of the project ROW.

3.13.3 Invasive Species

Several invasive species were located during all three surveys conducted in 2007, 2008 and 2010, as delineated in Appendix D. Noxious weeds are a subclass of invasive plants that are often not compatible with livestock grazing. Lassen County, California (California Invasive Plant Council 2006), Washoe County, Nevada (Nevada Department of Agriculture 2010), and BLM Eagle Lake Field Office (2010b) noxious weed lists were reviewed prior to the field surveys. None of the noxious weeds listed for the BLM Eagle

Lake Field Office (BLM 2010b) or for Washoe County, Nevada (Nevada Department of Agriculture 2010) were observed or recorded along the proposed ROW and buffer areas during the 2007 and 2008 surveys. Puncturevine (*Tribulus terrestris)* was observed in the agricultural corridor along Garnier Road during the 2010 survey.

3.14 Livestock Grazing

Historically, the BLM leased the original 3,500-acre North Fort Sage Grazing Allotment within the project area. There is one BLM grazing permit granted within this allotment to the Bench Creek Ranch. The allotment is located off Lassen County Road 327 (CR 327) approximately 6 miles northeast of Doyle, California. Most of the allotment (3,100 acres) is located along the northeastern slopes of the Fort Sage Mountains on the south side of Lassen CR 327/Fort Sage Road. The remaining 400 acres of the allotment are located north of the Widow Maker Trailhead on the north side of CR 327. The elevation between the two parcels varies from 6,500 feet up the toe slopes down to 4,000 feet in the Honey Lake Valley basin. The allotment is unfenced from all other surrounding lands. The only fence runs south to north from CR 327 to the UPRR.

In July 2009, the BLM approved a 4,000-acre expansion of the North Fort Sage Grazing Allotment in T26N, R17E, Sections 3, 4, 8-11, 14-16, 21-23, 25-27, and 35. This land was initially acquired by the BLM in 1998 (see Map 3-4).

Additionally, along the Proposed Action ROW, the CSLC issues grazing lease PRC 6823.2, which comprises a total of 2,221.6 acres and includes portions of Section 10 and all of Sections 11 and 12 in T26N, R16E, and portions of Section 7 in T26N, R17E (see Map 3-4).

3.15 Recreation

The Fort Sage OHV Special Recreation Management Area (SRMA) is located on BLM administered lands north of the Proposed Action in the Turtle Mountain vicinity. (see U.S. Department of the Interior, BLM Surface Management Status 1:10,000 Scale Topographic Map, Susanville, California. This map is not included in this EA.) This SRMA comprises 28,494 acres and attracts approximately 11,000 visitors annually (BLM 2007). Motorcycle trail riders and drivers of all-terrain vehicles (ATVs) and full-size 4WD vehicles use the area, which contains about 90 miles of dirt roads and trails, all designed for OHV use. Motorcycle races are held every 2 years in the spring in the SRMA. Horseback riding, mountain biking, and hiking also occur within the Fort Sage OHV SRMA. However, there is little conflict between motorized and non-motorized activities, mainly because the total number of users remains relatively low.

Unapproved trails have been created by riders outside of the SRMA trail system, resulting in new cross-country routes and hill climbs. Substantial wash-outs occur on many of these routes due to the steepness of the terrain.

Other regional recreational activities include hunting on and near the Doyle SWA (identified on Map 1-1). Hunting includes archery, muzzle loader, and rifle for premium deer hunts (Ehler pers. comm. 2008). The CDFG's M3 Doyle Muzzleloader Rifle Buck Hunt occurs annually in mid- to late November and is typically restricted to 20 deer tags.

3.16 Wildlife and Fisheries

The following baseline descriptions focus on wildlife resources and associated habitats common to the Proposed Action area. Sensitive wildlife species, including federally listed, state-listed, BLM sensitive species, and California special status species, are addressed separately in Section 3.17.1, Special Status Wildlife Species.

The terrestrial wildlife resources associated with PSREC's Proposed Action include a variety of species occupying both native habitats and disturbed areas along the proposed ROW between the Fort Sage and Herlong substations. The overall structural complexity and diversity of these habitats are moderate to low, with the highest habitat value and species diversity occurring along Long Valley Creek and on Turtle Mountain (see Map 2-1). Key wildlife habitats also are associated with the Doyle SWA, owned and operated by the CDFG, and discussed in more detail for big game species.

An initial field reconnaissance and preliminary field review (EDM 2007; Hardy 2007) were conducted in May and June 2007, respectively, to characterize the habitats and potential wildlife use along the proposed ROW alignment. Subsequent and more detailed surveys were completed April 17 through June 27, 2010 (Hardy and Arsenault 2010) to better define what wildlife species may occur along the 13.67-mile route (Appendix E).

Habitat types recorded along the proposed ROW alignment are based on the California WHR System (Mayer and Laudenslayer 1988), focusing on dominant species by vegetation types (Table 3-15). Wildlife habitats within the project area parallel the vegetation communities described in Section 3.13, Vegetation and Special Status Species. These habitats include a mosaic of native upland areas of sagebrush, bitterbrush, desert peach, and grasslands, with montane riparian occurring along Long Valley Creek. Other habitats with human-induced aspects include agricultural lands, pasture, residential, some industrial, and disturbed areas (see Map 2-1 and representative habitat photos in Appendix E).

Table 3-15 Habitat Types Occurring within the Proposed Action Area

Vegetation Classification	Abbreviation	Description
Agriculture	AGR	Crops; irrigated pasture.
Bitterbrush	BBR	Antelope bitterbrush (*Purshia tridentata*) dominant with variations of sagebrush species (*Artemisia tridentata* and subspecies), desert peach (*Prunus andersonii*), rabbitbrush (*Chrysothamnus* spp.), and Mormon tea (*Ephedra viridis*) interspersed in the understory.
Bitterbrush and Desert Peach	BBR/DP	Antelope bitterbrush and desert peach co-dominants with sagebrush species, rabbitbrush, and Mormon tea interspersed in the understory.
Desert Peach with Big Sagebrush and Bitterbrush	DP/sgb/bbr	Desert peach dominant with big sagebrush and antelope bitterbrush understory.
Disturbed	DIST	Areas of existing surface disturbance with little vegetative cover or weedy plant species.
Industrial	IND	Industrial typically reflects surface disturbance with non-vegetated areas and some planted patches.
Montane Riparian	MRI	Willow (Salix spp.) dominant; limited to Long Valley Creek.
Perennial Grassland with Saltbush and Sagebrush	PGS	Great Basin wild rye (*Elymus cinereus*) dominant with scattered saltgrass (*Distichlis spicata*), four-wing saltbush (*Atriplex canescens*), and sagebrush species.
Residential	RES	Residential homes with planted vegetation and some surface disturbance.
Rock Outcrops	ROCK	Rocky outcrops occurring within 0.5 mile of project ROW alignment.
Big Sagebrush	SGB	Big sagebrush dominant with antelope bitterbrush, rabbitbrush, and Mormon tea interspersed in the understory.
Big Sagebrush and Desert Peach	SGB/DP	Big sagebrush and desert peach co-dominants with rabbitbrush and Mormon tea interspersed in the understory.
Big Sagebrush with Saltbush	SGB/sb	Big sagebrush dominant with saltbush, sagebrush species, rabbitbrush, and Mormon tea interspersed in the understory.

The native sagebrush, bitterbrush, and grassland communities in the project area support a number of breeding and wintering bird species. Common breeders within these habitats documented during the field reconnaissance and subsequent wildlife surveys in 2007 and 2010 (EDM 2007; Hardy 2007; Hardy and Arsenault 2010) included the black-throated sparrow (*Amphispiza bilineata*), sage sparrow (*Amphispiza belli*), lark sparrow (*Chondestes grammacus*), western meadowlark (*Sturnella neglecta*), and northern mockingbird (*Mimus polyglottos*). Along Long Valley Creek near the

proposed 120kV line crossing, breeding birds observed included the cliff swallow (*Petrochelidon pyrrhonota*), Bullock's oriole (*Icterus bullockii*), red-winged blackbird (*Agelaius phoeniceus*), Bewick's wren (*Thryomanes bewickii*), song sparrow (*Melospiza melodia*), spotted towhee (*Pipilo maculatus*), and western kingbird (*Tyrannus verticalis*). The cliff swallow colony was located beneath the Garnier Road bridge (Hardy 2007). Attachment A of Appendix E provides a complete list of bird species recorded during the 2010 field surveys.

Evidence of foraging, roosting, and nesting raptor (e.g., eagle, hawk) and corvid (e.g., crow, raven) species was concentrated in and around the rocky ridges and rock outcrops of Turtle Mountain outside of ROW (see Photos E-9 through E-11 in Appendix E). Other nesting also was documented within 0.5 mile of the proposed ROW, as shown on Map 2-1 and detailed in Appendix E. Breeding raptor species recorded during the field reconnaissance (EDM 2007) and subsequent field surveys (Hardy 2007; Hardy and Arsenault 2010) included the golden eagle (*Aquila chrysaetos*), Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis*), prairie falcon (*Falco mexicanus*), long-eared owl (*Asio otus*), and burrowing owl (*Athene cunicularia*). Additionally, the common raven (*Corvus corax*) was a common nester (EDM 2007; Hardy 2007; Hardy and Arsenault 2010) and the northern harrier (*Circus cyaneus*) is known to occur (Hardy 2007) and may forage and/or winter in the project area.

Breeding activities recorded for special status bird species during the 2010 field surveys are discussed in detail in Section 3.17, Special Status Wildlife Species and Appendix E. Other active nest sites for species not listed as special status included three active red-tailed hawk nests and five active common raven nests as summarized in Table 3-16, shown on Map 2-1, and listed in Appendix E. Both of these species are still protected under the Migratory Bird Treaty Act (MBTA).

Table 3-16 Active Raptor and Corvid Nests Documented During 2010 Field Surveys

Common Name	Scientific Name	Nesting Substrate	Location
Red-tailed hawk	*Buteo jamaicensis*	Large cottonwood tree	Residence immediately east of Garnier Road and 1.25 miles north of U.S. 395, about 250 feet east of the proposed ROW.
Red-tailed hawk	*Buteo jamaicensis*	Large cottonwood tree	On Long Valley Creek, about 275 yards upstream (southeast) of Garnier Road bridge, 275 yards east of the proposed line ROW along Garnier Road, and 110 yards south of the proposed east-west project alignment.
Red-tailed hawk	*Buteo jamaicensis*	Wooden power pole	Near groundwater project pump house, located approximately 200 yards southeast of the existing Fort Sage Substation.
Common raven	*Corvus corax*	Large cottonwood tree	About 0.3 mile west of Garnier Road, 0.7 mile north of U.S. 395, and 0.3 mile west of the proposed line.

Table 3-16 Active Raptor and Corvid Nests Documented During 2010 Field Surveys, continued

Common Name	Scientific Name	Nesting Substrate	Location
Common raven	*Corvus corax*	Large cottonwood tree	200 yards east of Garnier Road, about 0.4 mile south of Long Valley Creek and 200 yards east of the proposed line ROW.
Common raven	*Corvus corax*	Distribution pole	Desert Tap distribution pole, about 0.5 mile east of UPRR.
Common raven	*Corvus corax*	Transmission line structure	On Reno-Alturas 345kV transmission line structure approximately 200 yards north of Fish Springs Road and about 200 yards northeast of the proposed 120kV transmission line ROW.
Common raven	*Corvus corax*	Transmission line structure	On Reno-Alturas 345kV transmission line structure about 0.5 mile northwest of the Fort Sage Substation and 150 feet east of the proposed 120kV line.

According to the BLM's Eagle Lake Field Office RMP/Final EIS, common mammal species for the drier upland shrub communities include the least chipmunk (*Tamias minimus*), Great Basin pocket mouse (*Perognathus parvus*), black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*). A number of mammals, such as mule deer, the montane vole (*Microtus montanus*), and certain bat species (long-eared myotis, fringed myotis) are attracted to the riparian zones and may be found along Long Valley Creek (BLM 2007, 2008). The American badger (*Taxidea taxus*) has been documented in the project area and is discussed in Section 3.17 for special status wildlife species.

The Doyle SWA is a mosaic of state lands managed by the CDFG primarily for wintering mule deer. The Proposed Action ROW alignment crosses 0.5 mile of Doyle SWA in T26N, R17E, SW¼ S8 (see Map 1-1 and Map 2-1). The Doyle SWA is comprised of "critical mule deer winter range" where the native range is generally important for wintering deer from mid-November to March (Callas 2008, pers. comm.; Ehler 2008, pers. comm.). This mule deer population had declined significantly since the mid-1950s and currently is stable to slightly declining (Ehler 2008, pers. comm.; Stowers 2008, pers. comm.), but the habitats that occur in and near the Doyle SWA, particularly the regional antelope bitterbrush shrub community, provide high quality foraging habitat and thermal cover for the deer herd. Bitterbrush is an important browse species for deer in the late summer, fall, and winter (BLM 2007, 2008; Ehler 2008, pers. comm.; Stowers 2008, pers. comm.). Some of the contributing factors to this herd's slight downward trend include: 1) lack of bitterbrush seedling regeneration and establishment, 2) regional development and residential encroachment, 3) winter range availability, 4) cheatgrass and juniper encroachment into the bitterbrush community, and 5) wildfire effects to native habitats (Callas 2008, pers. comm.; Ehler 2008, pers. comm.; Stowers 2008, pers. comm.).

Hunting on the overall Doyle SWA includes archery, rifle, and muzzle loading for premium deer hunts (Ehler 2008, pers. comm.). The BLM North Fort Sage Allotment is located east of the Doyle SWA on BLM-administered lands (see Map 3-4). Livestock grazing on Doyle SWA is managed under CDFG jurisdiction and management.

The Proposed Action area also encompasses a portion of the BLM's Fort Sage Wild Horse and Burro Herd Management Area (HMA). The estimated population for this HMA is 36 animals, with an estimated "appropriate management level" of 55 to 65 horses (BLM 2007, 2008).

Representative reptile species for this region include the Great Basin rattlesnake (*Crotalus oreganus lutosus*), gopher snake (*Pituophus melanoleucus*), and terrestrial garter snake (*Thamnophis elegans*) (BLM 2007, 2008).

Aquatic resources in the ROW for the Proposed Action are limited to those associated with Long Valley Creek. Photo 3-2 and Photo 3-3 in Section 3.5, Flood Hazards, and Photo E6 and Photo E7 in Appendix E depict the proposed Long Valley Creek crossing along Garnier Road, where the creek is intermittent. Aquatic resources (e.g., amphibians) would be limited in this area to periods when this reach is flowing. No sensitive fish species occur in Long Valley Creek, an intermittent stream (BLM 2007, 2008; Hall 2007, pers. comm.).

3.17 Special Status Wildlife Species

3.17.1 Introduction

Federal agencies, in consultation with the USFWS, are required to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a federally listed or proposed species under the federal Endangered Species Act (ESA). RUS is required to review all activities that receive RUS funding, and the BLM is required to review all activities on BLM-administered lands to evaluate the potential effects of these activities to federally listed, proposed, and applicable BLM Sensitive Species. Additionally, California special status species were examined, as detailed in Appendix E.

3.17.2 Process

Initial literature and database reviews were conducted to identify special status wildlife species that may occur in or near the project area. An initial field reconnaissance (EDM 2007) and preliminary wildlife surveys (Hardy 2007) were conducted in 2007 to characterize wildlife habitats occurring along the Proposed Action ROW alignment. Subsequent and more detailed field surveys were completed in spring and summer of 2010 to better define what special status wildlife species may occur along the 13.67-mile route (Hardy and Arsenault 2010).

Prior to initiating the 2010 field surveys, a number of federal and state sources were reviewed, including the: 1) federal threatened, endangered, and candidate species lists for Washoe County, Nevada and Lassen County, California; 2) BLM Sensitive Species list; 3) CDFG's "List of Special Animals;" and 4) CNDDB's state database for sensitive wildlife species. Map 3-5 provides an overview of the historical records of special status wildlife species reported within 3 miles of the ROW alignment from the CNDDB and NNHP.

Based on these historical data reviews, current data sources, and input from the federal and state agencies, including the USFWS, BLM, CDFG, Wildlife Conservation Board, and other resource agencies as noted in the Appendices, a list of target wildlife species was developed for the 2010 field survey efforts. Survey protocols were developed by species, and concurrence was received by the applicable federal and state agencies on these survey methods prior to initiating the 2010 field surveys.

Detailed pedestrian wildlife surveys of the project ROW and adjacent areas were conducted between April 17 and June 27, 2010, following the established survey protocols by species. Appendix E details the survey protocols, field methods, and survey results from the 2010 field program. Table 3-17 summarizes these results.

3.17.3 Species Information

The following species' discussions summarize key points for special status wildlife species identified in the project area. Species that have a low to no potential to occur in the project area, were not surveyed, and are not discussed in detail include the: bald eagle, American peregrine falcon, short-eared owl, greater sage-grouse, mountain plover, pygmy rabbit, western white-tailed jackrabbit, and northern leopard frog. Appendix E provides a greater level of detail for this process, how the 2010 field surveys were structured, and presents additional species-specific information.

3.17.3.1 Bird Species

Greater Sandhill Crane

The greater sandhill crane typically nests in wetlands or on islands, foraging in wet meadows, upland fields, and croplands. No nesting habitat for this bird species occurs on lands administered by the BLM's Eagle Lake Field Office; however, suitable nesting habitat does occur on private and CDFG lands (BLM 2007, 2008). One documented occurrence of nesting sandhill cranes was reported on private lands along Long Valley Creek, approximately 2 miles west of the Proposed Action ROW (CNDDB 2009) (see Map 3-5). This occurrence, first reported in 2000, included two breeding pairs of cranes nesting on a private ranch (McGriff 2008, pers. comm.).

Table 3-17 Special Status Wildlife Species Potential Presence and Survey Results

Common Name	Scientific Name	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
Birds				
Greater Sandhill Crane	*Grus canadensis tabida*	MBTA ST CDFG-FP	Previously documented in project area along Long Valley Creek by CNDDB. Not observed in 2007. Species was heard vocalizing approximately 0.5 mile west of Garnier Road in agricultural fields during 2010 field surveys. Possible foraging habitat in project area; no nesting habitat along ROW.	B = FEW, WTM F = FEW, WTM, PAS W = FEW, WTM, PAS
Bald Eagle	*Haliaeetus leucocephalus*	BGEPA MBTA SE CDFG-FP	Low potential to occur in project area. Suitable foraging habitat present in region, but no documented occurrences have been recorded in or near project area. No habitat for communal winter roosts is present.	B = Diverse, but typically near water F = PAS, MRI W = PAS, MRI
Golden Eagle	*Aquila chrysaetos*	BGEPA MBTA CDFG-FP CDFG-WL	Known to occur in project area; confirmed breeder. Active golden eagle nest documented in 2007 and 2010 on Turtle Mountain outside the ROW; foraging habitat occurs throughout project area.	B = SGB, BBR, PAS, PGS, ROCK F = same W = same
Swainson's Hawk	*Buteo swainsoni*	MBTA ST	Known to occur in project area. In 2007, one observed flying north edge of Long Valley Creek. In 2010, eight individuals observed, two active nests located within 0.5 mile of ROW, one active nest within 1.5 miles of ROW. Foraging habitats occur throughout project area.	B = PAS, SGB, BBR, PGS, AGR F = same W = N/A
Prairie Falcon	*Falco mexicanus*	MBTA CDFG-WL	Known to occur in project area. In 2007, located eyrie on cliff ledge approximately 0.2 mile south of proposed ROW. In 2010, previously documented eyrie inactive; one adult observed near Fort Sage Substation; one adult observed at Turtle Mtn. Could occur year-round.	B = ROCK F = PGS, SGB, BBR W = diverse

Table 3-17 Special Status Wildlife Species Potential Presence and Survey Results, continued

Common Name	Scientific Name	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
American Peregrine Falcon	*Falco peregrinus anatum*	MBTA SE CDFG-FP	Unlikely to occur in project area. Possible rare occurrence during migration. Foraging would be opportunistic with Long Valley Creek providing the best foraging habitat. No nesting habitat.	B = ROCK; MRI F = MRI; SGB W = diverse
Northern Harrier	*Circus cyaneus*	MBTA CDFG-SSC	Known to occur in project area. In 2007, species observed. Possible foraging and/or wintering in PAS along Garnier Road. In 2010, not observed, and no evidence of breeding.	B = WTM, FEW F = WTM, FEW, AGR, PAS, SGB W = WTM, FEW, AGR, PAS, SGB
Burrowing Owl	*Athene cunicularia*	MBTA BLM-S (CA & NV) CDFG-SSC	Known to occur in project area. In 2007, one active nest burrow located approximately 300 yards south of proposed ROW on NE-facing slope of Turtle Mountain. In 2010, six individuals, three active nesting burrows, and one inactive burrow documented. Four burrow sites located E/SE of Turtle Mountain ranging from 200 feet to 0.3 mile from ROW centerline. Nest burrow recorded in 2007 located near one of the 2010 active nest sites.	B = PAS, SGB F = same W = same
Short-eared Owl	*Asio flammeus*	MBTA CDFG-SSC	Unlikely to occur in project area. May forage and/or winter in agricultural lands along Garnier Road; no nesting habitat.	B = FEW, WTM F = FEW, WTM, SGB, PAS W = FEW, WTM, PAS, SGB

Table 3-17 Special Status Wildlife Species Potential Presence and Survey Results, continued

Common Name	Scientific Name	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
Long-eared Owl	*Asio otus*	MBTA CDFG-SSC	Known to occur in project area. Confirmed breeder in vicinity of project area. In 2007, nest located along Long Valley Creek, approximately 600 feet upstream (southeast) of Garnier Road bridge. Not observed in 2010.	B = MRI, WTM, EPN F = MRI, WTM, EPN, SGB, PAS W = MRI
Greater Sage-grouse	*Centrocercus urophasianus*	FC BLM-S (CA & NV) CDFG-SSC	Unlikely to occur in project area. Based on BLM and CDFG data, no known leks or grouse present. Not known to occur in the vicinity of the project area in either California or Nevada (Hall 2007, pers. comm.; Hampson 2007, pers. comm.; Haney 2008, pers. comm.). No survey warranted, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	B = SGB F = SGB, WTM W = SGB
Mountain Plover	*Charadrius montanus*	MBTA CDFG-SSC	Unlikely to occur in project area. Potential for rare occurrences during migration. No survey, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	B = PGS, AGR, PAS F = same W = same
Long-billed Curlew	*Numenius americanus*	MBTA CDFG-WL	Known to occur in project area. In 2007, 10 individuals observed foraging west of Garnier Road, approximately 150 feet west of proposed ROW. In 2010, not observed.	B = PAS, PGS F = same
Willow Flycatcher	*Empidonax traillii*	MBTA SE	Low potential to occur in project area along Long Valley Creek. Unlikely to breed or migrate in area. Not observed in 2007 or 2010.	B = MRI, WTM M = MRI, WTM
Bank Swallow	*Riparia riparia*	MBTA ST	Known to occur in project area. Observed flying near Long Valley Creek in 2007 where primary habitat occurs. Possible breeder and likely forager in project area. Not observed in 2010.	B = MRI (eroded banks) F = MRI, diverse W = N/A

Table 3-17 Special Status Wildlife Species Potential Presence and Survey Results, continued

Common Name	Scientific Name	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
Loggerhead Shrike	*Lanius ludovicianus*	MBTA CDFG-SSC	Known to occur in project area. In 2007, common along proposed ROW, often perching on poles or power lines. In 2010, 16 individuals observed and four nests located, two of them believed inactive. These were located from the ROW center (six feet) to 0.17 mile from the centerline.	B = SGB, BBR, PAS, PGS, JUN F = same W = same
Yellow-breasted Chat	*Icteria virens*	MBTA CDFG-SSC	Unlikely to occur in project area. If present, could occur along Long Valley Creek corridor during breeding season or during migration. Not observed in 2007 or 2010.	B = MRI F = same M = same
Yellow Warbler	*Dendroica petechia brewsteri*	MBTA CDFG-SSC	Known to occur in project area. In 2007, confirmed breeder with singing male along Long Valley Creek approximately 50 yards downstream (northwest) of Garnier Road bridge and proposed ROW. Not observed in 2010.	B = MRI F = same M = same W = N/A
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*	MBTA CDFG-SSC	Unlikely to occur in project area due to lack of suitable habitat. Not observed in 2007 or 2010.	B = MRI, FEW F = same M = same
Mammals				
American Badger	*Taxidea taxus*	CDFG-SSC	Known to occur in project area. Confirmed resident. In 2007, adult observed and active badger burrow complex located. In 2010, 10 active dens located.	Yearlong = SGB, PAS, WTM
Pygmy Rabbit	*Brachylagus idahoensis*	CDFG-SSC	Unlikely to occur in project area, based on CNDDB records and historical distribution information. No survey, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	Yearlong = SGB, BBR

Table 3-17 Special Status Wildlife Species Potential Presence and Survey Results, continued

Common Name	Scientific Name	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
Western White-tailed Jackrabbit	*Lepus townsendii townsendii*	CDFG-SSC	Unlikely to occur in project area, based on CNDDB records and historical distribution information. No survey, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	Yearlong = SGB
Reptiles				
Northern Sagebrush Lizard	*Sceloporus graciosus graciosus*	BLM-S (CA)	May occur in project area. Surveys determined not warranted by BLM.	Yearlong: SGB, mixed shrub
Amphibians				
Northern Leopard Frog	*Lithobates pipiens*	CDFG-SSC	Unlikely to occur in project area, although habitat upstream and downstream of Long Valley Creek crossing may support this species in the region. No survey, based on avoidance of suitable habitat.	Yearlong = WTM, MRI, FEW, springs
Invertebrates				
Carson Wandering Skipper	*Pseudocopaeodes eunus obscurus*	FE	Low to no potential to occur in project area based on historic records, previous regional surveys by the Honey Lake Conservation Team, BLM records, further discussions with the applicable agencies, and a habitat reconnaissance conducted in 2007. No survey warranted.	Yearlong = saltgrass grassland (*Distichlis spicata*)
Honey Lake Blue	*Euphilotes pallescens calneva*	BLM-S (NV) Nevada = Critically Imperiled	Known to occur on Doyle SWA approximately 2 miles north of the ROW and on BLM land approximately 0.5 mile south of the proposed ROW (i.e., Turtle Mountain area). No survey warranted, based on low potential for effects to species.	Yearlong = PAS, BBR, SGB - wild buckwheat (*Eriogonum* sp.)

[1]FE = Federally Listed as Endangered
FC = Species Candidate for Federal Listing
MBTA = Migratory Bird Treaty Act
BGEPA = Bald and Golden Eagle Protection Act
BLM-S = BLM Sensitive Species
CA = California
NV = Nevada
CA Special Status Species:
SE = State-listed as Endangered
T = State-listed as Endangered
CSC = California Species of Special Concern
CDFG-FP = CDFG - Fully Protected
CDFG-SSC = CDFG - Species of Special Concern
CDFG-WL = CDFG - Watch List

[2]Habitats and their associated acronyms follow the California WHR System (Mayer and Laudenslayer 1988).

AGR = agricultural lands
BBR = bitterbrush
EPN = eastside pine habitat
FEW = fresh emergent wetlands
JUN = juniper habitat
MRI = montane riparian
PAS = pastures
PGS = perennial grassland with saltbush and sagebrush;
SGB = big sagebrush
WTM = wet meadow habitat
ROCK = rock outcrops
DIST = disturbed areas
N/A = not applicable

Although individual sandhill cranes may forage in and near the riparian habitat located along Long Valley Creek, no suitable habitat for crane nesting occurs in proximity to the power line ROW. No cranes were reported during the 2007 field surveys (Hardy 2007). One sandhill crane was vocalizing approximately 0.5 mile west of Garnier Road during the spring 2010 surveys (Hardy and Arsenault 2010).

Golden Eagle

The golden eagle, once a common permanent resident in open habitats throughout California, is now an uncommon permanent resident (CDFG 2005). Golden eagles breed and forage in the project area (BLM 2007, 2008), and historically nested on Turtle Mountain where the rocky substrate provides preferred nesting habitat (CNDDB 2009) (see Map 3-5).

Both adult and immature golden eagles were documented during the initial field reconnaissance and subsequent spring surveys in 2007 (EDM 2007; Hardy 2007). One active golden eagle nest was documented during the 2007 surveys (Hardy 2007); this nest was located on Turtle Mountain approximately 0.25 mile south of the proposed ROW (see Map 2-1 Sheet 5). During the 2010 field surveys, a total of six golden eagles were observed, and one large stick nest was documented on a ledge on the west flank of Turtle Mountain outside the ROW. One adult was observed on the nest on both April 17 and May 16, 2010 (Hardy and Arsenault 2010). This active nest was located approximately 0.45 mile south of the proposed ROW (see Map 2-1 Sheet 5). It is assumed the active nests recorded in 2007 and 2010 represent alternative nest sites for one breeding pair of golden eagles.

Swainson's Hawk

Swainson's hawks inhabit a wide variety of open habitats, ranging from prairie and shrubsteppe to desert and intensive agricultural systems (Woodbridge 1998). According to the BLM, Swainson's hawks are not numerous or prominent in the project area (BLM 2007, 2008). In nearby Honey Lake Valley, Swainson's hawks generally nest in mature trees within a matrix of open agricultural land (Hardy 2007). In the project area, potential nesting habitat is scattered along wind breaks interspersed in agricultural lands, ornamental trees near residences, and deciduous trees located along Long Valley Creek.

Two historical occurrences of Swainson's hawks were reported within 1 mile of the Proposed Action; the closest historical nest site is approximately 0.6 mile northwest of the Herlong Substation (CNDDB 2009) (see Map 3-5). These Swainson's hawk nest sites (#145 and #452) were active for many years, but currently are extirpated (i.e., no longer occupied or active) (McGriff 2008, pers. comm.).

During the 2007 field surveys, one adult Swainson's hawk was observed flying across Garnier Road at Long Valley Creek along the interface between montane riparian and bitterbrush habitats (Hardy 2007). During the 2010 field surveys, a total of eight Swainson's hawks were observed. In addition, three nests were documented: 1) one

stick nest was located in a 20-foot-tall locust tree 0.45 mile northwest of the proposed Herlong Substation along U.S. 395; 2) one stick nest occurred in an 8-foot-tall cottonwood tree approximately 0.3 mile east of Garnier Road and the project ROW and 0.2 mile south of the Long Valley Creek drainage (Map 2-1 Sheet 8); and 3) one stick nest was discovered in a 15-foot-tall juniper tree approximately 1.5 miles south of the proposed ROW along the western edge of Turtle Mountain. This latter nest site was observed inadvertently by the surveyors while traveling in the Turtle Mountain area (Hardy and Arsenault 2010).

Prairie Falcon

The prairie falcon is primarily associated with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. The prairie falcon uses open terrain for foraging and nests in open terrain with canyons, cliffs, escarpments, and rock outcrops. This species typically builds nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area (California Wildlife Habitat Relationships System 2005).

Historically, prairie falcons nested on Turtle Mountain at breeding site #380 (CNDDB 2009) (see Map 3-5). In 2007, one prairie falcon eyrie was documented on a low cliff ledge approximately 0.2 mile south of the proposed ROW near Turtle Mountain (Hardy 2007) (see Map 2-1 Sheet 5). This nest site appeared to have been active earlier in 2007, since the scrape was lined with down feathers and eggshells were present. During the 2010 field surveys, no prairie falcon nests were recorded; however, two prairie falcons were observed in separate areas. One adult was observed on Turtle Mountain and one adult was observed near the Fort Sage Substation (Hardy and Arsenault 2010). Despite not finding a nest site in 2010, it is assumed prairie falcons commonly nest on or near Turtle Mountain. This assessment is based on the historical information with nesting records dating back to 1980 (McGriff 2008, pers. comm.), the 2007 survey results of the active eyrie, and the suitable nesting substrate for this species throughout the Turtle Mountain area.

Northern Harrier

The northern harrier is a medium-sized raptor that is a year-round resident of California. Northern harriers breed and forage in a variety of open (treeless) habitats that provide adequate vegetative cover, an abundance of suitable prey, and scattered perches. In California, such habitats include marshes and wet meadows; weedy borders of lakes, rivers, and streams; annual and perennial grasslands; fields and pastures; some croplands; and sagebrush flats. Harriers nest on the ground, mostly within patches of dense, often tall, vegetation in undisturbed areas (CPIF 2000; Davis and Niemela 2008).

During the initial June 2007 field surveys, an adult female northern harrier was observed flying and foraging across Long Valley Creek along Garnier Road, approximately 300 feet west of the ROW (Hardy 2007). During the 2010 field surveys, no northern

harriers were recorded (Hardy and Arsenault 2010); however, it is assumed they forage in the project area. No suitable breeding habitat occurs along the ROW.

Burrowing Owl

The burrowing owl is a small ground-dwelling owl commonly found in open, dry shrub/steppe grasslands, agricultural and range lands, and desert habitats. During the initial 2007 field surveys, one active nest burrow was documented approximately 0.2 mile south of the ROW alignment on a northeast-facing slope of Turtle Mountain (Hardy 2007). In 2010, a total of six individual owls, three active nest burrows, and one inactive nest were recorded (Hardy and Arsenault 2010). The three active nest burrows occurred along the northeast-facing slope of Turtle Mountain outside the ROW. One of these nest locations was near the burrow identified previously in 2007. These four burrowing owl nest sites (three active and one inactive) occurred from 200 feet to 0.34 mile from the project ROW. Map 2-1 Sheet 4 and Map 2-1 Sheet 5 provide general location information for these nest sites; however, exact locations are not shown to protect the sites. Additional suitable nesting and foraging habitat for the species also was observed along Garnier Road and at other site-specific locations along the proposed route; however, no other burrowing owl nests were discovered besides those recorded near Turtle Mountain.

Long-eared Owl

The long-eared owl is a medium-sized woodland owl, typically nesting in conifers, oak, riparian, piñon-juniper, and desert woodlands that are either open or are adjacent to grasslands, meadows, or shrublands (Marks et al. 1994). Key habitat components are some dense cover for nesting and roosting, suitable nest platforms, and open foraging areas. This owl feeds almost exclusively on small mammals but opportunistically takes other prey, such as small birds and rabbits (Hunting 2008).

Historically, the CNDDB (2009) reported two long-eared owl nests (#28 and #32) near the Sierra Army Depot, approximately 3 miles north of the proposed ROW alignment (McGriff 2008, pers. comm.) (see Map 3-5). In 2007, one active long-eared owl nest was documented along Long Valley Creek, approximately 600 feet upstream (southeast) of the Garnier Road bridge (see Map 2-1 Sheet 7) (Hardy 2007). No long-eared owls were observed during the 2010 wildlife surveys (Hardy and Arsenault 2010).

Long-billed Curlew

Long-billed curlews are birds of open habitats: upland shortgrass prairies, wet meadows, and grasslands. In winter, this species inhabits agricultural fields, saltwater marshes with tidal channels, intertidal mudflats, and coastal estuaries. In California, nests are usually near lakes or marshes. The long-billed curlew is an opportunistic feeder, consuming available food items by probing its long bill in the mud and in animal burrows, feeding on insects, marine and freshwater invertebrates, mollusks, amphibians, and wild fruits. When foraging in uplands, long-billed curlews feed on

grasshoppers, beetles, caterpillars, and other invertebrates in low-growing grassy areas (NRCS 2000; Sedgwick 2006).

During the initial June 2007 project surveys along the project ROW, 10 long-billed curlews were observed foraging in a grassy pasture West of Garnier Road with hundreds of California and ring-billed gulls (Hardy 2007). This foraging activity was observed approximately 150 feet west of the proposed ROW. During the 2010 detailed surveys, no long-billed curlews were observed and no evidence of breeding was recorded within the project area (Hardy and Arsenault 2010).

Willow Flycatcher

The willow flycatcher is a small, insect-eating neotropical migrant that breeds in a variety of usually shrubby, often wet, habitats. In California, it is a rare to locally uncommon summer resident in wet meadows and montane riparian habitats, with most of the remaining breeding populations occurring in isolated mountain meadows of the Sierra Nevada. Breeding habitat is typically moist meadows, perennial streams and riparian deciduous shrubs or trees, such as willow or alder, are essential elements on willow flycatcher territories (Craig and Williams 1998; Sedgwick 2000)

The only potentially suitable habitat for the willow flycatcher in the project area is located along Long Valley Creek. Preliminary surveys were completed in 2007 (Hardy 2007); detailed surveys were conducted in 2010 per the required survey protocol (see Appendix E) (Hardy and Arsenault 2010). No willow flycatchers were observed during either the 2007 or 2010 wildlife surveys, and no evidence of breeding within the project area was found.

Bank Swallow

The bank swallow generally breeds in alluvial soils along rivers, streams, lakes, and coastal areas. It is largely found in riparian ecosystems, particularly rivers in the larger lowland valleys of northern California. Nests occur in colonies of five to over 3,000 pairs; an occurrence of a single nest is rare. Nesting colonies are located in vertical banks or bluffs in friable soils. Foraging habitats include aerial areas over lakes, ponds, rivers, streams, meadows, fields, pastures, bogs, and occasionally over forests and woodlands (CDFG 1993; Garrison 1998).

Although bank swallow breeding colonies occur in Lassen County, no historic breeding records or population information are available for the study area (BLM 2007, 2008). During the 2007 wildlife baseline surveys, two bank swallows were observed flying and foraging approximately 80 feet south of the proposed ROW, flying from the direction of Long Valley Creek (Hardy 2007). The only suitable nesting habitat for this species is the vertical, eroded, earthen banks along Long Valley Creek. As discussed in Appendix E, surveys for bank swallows focused on searching suitable habitat (e.g., eroded, vertical banks) within 0.3 mile of the ROW centerline, on each side of Garnier Road within the Long Valley Creek drainage. Neither bank swallows nor bank swallow nests were

documented during the 2010 surveys (Hardy and Arsenault 2010). Bank swallows may occur more often in the project area during migration.

Loggerhead Shrike

The loggerhead shrike is a medium-sized songbird found throughout North America, typically occurring in open landscapes characterized by widely spaced shrubs and low trees within a variety of plant associations, including arid shrublands, grasslands, savannahs, pasturelands, and farmlands. Trees and shrubs used for nesting generally share common characteristics of having dense foliage and can be bushy and thorny. Shrikes use open habitats for foraging during both breeding and non-breeding seasons (Pruitt 2000; Humple 2008).

During the June 2007 field surveys, loggerhead shrikes were common along the proposed ROW, commonly perching on power poles or conductor wires (Hardy 2007). During the 2010 field surveys, 16 loggerhead shrikes were observed. Additionally, four nests were recorded within the survey area; two were believed to be inactive (Hardy and Arsenault 2010). The four nests were located from within the ROW (6 feet from centerline) out to 0.17 mile from the ROW centerline (see Map 2-1 Sheet 4, Map 2-1 Sheet 6, and Map 2-1 Sheet 7).

Yellow-breasted Chat

In California, the yellow-breasted chat requires dense riparian thickets of willows, vine tangles, and dense brush associated with streams, swampy ground, and the borders of small ponds. Diet studies of chats are lacking in California. Elsewhere, adults feed predominantly on insects and spiders; wild fruits and berries also are important (Ricketts and Kus 2000; Comrack 2008).

Potentially suitable habitat for this songbird occurs along Long Valley Creek drainage. However, no yellow-breasted chats were observed during either the 2007 or 2010 wildlife surveys, and no evidence of breeding within the project area was found (Hardy 2007; Hardy and Arsenault 2010).

Yellow Warbler

Yellow warblers breed and forage in riparian woodlands, montane chaparral, open ponderosa pine, and mixed conifer habitats with substantial brush, from coastal and desert lowlands up to 8,000 feet in the Sierra Nevada. This species is most commonly found in riparian deciduous woodlands (Dunn and Garrett 1997).

Potentially suitable habitat occurs along Long Valley Creek drainage. In 2007, a singing male was recorded along Long Valley Creek approximately 150 feet downstream (northwest) of the Garnier Road bridge and proposed ROW (Hardy 2007). No yellow warblers were observed during the 2010 wildlife surveys (Hardy and Arsenault 2010).

Yellow-headed Blackbird

Yellow-headed blackbirds breed almost exclusively in marshes with tall emergent vegetation, generally in open areas and edges over relatively deep water. Birds forage within breeding territories if resources are abundant, but also will forage in uplands, such as agricultural fields (Twedt and Crawford 1995; Jaramillo 2008).

Potentially suitable habitat occurs along Long Valley Creek drainage. No yellow-headed blackbirds were observed during either the 2007 or 2010 wildlife surveys (Hardy 2007; Hardy and Arsenault 2010).

3.17.3.2 Mammal Species

American Badger

American badgers are found in a variety of open, arid habitats, but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. Principal habitat requirements for this species include sufficient prey base, friable soils, and relatively open, uncultivated ground. They are generally found in areas of low to moderate slope (Stephenson and Calcarone 1999; Laudenslayer and Parisi 2007).

In 2007, one adult badger and an active badger burrow complex were recorded west of the UPRR, approximately 0.3 mile south of the proposed project ROW (Hardy 2007). During the 2010 field surveys, 10 active badger dens were observed located from 55 feet to 0.2 mile from the proposed ROW centerline. Three of these active den sites occurred within the 200-foot-wide construction ROW (see Map 2-1 Sheet 3, Map 2-1 Sheet 4, Map 2-1 Sheet 5, Map 2-1 Sheet 6, Map 2-1 Sheet 7 and Map 2-1 Sheet 8).

3.17.3.3 Reptile Species

Northern Sagebrush Lizard

The northern sagebrush lizard is a small reptile species that occurs in the Great Basin desert east of the Sierra Nevada and in the northeast corner of the California. Habitat consists of sagebrush and other types of shrublands, including open areas with scattered low bushes and sun, ranging from 500 feet to around 10,500 feet in elevation (Stebbins 2003). The northern sagebrush lizard may occur in the project area; however, no field surveys for this species were warranted by the BLM.

3.17.3.4 Invertebrate Species

Carson Wandering Skipper

The Carson wandering skipper is a small butterfly in the subfamily Hesperiinae (grass skippers) that is federally listed as endangered. A Recovery Plan for the Carson wandering skipper was released by the USFWS in June 2007, but critical habitat has

not been designated (USFWS 2007b). This species is closely associated with saltgrass (*Distichlis spicata*).

Only four populations are known to exist: one in Honey Lake Valley in Lassen County, California, and three populations located in Washoe and Douglas counties in Nevada (USFWS 2007b). Surveys of suitable habitat for this species have been conducted in the area since 1998, including those conducted by the Honey Lake Conservation Team between 2004 and 2008. The purpose of the surveys completed by the Honey Lake Conservation Team (2007) was to compile distribution information on the presence/absence of the butterfly within the saltgrass habitats found along Honey Lake and in other suitable habitats adjacent to the lake.

The Eagle Lake Field Office RMP (BLM 2007, 2008) identified suitable habitat for the Carson wandering skipper within the field office boundaries; however, none is located within the project area. Detections of this species have occurred on CDFG, CSLC (including previous DOD), and private lands within the Eagle Lake Field Office boundaries, particularly in the vicinity of Honey Lake. However, to date, no Carson wandering skippers have been found on BLM Eagle Lake Field Office lands.

In summary, no suitable habitat for the Carson wandering skipper is located within the project area (BLM 2007, 2008). The closest known population is approximately 4 miles from the Proposed Action and it was determined to have a low to no potential to occur, based on federal and state historical records. Both RUS and BLM have communicated this determination to the USFWS in accordance with Section 7 of the Endangered Species Act (ESA). This correspondence is presented in Appendix A of this EA. Appendix E provides more detailed life history of this butterfly species.

Honey Lake Blue

The Honey Lake blue is listed by BLM Nevada as a Critically Imperiled Sensitive Species due to its rarity and vulnerability. This butterfly is closely associated with wild buckwheat (*Eriogonum* sp.) and species within this butterfly's genera, *Euphilotes*, generally have highly restricted ranges, in part because of their specialized dependence on specific buckwheat species (USFWS 2007c).

This butterfly species has historically been recorded in the region by the NNHP. The NNHP lists occurrences in the Turtle Mountain area on BLM land, approximately 0.5 mile south of the proposed ROW and in the Doyle SWA, approximately 2 miles from the ROW (see Map 3-5) (NNHP 2008). Because the NNHP database contains some rare species reported for both Nevada and California along the states' boundary, the NNHP occurrence data lists this butterfly species as having occurred in Lassen County, California. The Honey Lake blue is not currently on the CNDDB's "Special Animals" list (CNDDB 2009); however, this species does have a narrow distribution in Lassen County, California and Washoe County, Nevada and may be added to the CNDDB in the future for "rare and declining species" (McGriff 2008, pers. comm.).

Though known to occur near the proposed ROW, no surveys for this species were warranted, based on the low potential for adverse impacts to occur. This approach was confirmed during the species' review process conducted prior to initiating the 2010 field surveys.

3.17.4 Summary

Initial literature and database reviews were conducted to identify special status wildlife species that may occur in or near the proposed project area. Survey protocols were developed by species and concurrence was received by the applicable federal and state agencies on these survey methods prior to initiating the 2010 field surveys. Detailed pedestrian wildlife surveys of the Proposed Action ROW and adjacent area were conducted between April 17 and June 27, 2010, following the established survey protocols by species.

No federally threatened, endangered, or candidate species occur in the project area. One BLM-sensitive species, the burrowing owl, was documented as breeding in the area, but not within the ROW. Of the 14 California special status species surveyed, six were documented during the 2010 field surveys, based on the survey protocols developed for the proposed project. These six species included the golden eagle, Swainson's hawk, prairie falcon, burrowing owl, loggerhead shrike, and American badger. The remaining eight species surveyed for in 2010 were not found.

Appendix E details the survey protocols, methods used, survey results, and species-specific information. Map 2-1 in Chapter 2 of this EA provides general location information for these survey results and associated nest sites. However, in compliance with the MBTA and BGEPA, exact locations of breeding bird nest sites are not shown to protect these sites and the occupants.

3.18 Visual Resources

The detailed Visual Analysis Summary is presented in Appendix C. The following excerpts characterize the visual nature of the project area surrounding the Proposed Action.

3.18.1 BLM-Administered Lands

The BLM has designated Visual Resource Management (VRM) Classes II and IV to public lands in the vicinity of the project area. The visual management objective of Class II is to retain the existing character of the landscape and the level of change to the characteristic landscape should be low. The visual management objective of Class IV is to provide for major modification of the existing character of the landscape and the level of change to the characteristic landscape can be high.

BLM-administered lands located along the ROW north and east of Turtle Mountain in T26N, R17E and portions of Sections 15, 16, and 17 (see Map 1-1) are classified as

Class II. The proposed alignment would be located on level ground that skirts the boundary between the Class II and Class IV VRM designations. For the remaining transmission line alignment proposed for BLM lands in Section 22 and 23, the visual management objective is Class IV.

3.18.1.1 Key Observation Points

Because the Proposed Action traverses BLM land that is remote (no closer than 4 miles to U.S. 395) and undeveloped (accessed only by secondary gravel and dirt roads) a number of factors to select Key Observation Points (KOPs) were NOT used. The factors and reasons as to why they do not apply are discussed in detail in Appendix C and encompassed:

Angle of Observation: The predominant horizontal observation angle is perpendicular to the heavily used travel route and, therefore, would not likely be seen within a driver's peripheral view. Because the affected BLM land also is located no closer than 4 miles to U.S. 395, it would be viewed from vehicular seat level with no change in the vertical observation angle.

Length of Time the Proposed Action is in View: Because the Proposed Action could only be seen from a short section of U.S. 395 before it is screened from view by topography, the high speed of travel coupled with topographical obstruction would severely limit the time the Proposed Action is viewed, eliminating potential KOPs if this factor were to be used.

Relative Proposed Action Size: Although proposed structures would protrude above the vertical plain of the landscape, they would be viewed from U.S. 395 at a distance of approximately 4 miles and the observers typically would be traveling at a high rate of speed. Due to the distance, topography, neutral color of the pole structures, use of non-specular conductor, and the desert environment coloration, structure visibility would be limited from U.S. 395 (i.e., possible use of binoculars) with the transmission line support structures not breaking the horizon, as they would be seen against a backdrop of the Fort Sage Mountains. Because viewing distance and topography would absorb vertical features, the size of the structures would not be the best indicator for this visual analysis.

Season of Use: The project area would be viewed in the distant background from U.S. 395 throughout the year. Seasonal variation in the use of this transportation corridor is not substantial enough to provide a distinctive factor in considering the visual impact of the Proposed Action in different seasons.

Light Conditions: The structures proposed on BLM-administered lands are located 4 miles from U.S. 395. At this distance, lighting is unlikely to create a visible glare or reflection off the structures. Light is not a consistent factor or indicator that would improve or detract from views at such great distances.

Applicable factors used in selecting the project KOP included:

> Number of Viewers: Because U.S. 395 is the most heavily used travel route in the area, it provides the primary source and number of viewers. Additionally, the KOP along U.S. 395 where the proposed transmission line would be seen across public lands is located near the intersection of U.S. 395 and Garnier Road. Garnier Road is a notable secondary travel corridor because it is paved and runs along the section lines. The number of viewers to pass by this KOP was a substantive factor in selecting this point.
>
> Special Project and Landscape Feature: There is no special project identified as a distinctive component along the proposed route. However, Turtle Mountain is a prominent landscape feature in the Fort Sage Mountain Range located south of the proposed ROW along the eastern portion of the project area (see Map 2-1). Most of the proposed transmission line route crossing public lands would not be visible from U.S. 395 because the Fort Sage Mountain Range would obscure that view. Specifically, Turtle Mountain would obscure views of the proposed transmission line route through a 1.25-mile segment of VRM Class II. Therefore, the Turtle Mountain landscape feature was an important factor in establishing a viable KOP for this analysis.
>
> Critical Viewpoint: There are no elevated or overlook points along U.S. 395 in the project area. However, there is a short and critical stretch along U.S. 395 from which the project area might be viewed around the northern tip of Turtle Mountain.

The KOP selected for the Proposed Action is located at the intersection of U.S. 395 and Garnier Road, adjacent to the Herlong Substation. This intersection is likely to be the point where the most viewers could see the proposed transmission line. It also is a point at which Turtle Mountain does not completely obstruct the view of the proposed route where the interconnection transmission line structures would cross on to public lands. And finally, it is a critical viewpoint where the greatest number of viewers may be stopping long enough to look out toward a short portion of the route on public land as it would travel behind the Fort Sage Mountains, just beyond the tip of Turtle Mountain.

3.18.2 State, County, and Private Lands

3.18.2.1 Viewsheds Evaluated and Selected

The Proposed Action crosses state, private, and county lands in two primary directions. The first direction is essentially east/west, from the middle of Section 8 in T26N, R17E (located on the CDFG's Doyle SWA) to the western edge of Section 10 in T26N, R16E (located on CSLC land). This portion of the line follows a utilitarian, two-track dirt road on CSLC property that intersects Garnier Road at its west end and also provides access to an existing Desert Tap distribution line. The second direction of travel is due north/south as the proposed ROW turns at Garnier Road and continues south along

Garnier Road until it crosses U.S. 395, traveling a short distance along the access road and terminating at the proposed Herlong Substation. The following descriptions summarize these line segments relative to the potential scenic importance.

Two-Track Road on CSLC Property: This two-track dirt road contains illegal dump sites, as discussed in Section 3.11, Hazardous Materials. A representative dump site along this access road is shown in Photo 3-12. Because of the rural and undesignated status of this road, it likely does not receive the volume of users necessary to indicate a travel route with a substantive viewshed. Based on this two-track road's location and the condition of the foreground landscape in the dump areas, this service road does not merit consideration as a travel route offering a viewshed of primary scenic importance to the state or county.

Garnier Road: This is an asphalt-paved section-line road serving as a secondary travel route and feeder road on to and off of U.S. 395 to the town of Herlong, Sierra Army Depot, and federal prison. An existing PSREC 69kV transmission line, with 68-foot-high poles, travels north/south along the west side of Garnier Road. At the southern terminus of Garnier Road where it intersects with U.S. 395, southbound travelers experience a direct, axial, and foreground view toward the existing substation from a position of complete 'stop' before entering the U.S. 395 travel corridor. Garnier Road was not determined to be a travel route offering a viewshed of primary scenic importance to the state or county. This determination was based on the existing 69kV transmission line along this road ROW and because the southern terminal view for Garnier Road is compromised by the existing Herlong Substation infrastructure and Lassen County gravel pit.

Photo 3-12 Illegal Dumping on CSLC Lands Along Proposed ROW in 2010

U.S. 395: This highway serves as the primary travel route for county, state, and interstate travel through the project area, providing views to portions of the Doyle SWA to the north and west, Honey Lake Valley to the north and east, and the Bird Hills to the south of the highway. U.S. 395 is a heavily used travel route in the area and is estimated to service 4,925 vehicles traveling in either direction each day. Although U.S. 395 has not specifically been designated as a county or state Scenic Highway or federal National Scenic Byway, Lassen County's General Plan has identified areas of scenic importance along U.S. 395 and designated the highway's surrounding landscapes as "Scenic Corridors." Because U.S. 395 provides the primary source and number of diverse viewers, and because the highway crosses a county-identified Scenic Corridor, U.S. 395 was determined to be a travel route offering a viewshed of primary scenic significance to both the state and county.

The Substation/Borrow Pit Access Road: This road is currently used as a utilitarian access route to the existing Herlong Substation in Section 21, two residences in Section 21, the Lassen County borrow pit in Section 22, and another borrow pit to the southeast in Section 27 (see Map 2-1). Photo 3-13 shows the Lassen County borrow pit where equipment, haul vehicles, and dust are periodically apparent. Because the road is primarily used for utilitarian access, and because there are few access points to a low volume of previously developed sites, the Substation/Borrow Pit Access Road was not determined to be a travel route offering a viewshed of primary scenic significance to the state or county.

Photo 3-13 Lassen County Borrow Pit Adjacent to the Proposed Herlong Substation Site

3.19 Land Use

3.19.1 Lassen County, California

The Proposed Action is located in the Lassen Southeast Planning Area, which is designated Extensive Agriculture and represents typical rangeland areas with grazing. Building intensity generally does not exceed 0.025 dwelling units per acre. Population density generally averages 0.067 people per acre.

The Proposed Action ROW crosses a mixture of land uses, encompassing open federal and state lands, livestock grazing leases, state big game management on the Doyle SWA, private residential parcels, and county road ROWs. Commercial and industrial properties adjacent to the ROW are limited to the Herlong Substation area (see Map 2-1).

The ROW intersects with U.S. 395 north of the Herlong Substation site and travels along the paved Garnier Road and county dirt roads including Winters Road, Summers Road, and Fort Sage Road.

In 2009, the BLM added 4,000 acres of BLM-administered land to the 3,500-acre North Fork Grazing Allotment for 10-year permit issuance. A portion of this grazing allotment intersects with the project ROW along the eastern portion of the route (see Map 3-4).

The Lassen County General Plan 1999 addresses land use for ancillary facilities for the production of energy in the following:

> *LU35 POLICY: Subject to case-by-case review (including review for compatibility with surrounding agricultural uses) and in compliance with relevant area plan; zoning, permitting and environmental review requirements and the development and operation of the following land uses would typically be deemed consistent with the Extensive and Intensive Agriculture land use designations and would not require zoning to an "Industrial" zoning district, nor would they be interpreted by the County to constitute an "agricultural conversion" pursuant to this General Plan:*
>
> - *Geothermal and natural gas wells, hydroelectric projects, and ancillary facilities for the production of energy.*

3.19.2 Washoe County, Nevada

The project area is within the Washoe County High Desert Area Plan, but is situated outside of the designated planning area boundaries. The existing Fort Sage Substation is a commercial facility located in the project area.

The following is an excerpt from the Washoe County High Desert Area Plan:

"Generalized Land Use

With the exception of a few mining operations, a geothermal plant, a garlic dehydration plant, and a small general commercial property, land use for the High Desert planning area is concentrated in the towns of Gerlach and Empire. Hence, the remainder of the land use section of this area plan will focus primarily on Gerlach and Empire. As other land uses become identified in the planning area, they should be included in the next revision or amendment of the area plan."

3.19.3 Wilderness Character on BLM Lands

Under Secretarial Order 3310 the BLM is required to consider wilderness characteristics in all land use planning and project level decisions. The BLM has developed three manuals to implement this order: 6301 provides direction on the wilderness characteristics inventory process; 6302 outlines the process for considering lands with wilderness characteristics in the land use planning process; and 6303 outlines the process for considering lands with wilderness characteristics in project level decisions when they have not yet been analyzed in a land use plan.

The Proposed Action is in conformance with the Secretarial Order and associated manuals. All public lands within the Eagle Lake Field Office were inventoried and summarized in the 1979 Wilderness Inventory pursuant to the Federal Land Policy Management Act. The 6303 Manual, Section 6303.11 A states that: "If the project is in conformance with the existing land use plan, the BLM manager shall make an initial determination as to whether or not wilderness characteristics, as defined by BLM Manual 6301, are clearly lacking in the area affected by the project. If wilderness characteristics are clearly lacking and documented as such, the project can be considered without conducting a wilderness inventory. Lands that clearly lack wilderness characteristics are those that do not meet the naturalness criterion set forth in BLM Manual 6301, because they have extensive surface disturbance, and/or do not meet the size criterion of 5,000 acres or any of the size exceptions. Documentation of a clear lack of wilderness characteristics should not be based on the solitude or primitive and unconfirmed recreation criteria."

Wilderness characteristics are clearly lacking in the area affected by the Proposed Action due to the deeply cut roads and extensive yearly mechanical maintenance preformed on the roads and vehicle routes in the area as identified in the proposed action maps. The annual road and vehicle route maintenance is in conformance with the BLM Eagle Lake Field Office RMP. The Proposed Action is not within an area with 5,000 or more roadless acres (see Map 1-1 and Map 2-1). Also, the extensive road and OHV route network results in the project area clearly not meeting naturalness criteria. In summary, wilderness characteristics clearly do not exist on the lands affected by the project, so they will not be further inventoried for or analyzed in this document.

3.20 Socioeconomics

3.20.1 Lassen County, California

According to county data (City-Data.com 2010a), Lassen County comprises 4,557 square miles with eight people per square mile. It is a rural county. According to the 2009 census data estimate, 34,473 people (12,830 households and 6,795 families) reside in Lassen County. This estimate includes 9,343 people in correctional facilities. Minorities comprise 15% of the population. Major employers in Lassen County include the federal, state, and local governments, encompassing the BLM, Sierra Army Depot, and both the Federal Prison and California Correctional facilities. As shown in Table 3-6 in Section 3.3, the median household income is $47,333 (2008 data). There are 511 private, non-farm businesses, mostly in the service industries.

According to county data (City-Data.com 2010a), the construction industry represents 10% of the male workforce in Lassen County. The number of single-family new house construction building permits decreased by 70% in Lassen County between 2007 (59 permits) and 2009 (18 permits). In April 2010, the unemployment rate in Lassen County was 15.4%, compared to 12.2% in California (City-Data.com 2010a).

3.20.2 Washoe County, Nevada

Washoe County comprises 6,342 square miles, with 65 people per square mile. Washoe County includes the cities of Sparks and Reno, which constitute 75% of the county's population. According to the 2010 population projections, the total population in Washoe County is projected to grow from 416,632 in 2009 to 522,460 in 2030 (Nevada Small Business Development Center 2010). This represents an average annual growth rate of 1.19%. Minorities comprise 12% of the population. Major employers in Washoe County include the federal and local governments, and private employers related to the gaming and resort industries. According to the U.S. Census Bureau State & County QuickFacts (U.S. Census Bureau 2009), in 2008, the median income in Washoe County was $57,355. There are 12,594 private, non-farm businesses in Washoe County (U.S. Census Bureau 2007).

In 2008, the construction industry represented 13% of the male workforce in Washoe County (City-Data.com 2010b). The number of single-family new house construction building permits decreased by 75% in Washoe County between 2007 (1,996 permits) and 2009 (492 permits) (City-Data.com 2010b). In April 2010, the unemployment rate in Washoe County was 13.4%, compared to 14.0% in Nevada (City-Data.com 2010b).

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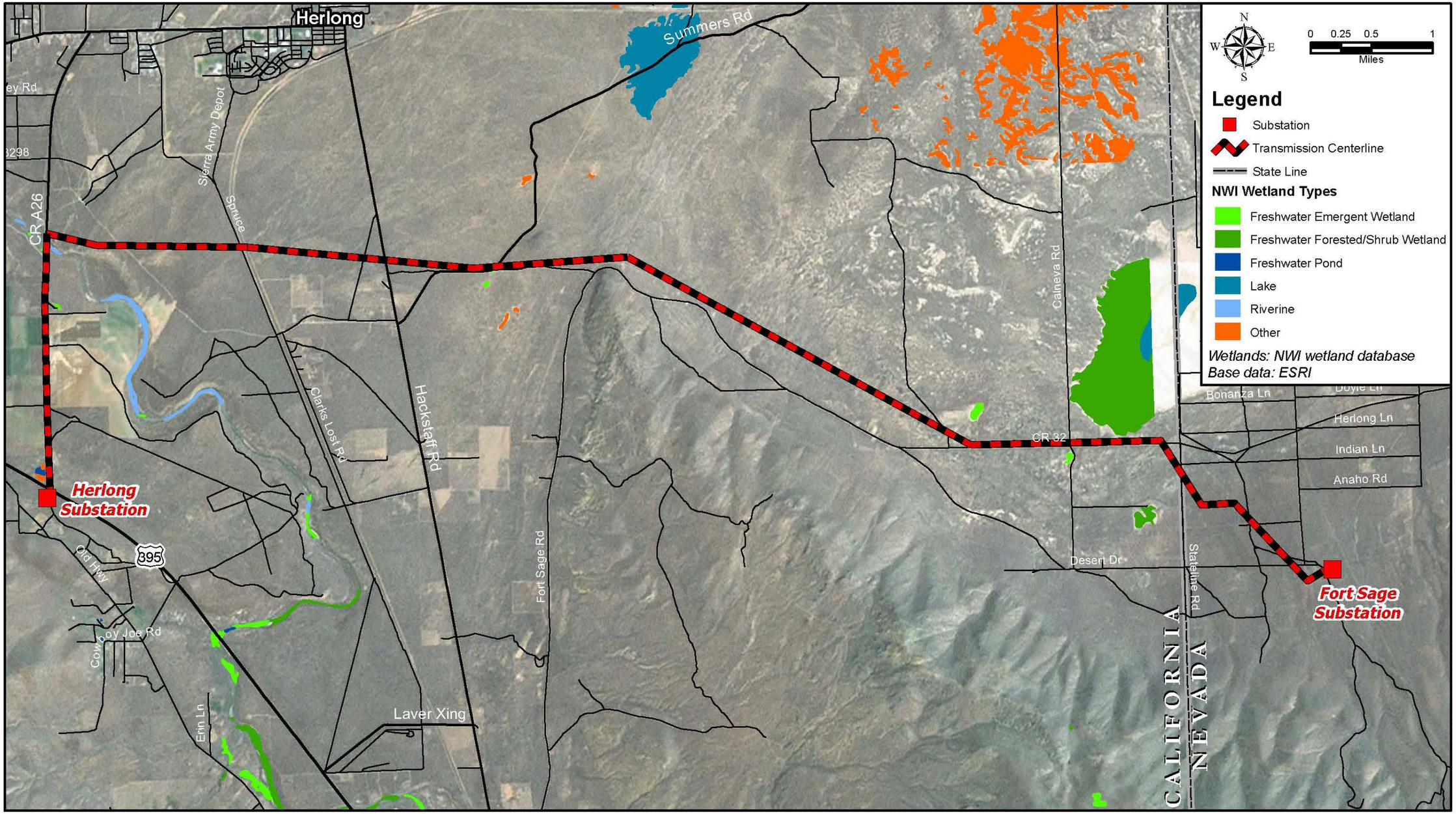

Map 3-2 Wetlands and Waters of the U.S. in the Proposed Project Vicinity

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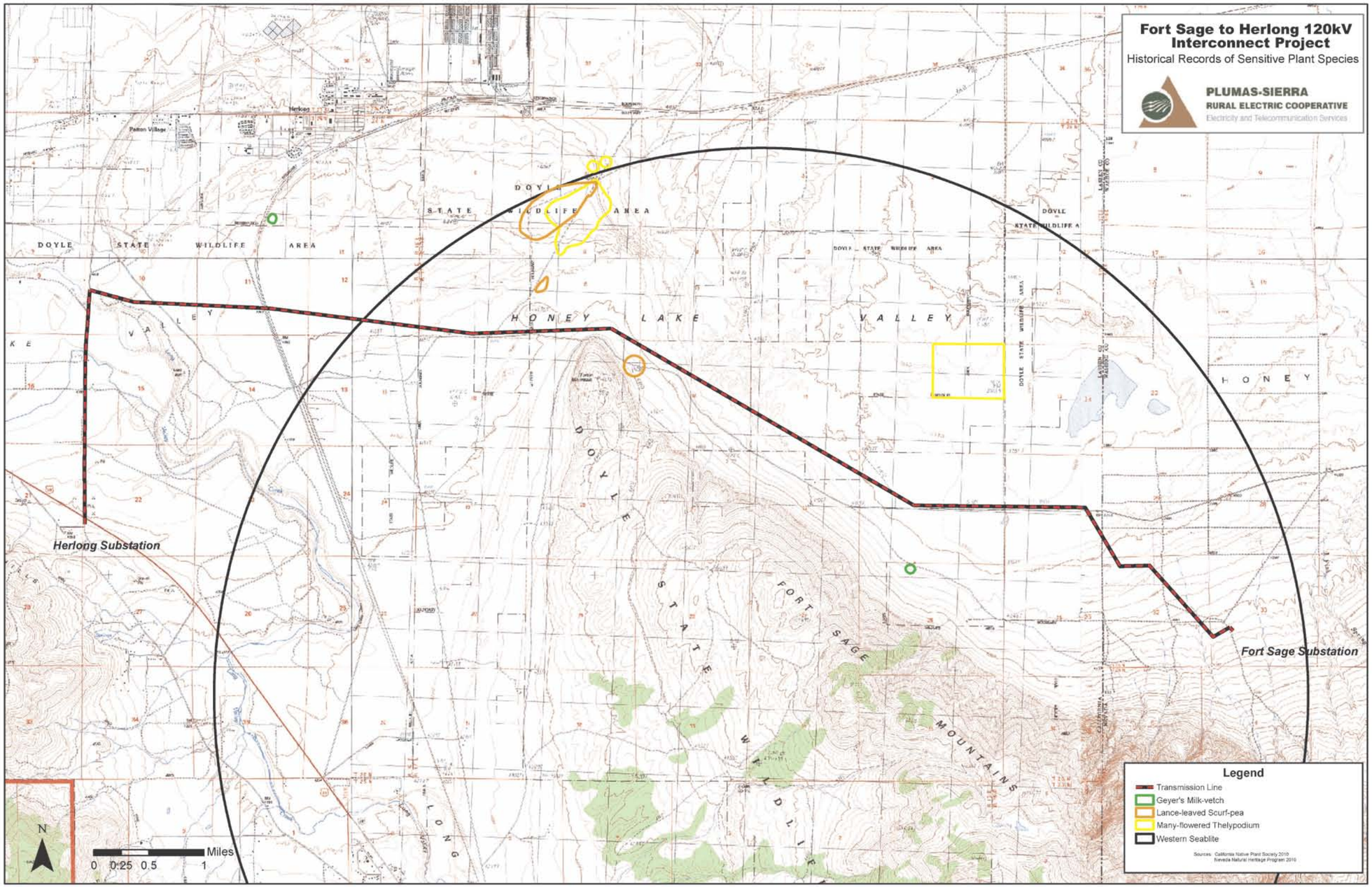

Map 3-3 Historical Records of Special Status Plant Species Located within 1 Mile of ROW

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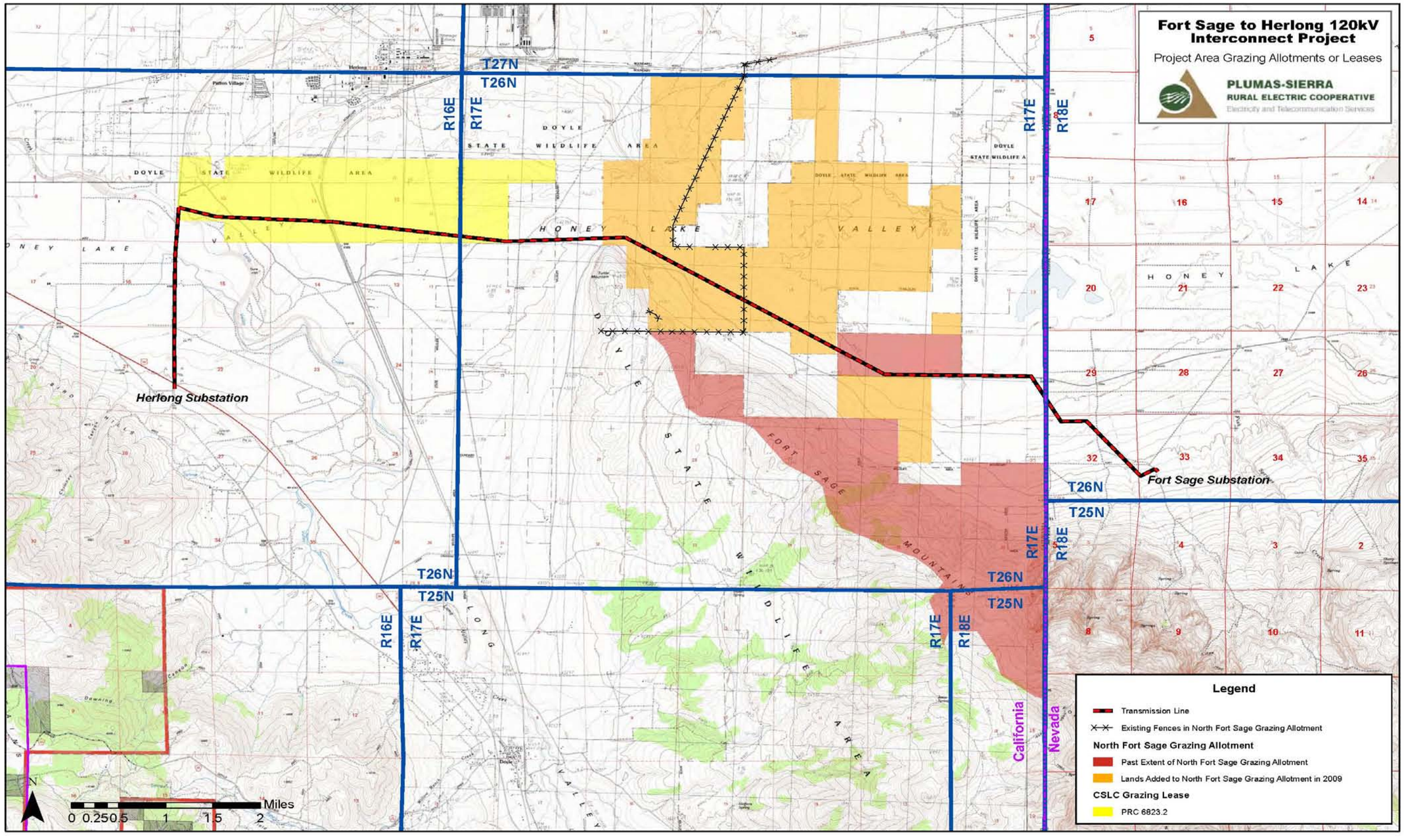

Map 3-4 Project Area Grazing Allotments or Leases

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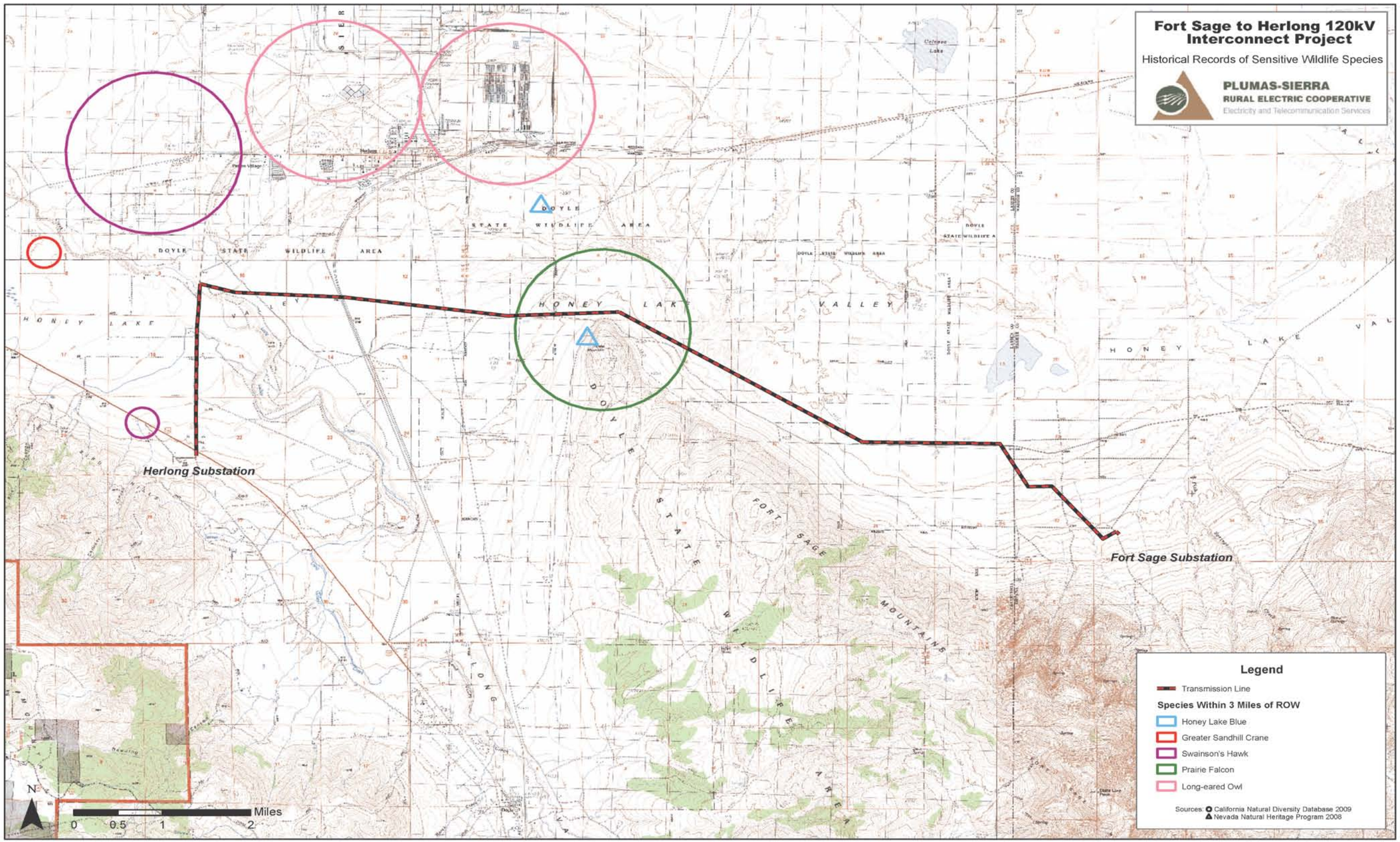

Map 3-5 Historical Records of Special Status Wildlife Species in Project Area

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Chapter 4
Environmental Consequences

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the environmental consequences, or potential effects, on the natural, cultural, and human environment for the Proposed Action and the No Action Alternative considered in this EA. For each topic, the impact analysis follows the same general approach. Impact indicators for intensity of effects were developed based on individual resources. A study area, or area of impact, analysis was specified for each resource and impact duration definitions (i.e., short-term, long-term) were assessed, where applicable. Effects were then identified and assessed based on a review of relevant scientific literature, previously prepared environmental documents, project-specific field studies, information and data supplied by the BLM's Eagle Lake Field Office in Susanville, California, and professional judgment of the respective resource specialists.

The project alternatives were evaluated using the best available information obtained for the project region for each resource in accordance with NEPA and CEQA guidelines. The level of detail presented in this EA is commensurate with the anticipated project effects and in accordance with the applicable regulatory compliance requirements.

Potential effects from implementation of the Proposed Action are qualified as short-term or long-term and may be described as direct or indirect. Direct impacts are caused by an action and occur at the same time and place as the action. Indirect impacts are caused by an action and occur later or farther removed from the area.

As discussed in Section 2.6 for the project's design criteria and PSREC's environmental protection measures, PSREC has committed to implement a number of measures, encompassing the BLM's ROW Grant conditions, PSREC's established BMPs, and additional protection measures developed for the project by resource. Table 2-6 summarizes these committed protection measures, which have been applied to the interdisciplinary impact analyses. Incorporating these measures into the impact analysis better defines and streamlines the discussion of the anticipated impacts to cultural, biological, and human resources from implementation of the Proposed Action.

The federal Council on Environmental Quality (CEQ) regulations for implementing NEPA require assessment of cumulative effects in the decision-making process for federal projects. Cumulative effects are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative effects are considered for each resource and are analyzed in Section 4.16 of this document. The applicable resources potentially affected by the Proposed Action were assessed with other past, present, and reasonably foreseeable future actions identified for the project area and vicinity to summarize anticipated cumulative impacts or incremental contribution the project would have on these resources.

As previously stated in Section 1.7.7, the Proposed Action is subject to the requirements of CEQA, based on the needed approvals by the CSLC on the application to lease State School Lands and by the CDFG to lease a portion of the Doyle SWA. The EA is designed to meet the requirements of CEQA, and public notice of the EA and FONSI will be circulated, as required by State CEQA Guidelines section 15225 (14 CCR 15225). the CSLC intends to use the EA and FONSI as the CEQA-equivalent of a mitigated negative declaration (State CEQA Guidelines section 15221). The use of the term "significant" in the following sections is used as defined under the CEQA regulations (Guidelines 15064(g) and 15382 and not as defined by NEPA regulations, 40 CFR, sec 1508.27.

Past use of the project area has included livestock grazing and recreational activities, including hunting and OHV use at the Fort Sage OHV SRMA. The BLM's Eagle Lake Field Office identified the following other projects for the cumulative effects analysis:

> BLM North Fort Sage Grazing Allotment EA. In 2009, the BLM added 4,000 acres of BLM-administered land to the existing 3,500-acre North Fork Grazing Allotment for 10-year permit issuance. The project is located in T26N, R17E, Sections 3, 4, 8-11, 14-16, 21-23, 25-27, and 35. The grazing allotment permittee is Bench Creek Ranch. See Map 3-4 for project area grazing allotments and leases. The project was approved and FONSI was issued July 6, 2009 (BLM 2009).
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> BLM North Valleys Rights-of-Way Project EIS, Washoe County, Nevada. The Fish Springs Ranch received a ROW Grant from the BLM's Carson City Field Office, to construct, operate, and maintain a water supply system to provide additional water to the North Valleys area of Washoe County. Primary components of the water supply system include groundwater production wells, monitoring wells, water collection pipelines, pump station, water storage tanks, electrical substation (located on private property adjacent to the Fort Sage Substation in T26N, R18E, S33), electrical distribution lines, transmission pipeline, surge suppression facility, terminal storage tank, and telemetry system. This project was approved in 2006.
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> BLM Reno to Alturas 345kV Transmission Line EIS and Fort Sage Substation. Sierra Pacific Power Company (now NV Energy) constructed this project, which connected their electrical system with the Bonneville Power Administration and PacifiCorp power systems in Oregon and Washington. The transmission line is approximately 164 miles long, with 140 miles of the line located in California. The transmission line runs roughly parallel to U.S. 395, detours around the east side (Nevada side) of the Fort Sage Mountains, and then returns to the California side of the border before re-entering Nevada at Border Town. The Fort Sage Substation, which is located on private property, was constructed in 2006-2007. The transmission line was initially constructed in 1998-1999.

Along the proposed transmission line route, other reasonably foreseeable future actions would be limited to general recreation, OHV use, hunting, and grazing. No additional

federal or state foreseeable actions have been identified on the lands administered by the respective agencies.

Lassen County owns a parcel of land that is located adjacent to the proposed Herlong Substation site. Lassen County Public Works Department (B. McGarva, personal comm.) indicates this parcel comprises an approximate 10-acre county-owned gravel pit, which is infrequently used. Because the county use is infrequent and the construction duration of the Proposed Action is short term (4 months), no additional information is available on the gravel pit operations and no additional discussion is provided in this EA.

The environmental consequences of the Proposed Action and alternatives are summarized and compared in Table 4-1. The interdisciplinary resource analyses pertaining to both project alternatives are detailed following this tabular summary.

4.1 Air Quality

This section describes potential air quality impacts that could result from construction and operation of the Proposed Action. Potential air quality impacts would be related to emissions from vehicles, helicopter use, and fugitive dust associated with construction, operation, and maintenance activities. Air quality impacts would be significant if they conflict with the implementation of the applicable air quality plan, violate any air quality standard or contribute substantially to an existing or projected air quality violation, result in a cumulative considerable net increase in a criteria pollutant for which the region is in non-attainment, expose sensitive receptors to substantial pollutant concentrations or create objectionable odors affecting a substantial number of people.

4.1.1 No Action Alternative

Under the No Action Alternative, there would be no new sources of emissions or fugitive dust. Existing recreational use would continue to result in moderate amounts of emissions from the exhaust of and dust created by OHVs. Small amounts of fugitive dust would be generated from cattle trails. Fugitive dust from wind erosion of existing dirt roads would continue to occur. Smoke from possible wildland fires could result in a temporary reduction of air quality standards.

Table 4-1 Summary of Environmental Consequences

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Air Quality	No effect	Temporary and localized increases in criteria pollutant concentrations and greenhouse gas (GHG) emissions would occur during construction. Project construction, including helicopter use for line stringing, would not result in emissions exceeding air quality standards, conflict with the implementation of any air quality management plan, result in any cumulatively considerable net increase in criteria pollutants for which the region is in nonattainment, or contribute significantly to GHG emissions within the Northeast Plateau Air Basin. Impacts to air quality emissions would be minimized by following the Lassen County Air Pollution Control District (LCAPCD) permitting requirements for portable engine equipment and implementation of BMPs and committed environmental protection measures for control of fugitive dust during construction activities. No air district thresholds would be exceeded. Up to 135 metric tons total of CO_2 would be emitted during construction. Using the highest levels of vehicle emissions under construction Option B combined with the highest levels of helicopter emissions under construction Option A, the estimated construction-related air pollution effects would be temporary and localized and the impact to ambient air quality values in the project area would be minor. Comparing the annual GHG emission savings from the new line with those resulting from operation and maintenance of the existing system, shows the Proposed Action would result in an indirect substantial net reduction in annual GHG emissions. Project operation and maintenance would not impact ambient air quality conditions. Less than significant project and cumulative effects, since no net increase in a criteria pollutant for which the region is in non-attainment. Minor, seasonal cumulative effects from livestock grazing during project construction may occur. Applicable Committed Protection Measures: • *Air Quality-1* through *Air Quality-4*

Table 4-1 Summary of Environmental Consequences, continued

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Cultural Resources	No effect	A total of 3.88 acres of permanent ground disturbance would result and 35.48 acres could be temporarily disturbed under Option A and 36.41 acres could be temporarily disturbed under Option B. Eleven sites were found to be eligible for the National Register of Historic Places (NRHP): three on BLM lands, four on CSLC lands, one on CDFG lands, and three on private lands. For sites that are recommended as not eligible to the NRHP or are recommended as eligible but will not be impacted by the proposed project, a finding of "No Historic Properties Affected" is proposed. For eligible sites that would be impacted, a recommendation of "Adverse Effect" is proposed along with the implementation of a suitable plan to mitigate the effects. Mitigation would include avoidance, and for sites that cannot be avoided, treatment and/or data recovery, which may include subsurface excavation, artifact collection and analysis, photo documentation, or historical research, as outlined in PSREC's committed environmental protection measures. Potential impacts to resources that may be discovered during construction would be minimized by applying committed protection measures. Less than significant project and cumulative effects since a Memorandum of Agreement (MOA) is developed that will establish protocol for inadvertent discoveries. Positive cumulative effects with tribal communications from two ROW projects in region. During construction, three archaeological monitors would be on site: one monitor would represent the Native American tribes, one monitor would be a qualified independent archaeologist, and one monitor would represent PSREC. Applicable Committed Protection Measures: • *Cultural-1* through *Cultural-5*
Environmental Justice	No effect	No project or cumulative effects because no adverse impacts to minority or low-income populations are anticipated.
Prime Farmland	No effect	No project or cumulative effects because there is no Prime, Unique, Farmland of Local Importance, or Farmland of Statewide Importance in the project area.
Flood Hazards	No effect	No project or cumulative effects because structures would span Long Valley Creek and the associated 100-year floodplain. No adverse impacts from construction, operation, or maintenance of the Proposed Action would be anticipated. Additionally, no increase in the potential for area flooding or increase flood hazard structures, which could impede or redirect flood flows, would occur in the event of a 100-year storm event. Applicable Committed Protection Measures: • *ROW-11*
Wetlands	No effect	Direct effects to wetlands to be avoided by spanning and indirect effects minimized to less than significant with mitigation measures. Less than significant project and cumulative effects because structures would span all ephemeral areas. Applicable Committed Protection Measures: • *ROW-11*

Table 4-1 Summary of Environmental Consequences, continued

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Geology and Seismicity	No effect	The Proposed Action would result in the permanent disturbance of approximately 3.88 acres from structure placement and substation construction. Potential effects to topography would be minor and limited to structure placement. All spoils would be used on site. The potential for movement along faults and new landslides in the project area would be low to moderate. The potential for landslides would be low. Committed protection measures would minimize impacts from erosion. Less than significant project and cumulative effects due to area geology, committed BMPs, and environmental protection measures.
Soils	No effect	During construction, soils would be disturbed, mixed structurally, compacted, and exposed to wind or precipitation events, resulting in a temporary increase in potential soil erosion. These short-term impacts would be minimized by applying committed protection measures. Construction would temporarily disturb approximately 35.48 acres under Option A and 36.41 acres under Option B. Long-term impacts would affect 3.88 acres of soils (0.13 acre for pole placement and 3.75 acres for the Herlong Substation). PSREC would develop and comply with applicable National Pollutant Discharge Elimination System (NPDES) requirements, including a Stormwater Pollution Prevention Plant (SWPPP), required and filed with the Lahontan Regional Water Quality Control Board. Less than significant project and cumulative effects due to reclamation efforts and BMPs implemented. Cumulative effects to regional soils would be incremental from livestock grazing and changes to area infrastructure from construction of two ROW projects. Applicable Committed Protection Measures: • *Soils-1* through *Soils-5* • *Reclamation-1* through *Reclamation-8*
Water Resources	No effect	Project would span Long Valley Creek and no impacts to the stream bed, bank, or riparian vegetation would occur. Potential impacts from off-site erosion or water quality contamination would be minimized by applying committed protection measures. Less than significant project and cumulative effects due to implementation of BMPs and SWPPP. Applicable Committed Protection Measures: • *Water-1* through *Water-4* • *ROW Grant-44* • *ROW-11*

Table 4-1 Summary of Environmental Consequences, continued

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Noise	No effect	Construction would create both intermittent and continuous noise; overall noise levels would be low to moderate. Committed protection measures would limit noise to daylight hours. Potential noise impacts to the sensitive noise receptors (12 single-family residences) would be short term during construction. Anticipated noise levels would range from 68 dBA (Aweighted measurement of decibel) up to infrequent peaks of 85 dBA at 50 feet. Noise levels would not exceed the Lassen County or Washoe County noise requirements. Noise levels from helicopter use for line pulling and personnel transport would be high, but sporadic, at any one location, reducing construction time from 10-15 days down to approximately 10-15 hours over a 3-day period. Impacts to recreational users at the Doyle SWA would be minimized by the short duration of construction (which would be discontinued during the M3 Doyle Muzzleloader Rifle Buck Hunt). Noise during project operation would be limited to low-level corona noise, low audible noise (AN) at substation sites, and occasional maintenance activities. Noise levels would be low. Less than significant project and cumulative effects because of committed protection measures, construction duration is short term (4 months) and sporadic and noise receptor locations would minimize potential short- and long-term effects. Applicable Committed Protection Measures: • *Noise-1* through *Noise-4* • *Doyle SWA-5*
Hazardous Materials	No effect	Potential effects from hazardous materials would be minimized by applying committed protection measures during project construction. Less than significant project and cumulative effects because existing illegal dump sites would be spanned by structures, an Spill Prevention, Control and Countermeasure Plan (SPCC) would be implemented, and no new access roads would be constructed. Applicable Committed Protection Measures: • *Hazardous Materials-1* through *Hazardous Materials-4* • *ROW Grant-44*
Fire Management	No effect	Committed protection measures would be implemented to minimize potential effects. Less than significant project and cumulative effects since a Construction Fire Plan will be developed prior to project initiation. Applicable Committed Protection Measures: • *ROW Grant 30* through *ROW Grant 32* • *Reclamation-1* through *Reclamation-8* • *Vegetation-3* and *Vegetation-5*

Table 4-1 Summary of Environmental Consequences, continued

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Vegetation and Special Status Plant Species	No effect	Vegetation Resources: Under Construction Option A, an estimated 35.48 acres of surface disturbance would occur in the short term. A total of 31.60 acres would be reclaimed and 3.88 acres of vegetation would be lost in the long term. Under Construction Option B, an additional 0.93 acre of vegetation would be affected in the short term until vegetation was re-established. An estimated 2.39 acres of previously disturbed ground (e.g., industrial, disturbed) would be reclaimed following project construction, resulting in a beneficial impact to native vegetation. Committed protection measures would be implemented to minimize potential impacts to vegetation and to minimize noxious weed expansion. Less than significant project and cumulative effects would be anticipated, based on the small project size and implementation of committed protection measures to ensure reclamation success, protect native vegetation, and minimize noxious weeds. Cumulative effects from other regional projects, including the two linear ROWs and livestock grazing, would be incremental and low, based on reclamation success to date. Applicable Committed Protection Measures: • *Reclamation-1* through *Reclamation-9* • *Vegetation-1* through *Vegetation-6* • *Soils-1* through *Soils-5* • *ROW Grant-22* Special Status Plant Species: No effect on federally or state-listed plant species. Four California sensitive plant species were located in the project area. Calculations of suitable species' habitats affected in the short term (i.e., construction) and long term (i.e., operation), respectively, included: 1.84 acres and 323 square feet for the MacDougal's lomatium; 2.34 acres under Option A, 2.48 acres under Option B, and 423 square feet for the lance-leaved scurf-pea; 6.12 acres and 600 square feet for the winged dock; and 2.83 acres and 300 square feet for the many-flowered thelypodium Due to the larger population extent of these four species recorded in and near the project area and the committed environmental measures to minimize impacts to vegetation, short- and long-term effects would be low and incremental, and no population-level effects would be anticipated for any of the four species. Surveys conducted in 2007, 2008, and 2010 for the Geyer's milkvetch did not record this species. Less than significant project and cumulative effects would be anticipated. Cumulative effects from other regional projects, including the two linear ROWs and livestock grazing, would incremental and low, based on reclamation success to date. Applicable Committed Protection Measures: • *Reclamation-1* through *Reclamation-9* • *Vegetation-1* through *Vegetation-6* • *Soils-1* through *Soils-5* • *ROW Grant-22*

Table 4-1 Summary of Environmental Consequences, continued

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Livestock Grazing	No effect	Under Construction Option A, the Proposed Action would affect an estimated 35.48 acres in the short term. Following reclamation, 3.88 acres of vegetation would be lost in the long term; however, of those 3.88 acres, 3.75 acres are already disturbed associated with the proposed Herlong Substation site. Under Construction Option B, an additional 0.93 acre of vegetation would be affected in the short term. An estimated 2.39 acres of previously disturbed ground (e.g., industrial, disturbed) would be reclaimed following project construction. Loss of potential forage availability for one growing season would be small and incremental. Some grazing animals may be displaced during construction; these impacts would be minor and short term. Committed protection measures would prevent injury to livestock. Potential impacts to range animals by vehicle collision would be low and short term, based on committed protection measures. Reclamation measures would enhance revegetation, minimize weeds, and minimize impacts to forage. No long-term effects would occur to livestock forage availability. Less than significant project and cumulative effects because construction duration would be short-term with minor incremental surface disturbance limited to only one growing season. Applicable Committed Protection Measures: • *Livestock-1* • *ROW Grant-35* • *Reclamation-1* through *Reclamation-8* • *Air Quality-3*
Recreation	No effect	Construction could result in a temporary and minor increase in traffic, human presence, and noise. These impacts to recreational users would be low and short term. Impacts to recreational users at the Doyle SWA would be minimized by the short duration of construction. Construction would be discontinued during the M3 Doyle Muzzleloader Rifle Buck Hunt; therefore, impacts to hunters participating in that event would be avoided. Construction activities would be restricted in the Fort Sage off-highway vehicle (OHV) Special Recreation Management Area (SRMA) during the traditionally-scheduled biannual, spring motorcycle races to prevent impacts to race participants. PSREC also has committed to careful placement of structure guy wires to reduce potential hazards to OHV users; coordinating with the BLM on structure placement relative to OHV trails. Less than significant project and cumulative effects since construction duration would be short term. Applicable Committed Protection Measures: • *Recreation-1* through *Recreation-2* • *Doyle SWA-5*

Table 4-1 Summary of Environmental Consequences, continued

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Wildlife and Fisheries	No effect	Habitat Effects: No direct or indirect impacts to aquatic resources or the bed, bank, or channel of Long Valley Creek would occur from construction or operation. Construction would temporarily disturb approximately 35.48 acres under Option A, and 36.41 acres under Option B. Long-term impacts would affect 3.88 acres (0.13 acre would be lost within native plant communities). Environmental committed protection measures would aid in minimizing impacts to native habitats from construction, minimize noxious weed infestations, and support final site reclamation for regional wildlife species. Animal Effects: During construction, increased human-related activities would temporarily displace terrestrial animals in and adjacent to the project ROW. Construction would result in some direct loss of burrowing small mammals and reptiles; however, no population level effects would be anticipated. If construction were to occur during the breeding season, potential impacts to nesting raptors would be avoided or minimized by PSREC's commitment to survey for and protect active raptor nests in proximity to the project. Applicable Committed Protection Measures: • *Wildlife-1* • *Wildlife-3* through *Wildlife-8* Doyle SWA and Big Game: Under construction Option A, no impacts to bitterbrush or other native shrubs on Doyle SWA would occur. Some general displacement of individual deer from the ROW during construction may occur; however, implementation of committed environmental protection measures would minimize the potential effects. Long-term impacts would be limited to 150 square feet from the three structure locations sited to avoid direct impacts to bitterbrush vegetation; therefore, no long-term loss of bitterbrush vegetation would occur on Doyle SWA from operation under construction Option A. Under construction Option B, an additional 0.69 acre of the desert peach/sagebrush/bitterbrush community would be impacted in the short term from the work areas surrounding the three structures (i.e., 0.23 acre/structure). Three temporary access routes would disturb 0.24 acre of native habitats in the short term, totaling 0.93 acre on Doyle SWA. Operational effects would be the same as those discussed for construction Option A. If construction Option B were implemented, PSREC and the CDFG have mutually agreed on a habitat enhancement program to mitigate the transmission line crossing 0.5 mile of the Doyle SWA in Section 8 (see Appendix B of the EA). Applicable Committed Protection Measures: • *Doyle SWA-1* through *Doyle SWA-7*

Table 4-1 Summary of Environmental Consequences, continued

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Wildlife and Fisheries, continued	No effect	Wild Horses and Burros: No direct impacts to wild horses or burros within the Fort Sage Wild Horse and Burro Herd Management Area (HMA) from construction or operation would be anticipated. Potential effects to this herd unit would be limited to a small and incremental loss of vegetation in the short term. A total of 35.48 acres of short-term surface disturbance is estimated for Construction Option A. Of these 35.48 acres, only a calculated 9.66 acres would be affected within the perennial grasslands and an additional 24.07 acres would be affected in other native shrub communities that would have some forage value with dispersed understory grasses for grazers. Under Construction Option B, an additional 0.93 acre of the native desert peach/sagebrush/bitterbrush community would be affected. Long-term habitat lost would be 3.88 acres, but only 0.13 acre would be located within native plant communities. PSREC has committed to covering construction holes left open overnight to prevent impacts to livestock or wildlife. Applicable Committed Protection Measures: • *Wildlife-3* Noise Effects to Wildlife: Effects to wildlife from increased noise levels would vary based on location, topography, type of noise source, levels and duration, and species' sensitivity. Use of helicopters for line construction would reduce the duration and extent of standard construction activities but would increase noise levels in the short term along portions of the ROW and the 0.5 mile segment of Doyle SWA. Potential impacts to wildlife resources in the project area would be short term, reducing the overall construction period by nine to 13 days. Protection measures for specific resources, such as nesting birds, would prevent or minimize disturbance during the breeding period. Applicable Committed Protection Measures: • *Widlife-5* • *Doyle SWA-5* Avian Electrocution and Collision Risk: Due to design of the transmission line and structures, there would be no electrocution risk to birds. The potential for bird collisions with the proposed transmission line would be low. Applicable Committed Protection Measures: • *Wildlife-2*

Table 4-1 Summary of Environmental Consequences, continued

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Wildlife and Fisheries, continued	No effect	Cumulative Effects: Cumulative effects to terrestrial wildlife would be the ongoing incremental habitat fragmentation and loss from human uses in the region, including incremental habitat effects from the two linear ROWs projects, ranging from low to moderate. Federal and state habitat management programs by the BLM and CDFG would aid in minimizing these habitat effects, in addition to PSREC's committed environmental protection measures. Cumulative activities in conjunction with the Proposed Project would not be expected to significantly modify habitat, interfere substantially with the movement of native resident or migratory wildlife species, or result in the significant loss of key wildlife species. Summary: Less than significant project and cumulative effects to wildlife would be anticipated, based on the short time frame for this project, the limited habitat effects, and implementation of applicable committed protection measures developed for terrestrial wildlife resources and specifically for Doyle SWA lands under both construction Option A and Option B.
Special Status Wildlife Species	No effect	Of the 26 special status wildlife species assessed for the Proposed Action, no impacts would occur to the greater sandhill crane, bald eagle, American peregrine falcon, short-eared owl, greater sage-grouse, mountain plover, willow flycatcher, bank swallow, yellow warbler, yellow-breasted chat, yellow-headed blackbird, pygmy rabbit, western white-tailed jackrabbit, northern leopard frog, and Carson wandering skipper. Potential effects to sensitive species, including the golden eagle, Swainson's hawk, prairie falcon, northern harrier, burrowing owl, long-eared owl, loggerhead shrike, and American badger would either be avoided or minimized based on committed protection measures. Potential impacts to other species, such as the long-billed curlew and Honey Lake blue would be minimized by project protection measures. Potential impacts to the northern sagebrush lizard could occur during project construction, but effects would be minor and short term. Cumulative effects to special status wildlife species would parallel those discussed for general wildlife resources. Effects would be based on ongoing incremental habitat fragmentation and human uses, ranging from low to moderate, but short term. No "take" of any federally or state-listed species. Federal and state programs and project protection measures would minimize potential effects. In summary, less than significant project and cumulative effects. Applicable Committed Protection Measures: • *Wildlife-1* through *Wildlife-8*

Table 4-1 Summary of Environmental Consequences, continued

Resource Issue	Alternatives	
	No Action	**Proposed Action**
Visual Resources	No effect	Construction would result in low to moderate short-term visual effects. Operation would not result in disruption of scenic vistas or degrade the overall character or quality of the area. Cumulative effects from three linear regional projects would be low. Less than significant project and cumulative effects due to clustering infrastructure improvements and BMPs. Applicable Committed Protection Measures: • *Visual-1*
Land Use	No effect	The construction and operation of the Proposed Action would not conflict with existing land use plans. 3.88 acres of land would be removed in the long term, but this loss would be minor, particularly along existing road and power line ROWs that are designated use corridors. Land between the structures could continue to be used as rangeland, pasture, farmland, or any other use that does not threaten the safe and reliable operation of the proposed transmission line. Reclamation measures have been developed to enhance revegetation and minimize weeds along the project ROW. These measures would aid in re-establishing post-construction land uses along the ROW. No established communities would be divided by the Proposed Action. Less than significant project and cumulative effects due to no inducement of growth or conversion of agricultural land to urban development. Applicable Committed Protection Measures: • *Reclamation-1* through *Reclamation-8*
Socioeconomics	No effect	Positive and beneficial effects would result from the temporary increase in jobs, income, and spending during the 4-month construction period. Operation would increase the tax revenues received by Lassen County, California and Washoe County, Nevada, the Washoe County School District, and the Fort Sage Unified School District. Increase in population would be temporary during week days; socioeconomic impacts from construction would be low and short term. The increase in demand for services would be small and temporary; no businesses or residences would be displaced by construction of the Proposed Action. Communities and businesses would retain their physical arrangement and function. Less than significant project and cumulative effects because construction duration is short term and activities are not occurring in an area widely used or accessed by tourists.

4.1.2 Proposed Action

4.1.2.1 Construction

Construction activities would occur over approximately four months. Three models were used to estimate the potential effects from project construction and operation. The Sacramento Metropolitan Air Quality Management District (AQMD) Road Construction Emissions Model (Version 6.3.2) was used for project construction along the linear ROW and access routes, calculating potential maximum grading, earthmoving, and construction emissions for the Proposed Action (Table 4-2). The Federal Aviation Administration's Emissions and Dispersion Modeling System, Version 5.1.2, was used to estimate helicopter emissions during project construction (Table 4-3). Detailed helicopter operations are discussed in Section 2.5.2.4. The EPA's MOBILE vehicle emission factor model (2002 updated 2006) was used to estimate the carbon dioxide emissions from annual operation and maintenance traffic (Table 4-4).

Table 4-2 Potential Maximum Construction Emissions Output Generated Utilizing the Sacramento Metropolitan Road Construction Emissions Model, Version 6.3.2

	ROG[1]	**NO_x**[2]	**PM_{10}**[3] ***Mitigated***	**$PM_{2.5}$**[4] ***Mitigated***	**CO**[5]	**CO_2**[6]
Potential Emissions (pounds per day)	5.9	55.5	18.6	5.8	21.6	5,134.0
Lassen County Air Pollution Control District (LCAPCD) Thresholds	NA[7]	NA	NA	NA	NA	NA

[1]Reactive Organic Gas
[2]Nitrogen oxides
[3]Particulate matter less than 10 micrometers in diameter
[4]Particulate matter less than 2.5 micrometers in diameter
[5]Carbon monoxide
[6]Carbon dioxide
[7]Not available or not applicable since LCAPCD does not have thresholds of significance for criteria pollutants. In addition, the LCAPCD has not established GHG guidelines or thresholds of significance for GHG emissions.

Table 4-3 Helicopter Emissions Summary Output Generated Utilizing the Federal Aviation Administration Emissions and Dispersion Modeling System, Version 5.1.2

	ROG	**NOx**	**CO**	**CO_2**	**PM_{10} and $PM_{2.5}$**
Potential Emissions (pounds per day)	2.22	1.45	12.02	1,025.45	NA*
LCAPCD Thresholds	NA	NA	NA	NA	NA

* Per the EDMS model, emissions for PM are unavailable since the engine is not certified by the International Civil Aviation Organization (ICAO).

Table 4-4 Carbon Dioxide Emissions Calculations from Annual Operation/Maintenance Traffic Using the EPA's MOBILE Vehicle Emission Factor Model (2002 updated 2006)

Truck Type	Fuel Efficiency (miles per gallon)	Miles Driven	Gallons of Fuel	Annual CO_2 Emissions (metric tons)
Pickup Truck	8	56	7	0.07

Potential maximum construction emissions (pounds per day) were calculated using the default settings in the Road Construction Emissions Model program, which include emissions from off-road and on-road diesel equipment, construction worker trips, and stationary equipment. Construction Option B was used for the vehicle calculations, given the highest use of construction equipment would occur under this option. Proposed construction equipment is presented in Table 2-5. The Road Construction Emissions Model output is included in Appendix F.

As discussed for the Proposed Action, construction activities also would include use of a helicopter for line pulling (i.e., sockline), ferrying personnel, and pole placement on the Doyle SWA area during construction. During line pulling activities, worker crews would be air lifted to the pulling sites; therefore, worker vehicles would be eliminated during this phase of work and emissions would be reduced from both off-road and on-road diesel equipment, construction worker trips, and PM_{10} emissions from vehicles operating on exposed soils. Under construction Option A (using a helicopter to install poles on the Doyle SWA), temporary construction access routes would not be needed. Structures would be assembled off site, air lifted by helicopter, and aerially installed, reducing overall air emissions. The work would be completed in 10 to 15 hours (over three days) as opposed to 10 to 15 days for conventional construction methods.

Helicopter emissions were estimated utilizing the Federal Aviation Administration Emissions and Dispersion Modeling System (EDMS). Because the primary source of emissions for the use of helicopters would be from internal combustion, CO_2 would be the primary GHG (Table 4-3). Construction Option A was used for the helicopter calculations, given the highest use of helicopters would occur under this option. The EDMS output is included in this analysis as Appendix F.

Temporary and localized increases in criteria pollutant concentrations would occur during construction. Expected emissions would consist of tailpipe emissions from the exhaust of construction equipment, helicopter use, fugitive dust emissions from vehicular traffic, and fugitive dust emissions from soil disturbances. Despite using the highest levels of vehicle emissions under construction Option B combined with the highest levels of helicopter emissions under construction Option A, construction-related air pollution effects would be temporary and localized and the impact to ambient air quality values in the project area would be minor.

The LCAPCD does not have thresholds of significance for criteria pollutants. In addition, the LCAPCD has not established GHG guidelines or thresholds of significance for GHG emissions. Additionally, the construction emissions are temporary in nature. For construction, LCAPCD BMPs (as outlined in Rule 4:18, Fugitive Dust Emissions) are

identified for the construction activities to help ensure less-than-significant impacts from fugitive dust air quality emissions (LCAPCD 2009). These BMPs would be included in the LCAPCD required Fugitive Dust Plan Application, and were included, where possible, in the Road Construction Emissions Model. Appendix F lists the LCAPCD-recommended BMPs.

The project construction activities, including helicopter operations, would not result in emissions exceeding air quality standards, conflict with the implementation of any air quality management plan, result in any cumulatively considerable net increase in criteria pollutants for which the region is in nonattainment, or contribute significantly to GHG emissions within the Northeast Plateau Air Basin (as discussed below). As referenced in Table 2-6 Measures *Air Quality-1* through *Air Quality-4,* PSREC impacts to air quality emissions would be minimized by following the LCAPCD permitting requirements for portable engine equipment and implementation of BMPs for control of fugitive dust during construction activities.

4.1.2.2 Operation and Maintenance

During operation of the proposed substation facility, transformer maintenance may require changing of oil, cooling fluids, and grease, all of which could release minor amounts of volatile organic compounds (VOCs). These activities would be of limited duration and VOCs would be expected to dissipate quickly with no local or regional effects. Therefore, operation and maintenance of the Proposed Action would not impact ambient air quality conditions.

4.1.2.3 Greenhouse Gas Emissions

As shown in Table 4-2 and Table 4-3, up to 6,159.45 pounds per day of CO_2 (5,134 pounds of CO_2 + 1,025.45 pounds CO_2) (up to 135 metric tons of CO_2) would be emitted during construction, including helicopter use. Additional minor GHG emissions would be generated during operation and maintenance activities from vehicle use per Table 4-4. However, as described below, efficiency improvements in the transmission system power flows would result in an indirect reduction in GHG emissions over the life of the project.

The new line would more efficiently transmit electricity due to reduced distance and higher voltage transmission relative to the existing system. This increased efficiency would reduce transmission line power losses, thereby requiring less total electricity to be generated and transmitted over the new line. Power flow estimates by PSREC's transmission engineers (VIASYN 2008.) indicate that more than 1 MW of energy would be saved by transmitting electricity over the new line compared to the existing transmission system. Based on U.S. Environmental Protection Agency's (EPA's) GHG emissions estimates for electricity (EPA 2009), and assuming an average 1 MW in savings is realized on an annual basis, the new line would reduce GHG emissions by a total of 6,300 metric tons per year (or 252,288 total metric tons over the 40-year project life), which is calculated as follows:

$$\frac{0.72\ MT}{1{,}000\ kW\text{-}h} \times \frac{8{,}760\ hours}{1\ year} \times \frac{1{,}000\ kW}{1\ MW} = 6{,}307\ metric\ tons\ of\ GHGs\ per\ year$$

GHG emissions from operation and maintenance of the line can be estimated using EPA's MOBILE vehicle emission factor model that predicts emissions per mile for hydrocarbons, CO, NO_x, CO_2, PM, and air toxics. The incremental vehicle miles for this project and other assumptions for estimating GHG emissions from operations and maintenance traffic (using the MOBILE model) are shown in Table 4-4.

As a member of the Golden State Power Cooperative, PSREC is exempt from the GHG emissions reporting portion of the Global Warming Solutions Act of 2006 (AB 32), as documented in a letter dated March 3, 2008 from the Climate Change Reporting section of the CARB. Currently, the reporting regulation does not apply to electricity cooperatives.

Comparing the annual GHG emission savings from the new line with those resulting from operation and maintenance of the existing system, shows the Proposed Action would result in an indirect substantial net reduction in annual GHG emissions. This reduction would result primarily from the increased efficiency of the proposed higher voltage, shorter transmission line, compared to transmitting the same amount of power over the existing longer transmission path. The GHG emissions generated from the project operation and maintenance activities would be negligible relative to the substantial reduction in GHG that would result from improved electrical transmission efficiencies. Therefore, the project would substantially reduce GHG emissions and have no adverse effect from GHG emissions.

Review of SB 97 and the associated Office of Planning and Research-proposed CEQA guideline amendments for GHG emissions, indicates this document meets the analysis requirements for potential impacts to GHG emissions.

4.2 Cultural Resources

This section describes potential cultural resources impacts that could result from construction and operation of the Proposed Action. Under the NHPA, if the Proposed Action has the potential to adversely impact a cultural resource eligible for the National Register of Historic Places (NHRP), then it will pursue a Memorandum of Agreement (MOA) with the State Historic Preservation Office (SHPO). Under CEQA, a project may have a significant effect on archaeological resources by causing a substantial adverse change to any historical, archeological or paleontological resource or disturb any human remains.

4.2.1 No Action Alternative

Under the No Action Alternative no direct effects would occur to cultural resources.

4.2.2 Proposed Action

Under the Proposed Action, a total of 3.88 acres of permanent ground disturbance would result and 35.48 acres could be temporarily disturbed under Option A and 36.41 acres could be temporarily disturbed under Option B. The cultural resource surveys evaluated all the potential resources and determined whether they were eligible for the NRHP (and the California Register of Historic Resources). For sites that are recommended as not eligible to the NRHP or are recommended as eligible but will not be impacted by the proposed project, a finding of "No Historic Properties Affected" is proposed. For eligible sites that would be impacted, a recommendation of "Adverse Effect" is proposed along with the implementation of a suitable plan to mitigate the effects.

Section 0 summarizes the cultural resource sites identified for the Proposed Action. Both federal and state eligibility criteria are presented for the sites documented during the 2007, 2008, and 2010 surveys.

From the 2007-2008 studies, 11 sites were found to be eligible for the NRHP, three on BLM lands, four on CSLC lands, one on CDFG lands, and three on private lands. In the 2010 surveys, previously recorded sites documented by Western Cultural Resources Management, Inc. (WCRM) in 2007 and 2008 include PH041, PH049, PH051, and PH052. PH041 and PH052 are lithic scatters and were expanded in 2010 to encompass sparse lithic scatters beyond the original boundaries. PH049 consists of segments of a railroad grade with an associated distribution or communication line and roads, and PH051 is a second transmission line and its associated roads. New segments of these two sites were recorded in 2010 where they extended into the 100-foot radius or arc of ground surrounding an angle pole or new access routes on BLM-administered lands. In addition to the eligible sites noted above, two of the CLSC sites were expanded and one additional site was identified as eligible, and two additional sites on private lands were found and determined to be eligible.

Eleven cultural sites are located on lands administered by the CSLC. As discussed above, four of these sites have been determined eligible to the NRHP and also are eligible for listing on the California Register of Historical Resources. The other seven sites located on lands administered by CSLC have been determined not eligible to the NRHP and are all recommended as not eligible for inclusion in the California Register of Historical Resources. Of the seven sites, six are sparse prehistoric lithic scatters containing as few as two flakes. The seventh site is several segments of a 1950s utility line with associated road segments and refuse. Per the significance criteria delineated in 36 CFR 60.4 (National Park Service, 1991), none of these seven sites are 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 nation. They are not associated with the lives of persons important to local, California or national history. They do not embody the distinctive characteristics of a type, period, region, or method of construction, do not represent the work of a master, and do not possess high artistic values. The sites do not have the potential to yield information important to the

prehistory of history of the local area, California, or the nation. They are not unique archaeological resources as defined by Pub. Res. Code Section 21083.2.

Potential direct effects to cultural resources may include alterations to the physical integrity of the resource. If a cultural resource is important for other than its scientific information, direct effects may include introduction of audible or visual elements that are out of character for the cultural site. The Native American tribes associated with the project area have expressed concern with the visual effects; however, the nearby Reno-Alturas 345kV transmission project has already altered the existing physical environment. A potential indirect effect would be the increase in human activity or access to this area during construction. No additional permanent access is part of the Proposed Action; therefore, no increased indirect effects to cultural resources during project operation would be anticipated.

For the sites recommended as eligible to the NRHP, avoidance is recommended. For sites that cannot be avoided and would be impacted, a finding of "Adverse Effect" is recommended, with treatment and/or data recovery proposed to mitigate any adverse effects. Treatment and/or data recovery might include subsurface excavation, artifact collection and analysis, photo documentation, or historical research, as outlined in PSREC's committed environmental protection measures in Table 2-6. These committed mitigation measures will help to ensure there are no permanent effects. For the sites not eligible to the NRHP, a recommendation of "No Effect/No Further Work" is proposed.

All eligible sites are proposed to be avoided. However, due to the aeolian nature of the soils, there is a slight possibility that additional excavations and inadvertent discoveries of cultural/historic resources could be encountered during construction. To ensure no effects would occur to inadvertent discoveries, a Memorandum of Agreement (MOA) that establishes protocol and treatment measures should a resource be unearthed is proposed. The RUS, BLM, California SHPO, and Nevada SHPO are signatories to this MOA, which is presented in Appendix B.The Washoe Tribes of Nevada and California, Susanville Indian Rancheria, Greenville Indian Rancheria, Reno-Sparks Indian Colony, and Pyramid Lake Paiute Tribe are all concurring parties to this MOA. PSREC is an invited signatory.

Additionally, PSREC has committed to five protection measures specific to cultural resources. *Measures Cultural-1* through *Cultural-5* in Table 2-6 and Appendix B delineate the protection measures applicable to the Proposed Action that apply to the MOA, protecting known resources, and reporting inadvertent discoveries if found during construction.

During construction, three archaeological monitors would be on site. One monitor would represent the Native American tribes, one monitor would be a qualified independent archaeologist, and one monitor would represent the Proposed Action applicant. In the event cultural materials (i.e., prehistoric or historic) were unearthed during construction, an MOA is in place to protect such materials by determining protocol and treatment of these materials, as outlined in Table 2-6 in Chapter 2 and presented in Appendix B.

California or Nevada state law would be followed in the event human remains are discovered on non-federal lands (e.g., state-owned or private lands).

4.3 Environmental Justice

This section describes potential environmental justice impacts that could result from construction and operation of the Proposed Action. Potential environmental justice impacts would occur and be significant if the Proposed Action would disproportionately impact minority or low-income populations.

4.3.1 No Action Alternative

Under the No Action Alternative, no effects on minority or low-income populations would occur.

4.3.2 Proposed Action

According to EO 12898 and CSLC policy (CSLC 2002), an environmental justice effect would occur if project construction or operation would cause any minority or low-income population to bear a disproportionate share of an adverse effect.

The environmental justice analysis and evaluation of the Proposed Action has been completed by answering the following three questions sequentially:

1. Would the Proposed Action cause high or adverse health or environmental impacts on the public?

2. Do minority or low-income populations exist within the potential impact area of the Proposed Action?

3. If there are any high or adverse impacts, would they disproportionately affect minority or low-income populations?

The Area of Potential Effects encompasses both construction-related effects on populations in the direct vicinity of the project area, as well as potential effects from operation and maintenance of the transmission line (e.g., impacts on aesthetics or community character). The Area of Potential Effects was identified using a methodology outlined in the Environmental Protection Agency (EPA) Region 4 Interim Policy to Identify and Address Potential Environmental Justice Areas (EPA 1999). This methodology involves comparing average minority and low-income population percentages in the Area of Potential Effects to threshold values. Evaluation of minority and low-income populations within the Area of Potential Effects is based on data from the U.S. Census Bureau (2000). The analysis area includes 12 residences located within 1,320 feet (0.25 mile) of the proposed project ROW in Lassen County; there are no residences located in the project area in Washoe County, Nevada.

4.3.2.1 Low-Income Populations

In Lassen County, the data indicate that in the five potentially affected block groups, none of the population is below the poverty level. However, it is noted the occupants of the three residences (two included in a compound setting) located along Fort Sage Road did not participate in the 2000 census or the 2010 census data (U.S. Census Bureau 2010, personal comm.).

4.3.2.2 Minority Populations

The block groups in Lassen County do not report minority populations that would be potentially affected by the Proposed Action.

When determining whether environmental effects disproportionately impact relevant populations, the following factors are considered:

- Would there be an effect on the natural or physical environment that significantly and adversely affects the identified minority or low-income population?
- Would the environmental effects of the project result in an adverse impact on the identified population that appreciably exceeds or is likely to appreciably exceed that impact on the general population or other appropriate comparison group?
- Would the environmental effects occur in the identified minority or low income population that is affected by cumulative or multiple adverse exposures from environmental hazards?

As discussed in Section 3.3.3, the Proposed Action occurs within 1,320 feet (0.25 mile) of 12 residences in Lassen County. The study area is located within 14 census block groups, with 5 of the blocks containing the 12 residences extending from northeastern Lassen County, adjacent to the Nevada border, to 9 miles into California.

The anticipated effects resulting from the Proposed Action to the local community would not adversely affect minority or low-income populations. This assessment is based on the nature and condition of the area following completion of the project would be similar to pre-project conditions in terms of its impact on the surrounding community and thus would not result in adverse effects that appreciably exceed or are likely to appreciably exceed that impact on the general population. According to the census data available online, none of the block groups in Lassen County contains minority populations or populations below the poverty level that would be potentially affected by the Proposed Action (U.S. Census Bureau 2009). Finally, the purpose of the project stems from the need for increased area reliability. As a result, project construction would not be inconsistent with EO 12898 or CSLC's adopted policy.

4.4 Prime Farmland

This section describes impacts to farmlands that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to adversely impact farmland if it will convert an area designated as prime or unique farmland, farmland of local or statewide importance, to a non-agricultural use

4.4.1 No Action Alternative

Under the No Action Alternative, no effects to Prime, Unique, Farmland of Local Importance, or Farmland of Statewide Importance would occur.

4.4.2 Proposed Action

No Prime, Unique, Farmland of Local Importance, or Farmland of Statewide Importance occurs in the project area. Therefore, the Proposed Action would not result in impacts to any of these valuable farmlands.

4.5 Flood Hazards

This section describes impacts from flood hazards that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse flood hazard impact if it would significantly increase the potential for flooding or impede or redirect flood flows resulting in a significant, adverse impact.

4.5.1 No Action Alternative

Under the No Action Alternative no increased risk for area flooding would occur.

4.5.2 Proposed Action

The Proposed Action would span Long Valley Creek and the associated 100-year floodplain. No adverse impacts from construction, operation, or maintenance of the Proposed Action would be anticipated. Additionally, no increase in the potential for area flooding or increase flood hazard structures, which could impede or redirect flood flows, would occur in the event of a 100-year storm event.

4.6 Wetlands

This section describes impacts to wetlands that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to adversely impact wetlands if it would directly remove, fill or otherwise interrupt the hydrology of the wetland.

4.6.1 No Action Alternative

Under the No Action Alternative no effects to wetlands would occur in the project area.

4.6.2 Proposed Action

No direct effects would occur to either of the two wetland areas identified for the project area. As discussed in Section 3.6, the ROW crosses one drainage, Long Valley Creek, along Garnier Road. Long Valley Creek consists of approximately 40 feet of dry sandy wash devoid of vegetation and approximately 6 feet of wetland vegetation occurring along the north and south bank of the creek (see Photo 3-1 through Photo 3-4). The Proposed Action would span the creek alongside the Garnier Road bridge crossing. Structures would be placed in uplands above and outside the wetland fringe.

The second wetland along the eastern portion of the project ROW located northwest of the Fort Sage Substation occurs outside the ROW (see Map 3-2). Vegetation field surveys conducted in 2007, 2008, and 2010 determined this palustrine wetland boundary is greater than 100 feet north of the proposed construction ROW.

Additionally, under the Proposed Action, potential indirect effects to the above-mentioned wetlands and Waters of the U.S. would be minimized during construction, operation, and maintenance; by applying PSREC's established BMPs and committed protection measures presented in Table 2-6 and Appendix B. Potential effects to water resources from erosion, sedimentation, or accidental spills of hazardous materials (e.g., gasoline, oil) in the vicinity of either of these wetland areas would be prevented or minimized by committed protection measures, as discussed in Section 4.8, Soils; Section 4.9, Water Resources; and Section 4.11, Hazardous Materials.

4.7 Geology and Seismicity

This section describes impacts from geology and seismicity that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse impact from geology and seismicity if it would expose people or structures to substantial adverse effects from rupture, seismic ground shaking, or landslides.

4.7.1 No Action Alternative

Under the No Action Alternative no impacts relative to area geology or seismicity would occur.

4.7.2 Proposed Action

No short-term impacts to area geology from project construction would occur. The analysis of potential geological effects associated with the Proposed Action focused on the area of ground disturbance for structure and substation excavation. The Proposed

Action would result in the permanent disturbance of approximately 3.88 acres from structure placement and substation construction. Potential effects on area topography would be minor and limited to structure placement.

Given the regional seismic history, the potential for movement along faults and new landslides in the project area would be considered to be low to moderate. Because the project area is relatively flat, the potential for landslides would be low. PSREC's BMPs for line construction (see Table 2-6 and Appendix B) would minimize impacts from erosion or potential geologic shifts. The transmission structures and substation infrastructure would be designed to comply with the applicable building guidelines, seismic codes, and similar requirements. Specifically, structures and substation equipment would be designed and constructed in compliance with the RUS' *Electric Transmission Specifications and Drawings, 115kV Through 230kV* (USDA 1998), 2007 California Building Code, and 2006 International Building Code's Structural Code. Therefore, these designs would minimize effects from possible future seismic activity. Construction and operation of the Proposed Action would not expose people or structures to substantial adverse effects from rupture, seismic ground shaking or landslides.

4.8 Soils

This section describes impacts to soils that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse impact to soils if it would expose people or structures to substantial erosion or soil instability or result in significant degradation of the plant community.

4.8.1 No Action Alternative

Under the No Action Alternative, no additional impacts to soils would occur.

4.8.2 Proposed Action

Primary impacts to soils from the Proposed Action would encompass short-term impacts to soil resources from construction of the transmission line, temporary access routes, and Herlong Substation. No long-term soil disturbance/loss during project operation is anticipated. During construction soils would be disturbed, mixed structurally, compacted, and exposed to wind or precipitation events, resulting in a temporary increase in potential soil erosion. However, the potential for adverse impacts to soil resources during project construction would be limited and short term, given PSREC's committed environmental protection measures listed in Table 2-6 and Appendix B. Specifically, the commitment to restrict vehicle use to the existing ROW easements, approved access routes, and the existing road system, as well as the commitment to eliminate compaction, seed disturbed areas to approved seed mixtures, and implement applicable reclamation measures would aid in minimizing direct and indirect effects to area soils.

Table 4-5 summarizes the amount of surface disturbance to soil resources anticipated for both short-term and long-term effects. Under construction Option A, an estimated 35.48 acres of soils would be disturbed during construction. Under construction Option B, encompassing standard construction measures on Doyle SWA, an additional 0.93 acre of surface disturbance would occur, affecting a total of 36.41 acres of soils in the short term. Following surface reclamation for temporary disturbance, a total of 3.88 acres of soils would be affected in the long term.

Table 2-1 in Chapter 2 outlines the project design standards developed for the Proposed Action. Specific to the installation of the transmission structures, temporary equipment workspace for maneuvering construction equipment would require a 100-foot by 100-foot area around each structure and an additional 0.5 acre at the base of each angle pole, totaling 24.51 acres of temporary disturbance to soils under construction Option A. Under construction Option B, an additional 0.69 acre of soils would be disturbed on the Doyle SWA if standard construction methods are required, totaling 25.3 acres of temporary soil disturbance for the entire route. All excavated soils would be reused at each pole location.

Specific to the new Herlong Substation site, a total of 3.75 acres of long-term soil disturbance would result from substation construction and operation. The site was previously disturbed during reconstruction and widening of U.S. 395; therefore, no new impacts to undisturbed areas would occur. New substation construction would require 14,615 cubic yards of soil to be excavated and utilized on site. The 3.75-acre substation site would be fenced and used for equipment and buildings during project operation. A portion of the 3.75 acres would be utilized as a construction yard and helicopter pad during project construction.

No permanent new access roads are proposed. Therefore, the temporary access routes used during project construction would result in a total of 8.58 acres of soils affected in the short term for the entire project under construction Option A. Under construction Option B, standard construction methods would require developing temporary access on Doyle SWA, impacting an additional 10,500 square feet (0.24 acre), totaling 8.82 acres of short-term soil disturbance under construction Option B.

During construction, ancillary work spaces are proposed, including wire pulling and splicing sites and construction yards for material laydown, storage, and parking. Under both construction options, the amount of soil resources to be disturbed in the short-term include 1.47 acres for wire pulling and splicing sites and 0.92 acre for new construction yard area.

Table 4-5 Estimated Soil Disturbance for Project Construction and Operation

Surface Disturbance by Project Phase	Transmission Line Structures (acres)	Herlong Substation (acres)	Access Routes (acres)	Wire Pulling; Splicing Sites (acres)	Construction Yards (acres)	Total (acres)
Short-Term Soil Disturbance (Temporary – Construction)						
Short-Term Disturbance (Construction Option A)	**24.51**	**0**	**8.58**	**1.47**	**0.92**	**35.48**
Construction Option B[a]	0.69	0	0.24	0	0	0.93
Total Soil Disturbance under Option B	**25.2**	**0**	**8.82**	**1.47**	**0.92**	**36.41**
Long-Term Soil Disturbance (Permanent – Operation & Maintenance)						
Long-Term Disturbance (Construction Option A)	**0.13**	**3.75**	**0**	**0**	**0**	**3.88**
Construction Option B[a]	0	0	0	0	0	0
Total Soil Disturbance following Reclamation	**0.13**	**3.75**	**0**	**0**	**0**	**3.88**

[a]Calculations for construction Option B for the 0.5-mile segment of Doyle SWA are estimates in addition to those calculated for the rest of the project ROW.

PSREC would develop and comply with applicable NPDES requirements, including a Stormwater Pollution Prevention Plan (SWPPP), required and filed with the Lahontan Regional Water Quality Control Board. In addition to compliance with the SWPPP, which would detail runoff, erosion, and sedimentation mitigation practices, PSREC's committed protection measure to regrade and reseed areas to facilitate natural revegetation would aid in minimizing increased soil erosion, particularly in areas with existing surface disturbance. Refer to protection measures in Table 2-6 developed specifically for ROW construction, reclamation practices, and soils resources.

In summary, PSREC's committed protection measures and BMPs detailed in Table 2-6 and Appendix B were developed to minimize effects to soil resources impacted by project construction. Therefore, anticipated impacts to soils from both construction Options A and B would be low. Long-term, permanent disturbance under both construction options would affect 3.88 acres (0.13 acre for pole placement and 3.75 acres for the Herlong Substation). Pertaining to landownership, these totals would encompass: 1,300 square feet (0.03 acre) on private lands in California and Nevada for structures and 3.75 acres on private lands in California for the Herlong Substation. For transmission structures located on other lands the long-term soil disturbance would total 1,300 square feet (0.03 acre) on CSLC lands; 1,600 square feet (0.04 acre) on BLM lands; and 150 square feet (0.003 acre) on CDFG lands. See Table 2-3 and Table 2-4 in Chapter 2 for a breakdown by land ownership for structure placement.

The Proposed Action will be subject to the mitigation measures set forth in Section 2.6 and the MMRP in Appendix B (*Measures Soils-1* through *Soils-5*), including compliance with all NPDES requirements and would not result in a significant impact to soils.

4.9 Water Resources

This section describes impacts to water resources that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse impact to water resources if it would violate any water quality standards or waste discharge requirements, substantially deplete groundwater supplies, substantially alter the existing drainage patterns of the site, or substantially degrade water quality.

4.9.1 No Action Alternative

Under the No Action Alternative, no effects to water resources would occur.

4.9.2 Proposed Action

Under the Proposed Action, PSREC has committed to span Long Valley Creek and no impacts to the stream bed, bank, or riparian vegetation would occur, therefore, no alteration to the drainage in that area would occur (see Photo 3-1, Photo 3-2,Photo 3-3, and Photo 3-4). The erosion control measures outlined in Table 2-6 in Chapter 2 and in Appendix B for water, soils, and ROW development also would reduce the potential for

impacts to the Long Valley Creek channel from potential sedimentation during project construction.

Although spills of construction fluids are unlikely, potential effects to water resources from accidental spills of hazardous materials or waste (e.g., gasoline, oil, hydraulic fluid) would be minimized by PSREC's BMP - *Measure Water-4* in Table 2-6, which states that PSREC (or its contractors) would not refuel equipment within 500 feet of any live water source. Additionally, PSREC's BMP – *Measure ROW Grant-44* outlines specific plans for spill prevention, control, and cleanup.

Water used during project construction (e.g., dust abatement, concrete for structure foundation pouring) would be obtained from a permitted private or municipal source outside of the project area. Therefore, no additional impacts to groundwater or local water resources would occur.

Finally, as discussed in Section 4.8.2 for soils resources, PSREC would develop and implement a project-specific SWPPP filed with the Lahontan Regional Water Quality Control Board to minimize impacts to soils and water resources during or after storm events.

Therefore, no adverse effect to water resources would occur from the Proposed Action.

4.10 Noise

This section focuses on potential short- and long-term effects to human resources from project-related noise sources. Potential effects to area wildlife from increased noise during project construction and operation are discussed in Section 4.16, Wildlife and Fisheries. The Proposed Action has the potential to have an adverse impact from noise if it would expose people to noise levels in excess of federal, state, or local standards.

4.10.1 No Action Alternative

Under the No Action Alternative, existing noise levels would continue at current baseline levels. Regional noise sources would include the Fort Sage OHV SRMA, aircraft at the Sierra Army Depot's Amdee Field, on-going highway construction improvements along U.S. 395, and traffic on area roads (including Garnier Road and U.S. 395).

4.10.2 Proposed Action

Sensitive noise receptors would encompass the 12 single-family residences and residential area located within 0.25 mile of the proposed project ROW. Of these 12 residential areas that occur along the route, the closest occurs approximately 150 feet from ROW centerline along Garnier Road (see Map 2-1 Sheet 8). Although this residence is shown to be located approximately 50 feet from the edge of the 200-foot-wide construction ROW, equipment would be limited to the area along the east

side of the Garnier Road ROW, placing the residence approximately 100 feet from equipment during line construction.

Table 4-6 outlines sound levels for common noise sources. The A-weighted decibel scale (dBA) is cited as a comparison for noise levels anticipated and discussed for project construction, operation, and maintenance.

Table 4-6 Typical Sound Levels of Common Noise Sources

Sound Pressure Level (dBA)	Noise Source
0	Lowest Level Audible to Human Ear
30	Quiet Library, Soft Whisper[1]
40	Quiet Office, Living Room
40-50	Corona Noise Levels
50	Light Traffic, Refrigerator
60	Air Conditioner, Conversation
67-73	Medium Duty Helicopter
70	Busy Traffic, Noisy Restaurant (Critical Level Begins)
80	Subway, Heavy City Traffic
90	Truck Traffic, Shop Tools, Lawn Mower
100	Chain Saw, Pneumatic Drill
110	Jet Flyover at 1,000 Feet
120	Rock Concert, Thunderclap (Danger Level)
180	Rocket Pad During Launch (Hearing Loss)

Source: American Academy of Otolaryngology 2007

4.10.2.1 Construction

Construction of the Proposed Action would create both intermittent and continuous noise. However, overall noise levels would be expected to be low to moderate during the construction period in this remote and relatively unpopulated area of northwestern Washoe County, Nevada and southeastern Lassen County, California.

Potential noise impacts to sensitive receptors would be short term during the project construction period from use of equipment, power tools, vehicles, and helicopters associated with ROW access, structure placement, and line stringing. Anticipated noise levels during construction would be expected to range from 68 dBA up to infrequent peaks of 85 dBA at 50 feet from the operating equipment. Although the overall construction period is anticipated to total 4 months, the rapid construction sequence and sporadic level of activity at any one location would minimize noise impacts to area residents in the short term. As stated in Table 2-6, *Measure Noise-3*, PSREC's standard BMP restricts construction activities to daylight hours, between 7 a.m. to 7 p.m. Therefore, construction-related noise impacts to area residents would be limited to those hours. Additionally, to minimize noise effects to area residents, PSREC would notify the applicable residents 5 days prior initiation of construction within 500 feet of their respective residence (see Table 2-6, *Measure Noise-4*).

Construction activities also would create noise off site, mainly from trucks transporting materials to work areas and removing construction-generated waste from the site. In addition, noise would be generated off site by commuting workers who would meet at staging areas and travel to the construction site in crews.

The Lassen County, California and Washoe County, Nevada recommended noise levels range from 65-70 Ldn and 75 Ldn, respectively, measured as day-night average levels (i.e., time-weighted 24-hour average noise level based on the A-weighted sound level [dBA]). Given the anticipated construction noise levels range from 68 dBA to 85 dBA, construction-related noise is expected to be at or below the respective county standards for a majority of the time between operating hours of 7 a.m. and 7 p.m. Higher levels of equipment noise would be brief and sporadic. Since the county recommended noise levels are measured as day-night average levels, infrequent peaks of 85 dBA, which is a one-time measurement level, would not reduce the community noise equivalent level measured as the day-night average (Ldn). Therefore, noise levels would not exceed the Lassen County or Washoe County noise requirements.

Further, the construction sequence would move relatively rapidly and, therefore, direct effects to any one residence would be short term (i.e., hours to a few days, depending on the construction sequence). Substation construction would be sporadic, as well, typically encompassing noise from large trucks transporting transformers to the substations during the initial construction period. The nearest noise receptors to the proposed new Herlong Substation include two residences located approximately 600 and 1,000 feet southwest of the site (see Map 2-1). These residences are located far enough from the project ROW that the Lassen County and Washoe County noise requirements would be met.

Detailed helicopter operations for project construction scenarios to minimize time and ground disturbance are discussed in Section 2.5.2.4. The use of helicopters for line pulling, linemen ferrying, and pole placement on Doyle SWA would increase noise levels in specific areas for short durations. Specific to the 0.5-mile segment of the Doyle SWA, under the Proposed Action (construction Option A), a medium lift helicopter (see Section 2.5.2.4) would be used to place the three two-pole structures for Structures 52, 53, and 54, assuming hand augering is feasible at those locations. It is estimated these structures could be set in 1 hour using a helicopter. Noise levels for a medium duty helicopter in level flight, flying 60 knots at 500 feet above the ground would range from 72.5 to 73 dBA. Noise levels 500 feet either side of flight path would range from 67 to 70.5 dBA (Cox and Leverton 1993).

No residences are located near the portion of the ROW located on the Doyle SWA in T26N, R17E, SW¼ Section 8. Potential noise-related impacts to recreational users, such as area hunters, would be minimized by the short duration of the construction activities during any one period and the commitment by PSREC to discontinue construction activities during a 9-day period in November along the project ROW immediately before and during the CDFG's M3 Doyle Muzzleloader Rifle Buck Hunt (refer to *Measure Doyle SWA-5* in Table 2-6 and Appendix B). This protection measure

would prevent increased noise impacts to area hunters in and near the Doyle SWA. Potential impacts to wildlife from increased noise levels from helicopter use are addressed in Section 4.16 for wildlife resources.

Using a light duty helicopter (see Section 2.5.2.4) to pull the sockline and ferry personnel would require 10 to 15 hours of flight time over a 3-day period (see Section 2.5.2.4), replacing the 10 to 15 days of using heavy ground equipment if standard construction methods were used. Noise levels from helicopter use for line pulling and personnel transport would be high, but sporadic, at any one location. However, noise levels for light duty helicopter would be lower than those for the medium duty helicopter described above for construction on Doyle SWA. Examples of the types of light and medium duty helicopters that could be used for power line construction are discussed in Section 2.5.2.4.

Parallel to the discussion above on other construction-related noise, potential noise effects to sensitive receptors on the ground from the use of helicopters along the project ROW would generally be at or near the county recommendations for noise levels measured as day-night averages, specifically 65 to 70 Ldn for Lassen County and 75 Ldn for Washoe County, Nevada. Sporadic peaks in noise levels in proximity to the helicopter use would occur but would be short-term in nature. Additionally, the construction sequence would move more rapidly that using standard ground-based equipment, resulting in an even shorter exposure to construction noise in the project area.

Thus, with the environmental protection measures set forth in Table 2-6 and Appendix B, construction noise effects would be less than significant.

4.10.2.2 Operation and Maintenance

During project operation, the noise emissions would be limited to low level corona noise and occasional maintenance activities, generally supported by pickup trucks. Noise levels from such activities would be low and would not exceed either county's noise standards.

The Herlong and Fort Sage Substations and the transmission line would emit a minimal amount of audible noise (AN) during project operation. AN from electric facilities is generally characterized as a crackling, hissing, or humming noise. The parameters of importance in the estimations of corona encompass line voltage, line configuration or geometry, number and diameter of the conductors, altitude above sea level, and weather conditions (i.e., precipitation). The amount of AN in fair weather would be low (ranging from 20 to 40 dBA). In many locations, this noise level is similar to ambient noise conditions in the environment. However, during wet conditions or high humidity, corona noise levels increase. During a weather event with rain or snow falling, noise levels could approach 50 to 60 dBA, possibly increasing to over 60 dBA under some conditions. Corona noise levels typically are not consistent from location to location, since environmental and conductor conditions will vary.

At the estimated noise emission levels, corona noise would rarely be discernible at nearby residences. The closest residence occurs approximately 150 feet from the ROW centerline along Garnier Road (see Map 2-1 Sheet 8). Four other area residences would occur from 250 to 550 feet from the ROW centerline. However, given the distance and ambient noise levels, no long-term effects to area residents from line operation noise would be anticipated. Other area users, such as hunters and other recreationalists, may hear the crackling and hum from the transmission line during periods of infrequent precipitation. However, these sounds only would be audible when in close proximity to the transmission line ROW.

Substations contribute two sources of AN: transformer and switchgear noise. Transformer noise consists of a constant low-frequency hum at about 60 Hertz. Switchgear noise is generated by the operation of circuit breakers used to break high-voltage connections, although these SF-6 breakers would be contained within closed cabinets, reducing operational sound levels. The nearest noise receptor to the proposed new Herlong Substation is a residence located approximately 600 feet southwest of the site. This residence also occurs within 300 feet of the existing Herlong Substation. A second residence occurs within 1,000 feet of the new Herlong Substation site and approximately 700 feet from the existing substation (see Map 2-1). Based on PSREC's proposed substation operation, estimated noise levels would range from 50 to 60 dBA 50 feet from the substation property line. Therefore, potential impacts to these residences would be incremental and low during project operation, given proximity to the existing substation site and the intersection of Garnier Road and U.S. 395.

Small trucks used for maintenance activities at substations would periodically access the substation sites during project operation. However, these long-term noise levels would be similar to automobiles and light trucks commonly using area roads. Consequently, the noise effects on nearby residences would be minor and, for the most part, indiscernible from everyday traffic noise.

Noise levels from operational activities would be low and would not exceed either county's noise standards and therefore would have a less than significant effect.

4.11 Hazardous Materials

This section describes impacts from hazardous materials that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse impact from hazardous materials if it would create a significant hazard to the public through use of hazardous materials or emission of hazardous materials, if it is located on a federally or state-listed contaminated site, or would impair implementation of an emergency response plan.

4.11.1 No Action Alternative

Under the No Action Alternative, no additional impacts to natural or human resources from hazardous materials would occur. It is not known the extent of potential effects the

illegal dumping could have on local area users, given the composition of these materials in these dump sites are unknown.

4.11.2 Proposed Action

The project area is not on a federally or state-listed contamination site. Pertaining to the illegal dumping areas along the proposed ROW alignment, it is currently unknown if hazardous materials are present. However, no impacts from hazardous materials exposure at these locations would be anticipated from construction and operation of the Proposed Action, based on the fact PSREC is proposing to span these dump areas by specific structure placement and access avoidance. The landowner, the CSLC, would coordinate directly with PSREC regarding ROW lease and permit requirements to ensure clear communications and minimize hazardous materials exposure along these areas.

With respect to use of hazardous materials, construction products may contain such materials, so a number of committed protection measures have been developed for this project, based on several of PSREC's existing construction BMPs and the pending ROW Grant with the BLM. In Table 2-6 and Appendix B, specifically *Measures Hazardous Materials-1* through *Hazardous Materials-4* and *Measure ROW Grant-44* reflect several of PSREC's BMPs to minimize potential impacts from hazardous materials. During line and substation construction, in the event a hazardous spill occurred, the on-site Environmental Monitors would respond and notify Lassen County, California and Washoe County, Nevada and other appropriate California and Nevada agencies, as applicable. PSREC would conduct a Phase 1 Environmental Site Assessment specific to new ground disturbance at the proposed new Herlong Substation. Other Phase 1 surveys, if warranted, would be the responsibility of the applicable landowner(s).

Operation of the transmission line would not emit any hazardous substances and neither the construction nor operation of the project would interfere with any emergency response plans. Thus, impacts from hazardous materials would be less than significant.

4.12 Fire Management

This section describes impacts from fire that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse impact from fire risk if it would substantially increase the fire risk or expose people or structures to substantial adverse effects from the risk of fire.

4.12.1 No Action Alternative

Under the No Action Alternative, regional fire management would continue under the current federal, state, and county policies and guidelines.

4.12.2 Proposed Action

Construction activities resulting in new ground disturbance could increase the potential for growth of vegetation such as cheatgrass, an exotic weedy grass that is a highly flammable fine-textured fuel that increases fire intensity. Because of the potential for wildfire effects during project construction, a number of measures have been developed to minimize this risk.

During construction of the Proposed Action, emphasis would be focused on prevention (e.g., using techniques that would reduce the chance for unwanted ignitions), detection, and rapid suppression response. For these reasons, PSREC is proposing to initiate project construction during the early spring period when fuel loads and temperatures are lower and humidity is higher. Additionally, PSREC has developed two BMPs specific to rapid fire response (see *Measure ROW Grant-31* and *ROW Grant-32* in Table 2-6 and Appendix B). *Measure ROW Grant-31* outlines the process by PSREC to prepare and implement a Fire Prevention and Management Plan for federal and state lands. This Fire Plan would detail the protocol for identifying daily updates on the fire conditions maintaining specific equipment to have on hand in the field during construction, and cooperating with the BLM, state, and local fire agencies should a fire event occur.

PSREC also has committed to several environmental protection measures listed in Table 2-6 and Appendix B to enhance reclamation, prevent or minimize noxious weeds, and minimize wildfire danger. *Measure Reclamation 1* through *Reclamation-8* and *Measures Vegetation-3* and *Vegatation-5* delineate the efforts to reclaim disturbed areas following project construction to minimize weeds (e.g., cheatgrass) and future fire risks.

In the event of a wildfire, projects may be subsequently implemented to minimize area erosion. Emergency Stabilization and Rehabilitation projects are generally undertaken within the first year after a wildfire and continue for up to two growing seasons. Projects aim to establish vegetative cover within the burned area to discourage runoff, weed colonization, and reduce erosion potential. The application of seed to a burned area may expedite the return of desirable vegetative cover within burned areas. Seed may be applied aerially (e.g., helicopter), mechanically (e.g., rangeland drill, chaining, or disking), or by hand.

No impacts to regional fire management or response capabilities would be anticipated because the potential for ignition, surface fuel alteration, or safety hazards would not change outside the project area as a result of the Proposed Action. Thus, with implementation of the applicable protection measures, potential effects from fire risk would be less than significant.

4.13 Vegetation and Special Status Plant Species

This section describes impacts to vegetation and special status plant species that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have a significant impact if it would have a substantial adverse effect on any special status vegetation or natural community identified by the federal or state agencies.

4.13.1 No Action Alternative

The No Action Alternative would have no additional effects on vegetation and special status species. Direct and indirect impacts to vegetation in the area would be associated with existing activities including: wildlife use, continued livestock grazing, range improvement projects, and continued recreation use at the Fort Sage OHV SRMA.

4.13.2 Proposed Action

4.13.2.1 Vegetation Resources

The surface disturbance caused by construction of the transmission line and temporary access routes for the Proposed Action could directly affect vegetation and special status plant habitat by increasing soil erosion, mechanically impacting soils, and increasing the potential for establishment and spread of invasive and noxious weed species. Temporary construction activities would contribute to short-term effects; transmission structure placement and substation use would contribute to minor long-term vegetation loss. However, these impacts would be minimized by PSREC's protection measures and BMPs listed in Table 2-6 and Appendix B and addressed in this section. Protection measures and BMPs listed in Table 2-6 specific to *Vegetation*, *Soils*, *Reclamation*, and *BLM ROW* specifically address vegetation clearing and loss minimization; invasive weed control; environmental monitoring; and long-term reclamation including contouring, topsoiling, seeding and mulching.

Table 4-7 summarizes the estimated amount of surface disturbance to vegetation community types anticipated for both short-term and long-term effects. Under Construction Option A, impacts associated with Proposed Action would initially affect an estimated 35.48 acres in the short term. A total of 31.60 acres would be reclaimed and 3.88 acres of vegetation would be lost in the long term. Under Construction Option B, an additional 0.93 acre of vegetation would be affected in the short term until vegetation was re-established. An estimated 2.39 acres of previously disturbed ground (e.g., industrial, disturbed) would be reclaimed following project construction, resulting in a beneficial impact to native vegetation, based on the committed protection measures develop for Reclamation in Table 2-6 and Appendix B.

Table 4-7 Estimated Vegetation Disturbance for Project Construction and Operation

	Vegetation Type[1]									Totals
	BBR/DP	**DIST**	**DP/sgb/bbr**	**IND**	**PGS**	**SGB**	**SGB/DP**	**SGB/sb**	**Spanning MRI**	
ROW Length (mi)	0.54	1.25	1.60	0.07	2.62	3.08	4.24	0.15	0.11	13.67
200-foot Construction ROW (ac)	13.1	30.3	38.9	1.8	63.6	74.6	101.5	3.7	2.6[2]	331.40[3]
Short Term										
Structure Work Areas (ac)	0.78	1.80	2.30	0.11	3.76	4.41	5.98	0.22	0.15	19.51
Angle Poles (ac)	--	0.20	--	--	1.50	1.00	1.45	0.80	0.05	5.0
ROW Access (ac)[4]	--	--	--	--	2.86	2.86	2.86	--	--	8.58[4]
Wire Pull / Splice (ac)	--	--	--	0.24	0.62	0.24	0.37	--	--	1.47
Construction Yard #1 (ac)	--	--	--	--	0.92	--	--	--	--	0.92
TOTALS (Opt A) (ac)	**0.78**	**2.00**	**2.30**	**0.35**	**9.66**	**8.51**	**10.66**	**1.82**	**0.20**	**35.48**[5]
Doyle SWA Work Areas Opt B (ac)	--	--	0.69	--	--	--	--	--	--	0.69
Doyle SWA Access Opt B (ac)	--	--	0.24	--	--	--	--	--	--	0.24
TOTALS (Opt B) (ac)	**0.00**	**0.00**	**0.93**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**36.41**
Long-term										
Herlong Sub (ac)	--	3.75	--	--	--	--	--	--	--	3.75
Pole Placement (ac)[6]	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.01	--	0.13[6]
TOTALS (Opt B) (ac)	**0.01**	**3.77**	**0.01**	**0.02**	**0.02**	**0.02**	**0.02**	**0.01**	**0.00**	**3.88**

[1]BBR/DP = Bitterbrush and Desert Peach co-dominant
DIST = disturbed surface area
DP/sg/bbr = Desert Peach dominant with big sagebrush and bitterbrush
IND = Industrial site
PGS = Perennial Grassland with Saltbush and Sagebrush
SGB = Big Sagebrush
SGB/DP = Big Sagebrush and Desert Peach co-dominant
SGB/sb = Big Sagebrush with saltbush and grasses
[2]Spanning MRI = Montane riparian habitat at Long Valley Creek would be spanned by the proposed power line; therefore, acreage estimates are not included in calculated surface disturbance areas by project component.
[3]The acreage totals by vegetation type are slightly lower than the acreages for the entire line length, due to rounding differences.
[4]Vegetation types along temporary access routes encompass three primary types; therefore, the total acreage of 8.58 acres disturbed in the short term was divided among these three types.
[5]The acreage totals by vegetation type are slightly higher than the acreage calculated for all temporary disturbances, due to rounding differences.
[6]Because exact structure locations are not known relative to vegetation types, the total acreage lost in the long term of 0.13 acre was divided among eight of the nine vegetation types that occur along the route. No poles would be placed within the MRI of Long Valley Creek.

Several protection measures and BMPs are in place to ensure reclamation success and to protect the integrity of native vegetation for the Proposed Action (see Table 2-6) and referenced by categorical number throughout this section. *Measure Vegetation-2* outlines vegetation clearing activities to minimize impact to existing vegetation, and *Measure Reclamation-1* ensures vegetation will be left in place wherever possible to avoid excessive root damage and allow for resprouting. Revegetation using the California Native Seed Policy mixture would occur on private and public lands (see Table 2-6 *Measure Reclamation-7*), except in Section 8 of the Doyle SWA, which has specific protection measures developed for this area (see *Measure Doyle SWA-6*). Past regional reclamation efforts have shown successful mitigation post-construction with sufficient precipitation. *Measure Reclamation-8* outlines recommended seeding techniques and success evaluation. As stated in *Measure Reclamation-9*, PSREC would develop an environmental monitoring program to ensure compliance with protection measures and BMPs in conjunction with the landowner or land management agency. Additionally, *Measure Reclamation-1* through *Reclamation-3, Reclamation-7,* and *Reclamation-8* delineate specific practices to support long-term reclamation success and to minimize noxious weed invasion.

Mechanical impacts to soil from construction activities could affect vegetation and special status plants by disturbing soil structure and function, depending on the degree of vegetative cover disturbed within native plant communities. Surface disturbances from construction activities could lead to increased erosion potential and the loss of topsoil, resulting in diminished structural support for and exposure of root systems, a reduction of available nutrients for established plants, and a diminished seed bank. Soil compaction could reduce water infiltration, restrict root depth, and limit seed germination. To minimize these potential effects to vegetation resources, PSREC developed *Measures Reclamation-2* and *Soils-1* through *Soils-5* for effective use of contouring and installation of erosion and sediment control devices, soil disturbance minimization, construction activity restrictions during wet conditions, and proper placement of soil stock piles.

As discussed in Section 3.13.3, one noxious weed, puncturevine, was identified along the agricultural corridor of Garnier Road. To minimize potential spread of noxious weeds from project construction, PSREC developed *Measures Vegetation-3, Vegetation-5,* and *Vegetation-6 and Reclamation-9* listed in Table 2-6 and in Appendix B. Specifically, these measures would minimize the potential for noxious weed species to spread in or near the ROW from surface disturbances during construction activities.

4.13.2.2 Special Status Plant Species

According to the USFWS, CDFG, CNPS, and NNHP, potential habitat does not exist for federally or state-listed plant species within the Proposed Action area (USFWS 2007a, CNPS 2010, NNHP 2010). Therefore, the Proposed Action Alternative would have no effect on federally or state-listed plant species.

As discussed in Section 3.13, of the 13 sensitive plant species identified by the BLM and CSLC, 11 species potentially could occur within the project area. *Measure Vegetation-1* ensures applicable biological resource surveys are conducted to delineate special status plant species prior to project construction. Of the 11 sensitive plant species surveyed, four California sensitive plant species (MacDougal's lomatium, lance-leaved scurf-pea, winged dock, and many-flowered thelypodium) were located during the 2007, 2008, and 2010 surveys within the project area.

Surface disturbance was calculated for each of the four special status plant species documented within the project ROW, based on access routes, structure locations, and angle structure expansions. Temporary surface disturbance encompassed 20-foot-wide road widths (see Table 2-4), 100 x 100-foot work space (10,000 square feet or 0.2 acre) for structure locations, and 0.5 acre of disturbance for angle structures (see Map 2-1) during project construction (short term). For permanent disturbance, an estimated 25 square feet per pole was calculated in the long term (see Table 2-1).

MacDougal's Lomatium

One population of over 100 MacDougal's lomatium plants was located within the ROW, with substantive populations extending beyond the ROW boundary within the heavy alkaline soils (see Map 2-1 Sheet 3). The project ROW crosses a total of 2,880 linear feet of documented MacDougal's lomatium. A calculated 1.84 acres of rare plant habitat for this species could be disturbed during project construction, including additional work space needed for one angle structure (see Map 2-1 Sheet 3). Four H-frame structures (Structures 25, 26, 28, and 29) and one three-pole angle structure (Structure 27) would be located within this sensitive plant population. The location of these structures would remove a total of 323 square feet of suitable habitat for the MacDougal's lomatium in the long term (see Table 2-4). Due to the small disturbance area, the area's overall populations of MacDougal's lomatium, and implementation of the protection measures developed to minimize both short- and long-term impacts to vegetation (see *Measures ROW-9, Reclamation-1* through *Reclamation-9*, *Vegetation-1* through *Vegetation-6*, and *ROW Grant-43*), the potential effects to the MacDougal's lomatium would be low and incremental, and no population-level effects would be anticipated.

Lance-leaved Scurf-pea

This species grows well in disturbed sandy soils and was noted growing within disturbed areas along the ROW including two-track trails. Large populations of lance-leaved scurf-pea were observed within and outside the project ROW during the 2010 field surveys (see Map 2-1). The ROW crosses a total of 4,795 linear feet of identified populations of lance-leaved scurf-pea. Because Structure 52 would occur within habitat for this plant species and occurs within the Doyle SWA, both Construction Options A and B were used for the following estimation. A calculated 2.34 acres of rare plant habitat for this species could be disturbed during project construction under Construction Option A, including additional work space needed for one angle structure (see Map 2-1 Sheet 4, Map 2-1 Sheet 5, Map 2-1 Sheet 6, and Map 2-1 Sheet 7). Under Construction Option B, a total of 2.48 acres (an additional 0.14 acre) would be

affected in the short term. Five H-frame structures (Structures 39, 52, 62, 63, 79), one three-pole angle structure (Structure 80), and two single-pole structures (Structures 81 and 82) would be located within this sensitive plant population. The location of these structures would remove a total of 423 square feet of suitable habitat for the lance-leaved scurf-pea in the long term (see Table 2-4). Due to the large populations of lance-leaved scurf-pea recorded in this area and the committed environmental measures in Table 2-6 and Appendix B to minimize impacts (see *Measures ROW-9, Reclamation-1* through *Reclamation-9*, *Vegetation-1* through *Vegetation-6*, and *ROW Grant-43*), both the short- and long-term effects to the lance-leaved scurf-pea would be low and incremental, and no population-level effects would be anticipated.

Winged Dock

Winged dock also grows well in disturbed soils and is found in similar habitats mentioned above for the lance-leaved scurf-pea, with large populations observed in and outside the project ROW (see Map 2-1 Sheet 1). The project ROW crosses a total of 8,793 linear feet of documented winged dock populations. A calculated 6.12 acres of rare plant habitat for this species could be disturbed during project construction, including additional work space needed for one angle structure (see Map 2-1 Sheet 1, Map 2-1 Sheet 4, Map 2-1 Sheet 5, and Map 2-1 Sheet 7). Ten H-frame structures (Structures 37-46), one single-pole angle structure (Structure 86), and three single-pole structures (Structures 87-89) would be located within this sensitive plant population. The location of these structures would remove a total of 600 square feet of suitable habitat for the winged dock in the long term (see Table 2-4). Due to the area's substantial populations of winged dock recorded in and outside the project area and the protection measures developed to minimize both short- and long-term impacts (see *Measures ROW-9, Reclamation-1* through *Reclamation-9*, *Vegetation-1* through *Vegetation-6*, and *ROW Grant-43*), potential effects to the winged dock would be low and incremental, and no population-level effects would be anticipated.

Many-flowered Thelypodium

One population of approximately 100 individuals was located within the ROW (see Map 2-1 Sheet 4), with a substantially larger population located south of the proposed ROW along the north slope of Turtle Mountain. The project ROW crosses a total of 4,840 linear feet of documented many-flowered thelypodium. A calculated 2.83 acres of rare plant habitat for this species could be disturbed during project construction. Six H-frame structures (Structures 37-42) would be located within this sensitive plant population. The location of these structures would remove a total of 300 square feet of suitable habitat for the many-flowered thelypodium in the long term (see Table 2-4). Due to the much larger population of many-flowered thelypodium observed beyond the project ROW and the protection measures developed to minimize both short- and long-term impacts to vegetation (see *Measures ROW-9, Reclamation-1* through *Reclamation-9*, *Vegetation-1* through *Vegetation-6*, and *ROW Grant-43*), potential effects to this rare plant species also would be low and incremental, and no population-level effects would be anticipated.

Geyer's Milkvetch

This is a species of concern for both the BLM and State that was specifically surveyed for and not located during the 2007, 2008, or 2010 surveys. However, this species was recorded in bloom or seed in other locations during the three survey periods. This plant species would not be impacted by the Proposed Action.

In summary, direct effects to lance-leaved scurf-pea, winged dock, MacDougal's lomatium, and many-flowered thelypodium would result from construction and operation of the Proposed Action. However, the estimated short- and long-term disturbance and loss, respectively, of individual plants would be minor and incremental and no population-level effects would be anticipated for any of these four species. As discussed for general vegetation resources, a number of committed protection measures and BMPs are listed in Table 2-6 and Appendix B specific to vegetation, soils, and reclamation approaches that would minimize potential effects to these four California sensitive plant species (see *Measures ROW-9, Reclamation-1* through *Reclamation-9*, *Vegetation-1* through *Vegetation-6*, and *ROW Grant-43*). No impacts to the Geyer's milkvetch would occur from implementation of the Proposed Action.

4.14 Livestock Grazing

This section describes impacts to livestock grazing that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse impact to livestock grazing if it would cause substantial adverse change to forage availability or a substantial adverse impact to grazing animals.

4.14.1 No Action Alternative

Under the No Action Alternative, no effects to livestock grazing would occur and the current grazing regime would continue in accordance with existing allotments and leases.

4.14.2 Proposed Action

The impact analysis to livestock grazing under the Proposed Action focused on potential short- and long-term impacts to forage availability. Table 4-7 summarizes the estimated amount of surface disturbance to vegetation community types anticipated for both short-term and long-term effects. Under Construction Option A, the Proposed Action would affect an estimated 35.48 acres in the short term. Following reclamation, 3.88 acres of vegetation would be lost in the long term; however, of those 3.88 acres, 3.75 acres are already disturbed associated with the proposed Herlong Substation site. Under Construction Option B, an additional 0.93 acre of vegetation would be affected in the short term until vegetation was re-established along the Doyle SWA. An estimated 2.39 acres of previously disturbed ground (e.g., industrial, disturbed) would be reclaimed following project construction. The loss of this potential forage availability for

one growing season would be small and incremental relative to the availability within the BLM's grazing allotment and CSLC's grazing lease.

Potential disturbance to grazing animals from project construction would be limited to some animal displacement along the construction ROW during the 4-month construction period where overland travel by equipment and disturbance from pole placement and wire tensioning would occur. However, this potential displacement would be expected to be minor and short term. PSREC's BMP and committed protection *Measure Livestock-1* in Table 2-6 and Appendix B would prevent injury to livestock by covering excavations left open overnight. Covers would be secured in place and would be strong enough to prevent livestock from falling through the opening. Additionally, PSREC has an established BMP reflected in *Measure ROW Grant-35* that states PSREC would be responsible for repairing or replacing any resources lost by BLM grazing permittees as a result of the project. Resources may include, but not be limited to water pipelines, livestock, forage for livestock grazing, spring (water) production, and the ability to graze livestock (see Table 2-6).

Reclamation measures have been developed to enhance revegetation, minimize weeds, and minimize impacts to forage availability along the project ROW. Section 4.13 discusses the specific approaches used for site reclamation for vegetation resources. *Measures Reclamation-1* through *Reclamation-8* in Table 2-6 and Appendix B outline those developed specifically for the Proposed Action. Based on these measures, no long-term effects to livestock forage availability would be anticipated from project implementation.

Potential impacts to range animals by vehicle collision would be low and short-term, based on speed limits established for construction equipment and vehicles on the project access routes. PSREC's BMP and *Measure Air Quality-3* to control vehicle speed and associated fugitive dust would minimize these collision risks.

Thus, impacts to livestock grazing would be less than significant.

4.15 Recreation

The section describes impacts to recreation that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse effect on recreation, if it has a substantial adverse effect on recreational uses and patterns.

4.15.1 No Action Alternative

Under the No Action Alternative, there would be no changes to recreational use or patterns, including use of the Fort Sage OHV SRMA and the CDFG's M3 Doyle Muzzleloader Rifle Buck Hunt on the Doyle SWA.

4.15.2 Proposed Action

During construction, potential impacts to recreational activities may include a temporary and minor increase in traffic, human presence, and noise from construction equipment and helicopter use. Some recreational users may avoid construction segments along the project ROW during these periods; however, these potential impacts to recreational users would be low and short term. Potential effects to regional users (e.g., hunters) from increased noise levels during project construction and operation are addressed in Section 4.10, Noise.

To avoid potential impacts to hunters participating in the CDFG's M3 Doyle Muzzleloader Rifle Buck Hunt on the Doyle SWA, PSREC has committed to discontinue construction activities during a nine-day period in November along the project ROW immediately before and during the hunt (refer to *Measure Doyle SWA-5* in Table 2-6 and Appendix B). Construction at substations during this period would not impact recreational uses in the region.

No conflicts with OHV races on the BLM-administered Fort Sage OHV SRMA would occur. PSREC has committed to restrict construction activities within project areas that occur in this SRMA during the biannual motorcycle races held in the spring to prevent potential impacts to race participants (see *Measure Recreation-1* in Table 2-6 and Appendix B).

PSREC also has considered careful placement of structure guy wires to reduce potential hazards to OHV users illegally entering areas not intended for OHVs during project operation to minimize possible safety issues for these riders if they were to access areas along the project ROW. As stated in *Measure Recreation-2* in Table 2-6, PSREC would coordinate with BLM after project construction to verify that actual structure and guy wire placement would not conflict with established trails and to mitigate any safety hazards to OHV users on designated trails. Mitigation could consist of minor trail route changes, per this coordination and communication effort.

Therefore, effects of the Proposed Action to recreation would be less than significant.

4.16 Wildlife and Fisheries

This section focuses on wildlife resources common to the Proposed Action area. Sensitive wildlife species, including federally listed, state-listed, BLM sensitive species, and California special status species, are addressed separately in Section 3.17.1, Special Status Wildlife Species. The Proposed Action has the potential to have an adverse impact on wildlife and fisheries if it has a substantial adverse effect through habitat modification, interferes substantially with the movement of native resident of wildlife species, or results in the significant loss of key wildlife resources.

4.16.1 No Action Alternative

Under the No Action Alternative, no additional direct or indirect impacts to wildlife resources would be anticipated from power line construction, operation, and maintenance. As described in Section 4.14, ongoing area activities including livestock grazing, range improvement projects, and OHV use would continue. These activities would incrementally affect wildlife habitat and associated wildlife species as under the current conditions.

4.16.2 Proposed Action

4.16.2.1 Background

The wildlife resources impact assessment outlines the potential impacts from proposed project construction, operation, and maintenance activities for the Fort Sage 120kV Proposed Action. Potential direct and indirect short-term and long-term impacts to wildlife species are generally proportional to the size and duration of the project, construction work force, land use, recreational demands (e.g., hunting OHV use), existing habitat values, and other regional activities. The Proposed Action's project components were examined relative to the temporal and spatial patterns of both resident and migratory wildlife species and the current wildlife population trends in the project area. Information obtained from the applicable federal and state agencies, environmental organizations, and the field reconnaissance and surveys conducted in the spring/summer of 2007 and 2010 was incorporated into this assessment. PSREC's committed environmental protection measures outlined in Table 2-6 and Appendix B also have been incorporated into the following impact assessments and are referenced, where applicable.

The small project size, short-term construction period, paralleling existing power line corridors and roads along portions of the proposed route, and implementation of PSREC's committed environmental protection measures would limit adverse effects to wildlife resources. The following impact assessments focused on key wildlife resources and important habitat types (e.g., mule deer, raptor species, bitterbrush community, Long Valley Creek, Turtle Mountain), relative to the Proposed Action, including potential impacts to wintering mule deer, particularly in and near the Doyle SWA; potential short- and long-term impacts to birds from project construction and operation; and potential effects to wildlife resources and associated habitats along Long Valley Creek.

4.16.2.2 Habitat Effects

No direct or indirect impacts to aquatic resources would occur from project construction or operation. The proposed 120kV power line would cross an ephemeral reach of the Long Valley Creek along Garnier Road, paralleling an existing 69 kV transmission line located on the other side of Garnier Road (see photos in Appendix E). Project construction would avoid directly or indirectly impacting the bed, bank, or channel of Long Valley Creek, and no impacts to associated riparian vegetation along this creek

bottom would occur. Therefore, the "Lake or Streambed Alteration" process under Section 1602 of the CDFG's Fish and Game Code would not apply to this project.

Under Construction Option A (i.e., helicopter use on Doyle SWA), the Proposed Action would result in 35.48 acres of short-term surface disturbance. Under Option B (i.e., standard construction methods), the project would result in 36.41 acres of short-term disturbance. The habitat types impacted by new surface disturbance by project component are summarized in Table 4-8.

Of the area disturbed in the short term for either construction option, 31.60 acres would be reclaimed under Option A and 32.53 acres would be reclaimed under Option B, resulting in a total of 3.88 acres lost in the long term for structure placement and construction of the new Herlong Substation. Of this long-term loss of 3.88 acres, only 0.13 acre would be lost within native plant communities; the 3.75 acres associated with the Herlong Substation are located within a currently disturbed area.

The environmental committed protection measures outlined in Table 2-6 and Appendix B would aid in minimizing impacts to native habitats from project construction, minimize noxious weed infestations, and ultimately support final site reclamation for regional wildlife species.

4.16.2.3 Animal Effects

During the anticipated four-month project construction period, the increased human-related activities (e.g., equipment movement, human presence, increased noise levels) would temporarily displace terrestrial animals in and adjacent to the project ROW during those activities. Typically, animals either avoid disturbance or become accustomed to the localized disturbance or noise levels. Factors such as species sensitivity, seasonal use patterns, type and timing of project actions, noise sources and duration, and physical parameters (e.g., buffering capacity of area topography, cover, forage, other environmental factors) would determine the relative level of effects and individual animal displacement.

The following discussion on potential effects to wildlife species from implementation of the Proposed Action focuses on species commonly occurring along the project ROW. Special status wildlife species are addressed in Section 4.17.

Table 4-8 Habitat Types Affected by the Proposed Action

	Habitat Type[1]									Totals
	BBR/DP	**DIST**	**DP/sgb/bbr**	**IND**	**PGS**	**SGB**	**SGB/DP**	**SGB/sb**	**Spanning MRI**	
ROW Length (mi)	0.54	1.25	1.60	0.07	2.62	3.08	4.24	0.15	0.11	13.67
200-foot Construction ROW (ac)	13.1	30.3	38.9	1.8	63.6	74.6	101.5	3.7	2.6[2]	331.40[3]
Short Term										
Structure Work Areas (ac)	0.78	1.80	2.30	0.11	3.76	4.41	5.98	0.22	0.15	19.51
Angle Poles (ac)	--	0.20	--	--	1.50	1.00	1.45	0.80	0.05	5.0
ROW Access (ac)[4]	--	--	--	--	2.86	2.86	2.86	--	--	8.58[4]
Wire Pull / Splice (ac)	--	--	--	0.24	0.62	0.24	0.37	--	--	1.47
Construction Yard #1 (ac)	--	--	--	--	0.92	--	--	--	--	0.92
TOTALS (Opt A) (ac)	**0.78**	**2.00**	**2.30**	**0.35**	**9.66**	**8.51**	**10.66**	**1.82**	**0.20**	**35.48[5]**
Doyle SWA Work Areas Opt B (ac)	--	--	0.69	--	--	--	--	--	--	0.69
Doyle SWA Access Opt B (ac)	--	--	0.24	--	--	--	--	--	--	0.24
TOTALS (Opt B) (ac)	**0.00**	**0.00**	**0.93**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**36.41**
Long-term										
Herlong Sub (ac)	--	3.75	--	--	--	--	--	--	--	3.75
Pole Placement (ac)[6]	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.01	--	0.13[6]
TOTALS (Opt B) (ac)	**0.01**	**3.77**	**0.01**	**0.02**	**0.02**	**0.02**	**0.02**	**0.01**	**0.00**	**3.88**

[1]BBR/DP = Bitterbrush and Desert Peach co-dominant
DIST = disturbed surface area
DP/sg/bbr = Desert Peach dominant with big sagebrush and bitterbrush
IND = Industrial site
PGS = Perennial Grassland with Saltbush and Sagebrush
SGB = Big Sagebrush
SGB/DP = Big Sagebrush and Desert Peach co-dominant
SGB/sb = Big Sagebrush with saltbush and grasses
[2]Spanning MRI = Montane riparian habitat at Long Valley Creek would be spanned by the proposed power line; therefore, acreage estimates are not included in calculated surface disturbance areas by project component.
[3]The acreage totals by habitat type are slightly lower than the acreages for the entire line length , due to rounding differences.
[4]Habitat types along temporary access routes encompass three primary vegetation types; therefore, the total acreage of 8.58 acres disturbed in the short term was divided among these three types.
[5]The acreage totals by habitat type are slightly higher than the acreage calculated for all temporary disturbances, due to rounding differences.
[6]Because exact structure locations are not known relative to habitat types, the total acreage lost in the long term of 0.13 acre was divided among eight of the nine habitat types that occur along the route. No poles would be placed within the MRI of Long Valley Creek.

Project construction would result in some direct loss of burrowing small mammals and reptiles from equipment use along the ROW; however, no population-level effects would be anticipated, given these species commonly occur in and near the proposed ROW and ancillary facilities (e.g., roads, substations) and many of these smaller mammal species have high reproductive potential. Examples of representative small burrowing mammals and reptiles that could be impacted by ROW construction could include common rodents (e.g., mice, wood rats, voles, gophers) and reptiles (e.g., lizards, rattlesnakes, gopher snakes). No population-level effects would be anticipated, based on these species are not sensitive, they have high reproductive potential, and the short-term nature of the construction would be limited in time.

Some animals (e.g., birds, medium-sized mammals) would avoid the construction activities. Different bird species exhibit varying tolerances to human-related disturbances (e.g., increased human presence, noise, equipment operation) with some being more susceptible to disturbances than others. Given the limited area affected along the linear power line, it is assumed most songbirds (e.g., sage sparrow, lark sparrow, western meadowlark) and medium-sized mammals (e.g., black-tailed jackrabbit, coyote) would avoid the construction ROW during the 4-month period. Following line construction, it is assumed these less sensitive species would return to the project area upon final reclamation.

If construction were to occur during the breeding season (February 1 through August 31), potential impacts to nesting raptors (e.g., golden eagle, burrowing owl, red-tailed hawk) would be avoided or minimized by PSREC's commitment to conduct raptor nest surveys prior to the initiation of construction to identify active nest sites and protect individual nests, as warranted. Special status raptor species are discussed in Section 4.17.

As outlined in committed protection *Measure Wildlife-5* in Table 2-6 and Appendix B, if project construction were to occur during the breeding season (February 1 through August 31), PSREC would contract with a qualified biologist to conduct a raptor nest clearance survey in proximity to the project and coordinate with the BLM wildlife biologist on a site-specific basis to determine whether a construction restriction within a specified buffer area (e.g., 0.25-mile area, 0.5-mile area) was warranted. Construction restrictions and associated nest buffers would apply to active nest sites to protect breeding raptors and eggs or young. The Eagle Lake Field Office RMP (BLM 2007, 2008) delineates the applicable buffer zone distances and seasonal restriction dates by raptor species, as summarized in Table 4-9. These restrictions are based on the bird species affected, topography (i.e., line of sight), habitat suitability, degree of existing disturbance, associated prey base, breeding phenology, and degree or extent of proposed disturbance. On CDFG lands, PSREC would coordinate with the designated CDFG biologist to assess and protect nesting raptors within 0.5 mile of the project ROW on a site-specific basis. On CSLC lands, PSREC would coordinate with the third-party MMRP Environmental Monitor, if nests were found (Appendix B). As stated in *Measure Wildlife-5* in Table 2-6, some raptor species are more tolerant of human presence and disturbance (e.g., American kestrel, great horned owl) than other species are (golden

eagle, red-tailed hawk, prairie falcon) and whether a nest is within line of sight of the construction activities is integral to determining whether protection measures are warranted. As stated, protection of active raptor nests would apply during project construction and the breeding season period until the young had fledged or if the nesting attempt fails.

Table 4-9 BLM Buffer Zones and Seasonal Restrictions for Raptors

Species	Buffer Zone Distance	Seasonal Restriction Dates
Bald Eagle	Nest: 0.5 mile line of sight; 0.25 mile non-line of sight; 1.0 mile blasting Winter Roosts: 0.5 mile	January 1-August 31 December 1-April 1
Golden Eagle	Nest: 0.5 mile line of sight; 0.25 mile non-line of sight	February 1-August 31
Northern Goshawk	Current Nest: 0.25 mile Previous Year's Nest: 0.5 mile	March 1-August 31
Cooper's Hawk	Nest: 0.25 mile	March 1-August 31
Sharp-shinned Hawk	Nest: 0.25 mile	March 1-August 31
Ferruginous Hawk	Nest: 0.5 mile line of sight; 0.25 mile with visual buffer	March 1-August 1
Red-tailed Hawk	Nest: 0.25 mile	March 1-August 31
Swainson's Hawk	Nest: 0.25 to 0.5 mile	April 15-August 15
Peregrine Falcon	Nest: 1.0 mile	January 1-August 15
Prairie Falcon	Nest: 0.25 to 0.5 mile	March 15-August 15
Osprey	Nest: 0.25 mile	March 1-August 31
Burrowing Owl	Nest: 0.25 mile	March 1-August 31
Flammulated Owl	Nest: 0.25 mile	April 1-September 30
Great Gray Owl	Nest: 0.25 mile	March 1-July 31
Great Blue Heron	Nest: 660 feet to 0.25 mile	March 15-July 15
Townsend's Big-eared Bat	Winter Hibernaculum: (November-April) Nursery: (April-October)	November 1-April 15 April 15-October 31

Source: BLM 2007, 2008

4.16.2.4 Doyle SWA and Big Game Effects

Potential effects to wintering mule deer, specifically the animals occurring on and near the Doyle SWA, were the primary big game issues examined for implementation of the Proposed Action. As discussed in Section 3.16, the antelope bitterbrush shrub community provides high quality foraging habitat and thermal cover for mule deer in this region. Two of the CDFG's primary concerns with critical mule deer winter range in this region encompass bitterbrush seedling regeneration and encroachment of other species

(e.g., cheatgrass, juniper) into the bitterbrush community. Although the regional bitterbrush community is considered to be valuable for area mule deer, bitterbrush vegetation within other shrub communities occurs along less than 4% of the project ROW (see Table 4-8).

The proposed ROW in Section 8 of the Doyle SWA is located near an existing gravel road with moderate traffic use from regional activities. As typical for most roads, habitat values for terrestrial wildlife and associated species carrying capacities within these habitats adjacent to an existing road are reduced along the road easement than the habitat values and use located farther away from the roadway. This reduced habitat value along roads is based on several factors, including 1) increased human presence and activity, 2) vehicle collision risk, 3) varying vegetative components along road ROWs (e.g., weeds), and 4) increased dust deposition on plant species (e.g., shrubs for deer browsing).

Based on these factors, it is assumed the habitat values and use by wintering deer along this existing gravel road is less than that exhibited farther from the road edge. Therefore, locating the proposed 120kV transmission line along the existing road in Section 8 (100 to 375 feet between the two ROWs) would aid in concentrating human influences in one area as opposed to locating the line in less disturbed habitats (i.e., cross country ROW placement).

Construction Option A

Under Construction Option A, no impacts to bitterbrush or other native shrubs on Doyle SWA would occur, as discussed below for this area. Some general displacement of individual deer from the project ROW during project construction may occur from increased human presence and increased noise levels associated with the 4-month construction period. However, a number of factors would minimize these potential effects.

PSREC has committed to a number of environmental protection measures as part of the Proposed Action (see Table 2-6 and Appendix B). Specific to minimizing potential short- and long-term impacts to mule deer, PSREC would implement construction and reclamation measures to prevent or minimize: 1) surface impacts to native vegetation, 2) noxious weed invasion, 3) potential injury to animals from open construction areas, 4) potential impacts to riparian areas, and 5) disturbance to hunters during the CDFG's M3 Doyle Muzzleloader Rifle Buck Hunt. Additionally, the Proposed Action's Construction Option A was developed to specifically minimize surface and habitat effects to the 0.5-mile segment of the Doyle SWA.

Specific to this 0.5-mile-long ROW segment across Doyle SWA in Section 8 (see Map 2-1 Sheet 5), which is owned by the CDFG, the ROW easement would encompass 6.1 acres of native habitats. However, the short- and long-term surface disturbance to Doyle SWA would be far less. As shown in Table 2-1 and Table 4-8, the Option A construction scenario would prevent temporary or short-term impacts to vegetation and

wildlife habitat along this line segment. Option A assumes hand augering would be feasible to drill the structure holes, followed by use of a helicopter to place and erect the poles on the Doyle SWA parcel.

Assuming the use of double-pole H-frame transmission line structures, three structures would be placed within Section 8 of the Doyle SWA. Long-term impacts would be limited to the small, incremental loss of surface area from the three structure locations (150 square feet) (see Table 2-5, Structures 52-54). However, *Measure Doyle SWA-7* in Table 2-6 states PSREC would be able to site the three structures on the Doyle SWA parcel to avoid direct impacts to bitterbrush vegetation. Therefore, despite the long-term loss of 150 square feet of surface area from structure placement, no long-term loss of bitterbrush vegetation would occur on Doyle SWA from project operation under Construction Option A of the Proposed Action.

Construction Option B

Under Construction Option B, hand drilling the structure holes in Section 8 of the Doyle SWA would not be feasible and additional temporary access and equipment use on this portion of Doyle SWA would be required. If standard construction methods were used on Doyle SWA, an additional 0.69 acre of the desert peach/sagebrush/bitterbrush community would be impacted in the short term from the work areas surrounding the three structures (i.e., 0.23 acre/structure). Three temporary access routes would travel from the existing county road on the south side of the Section 8 parcel to each H-frame structure (i.e., no surface disturbance between poles). These perpendicular access routes would disturb an estimated 0.24 acre of native habitats in the short term. Therefore, the short-term surface disturbance on the Doyle SWA would total 0.93 acre.

Under Construction Option B, the anticipated effects from project operation would be the same as those discussed for Construction Option A, an estimated 150 square feet of surface area would be lost in the long term. No permanent access routes would be maintained during project operation on Section 8 of the Doyle SWA.

If Construction Option B were implemented, PSREC and the CDFG have mutually agreed on a habitat enhancement program to mitigate the transmission line crossing 0.5 mile of the Doyle SWA in Section 8. Appendix B contains this detailed mitigation plan, which also is referenced in Table 2-6.

Project Operation on Doyle SWA

During project operation, no effects to habitat or wildlife resources on the 0.5-mile segment of the Doyle SWA would occur. Maintenance examinations would be conducted from the county road or on foot. In the event pole repair were required as part of the routine maintenance activities, PSREC would coordinate with the CDFG, accordingly.

4.16.2.5 Wild Horses and Burros

No direct impacts to wild horses or burros within the Fort Sage Wild Horse and Burro HMA from project construction or operation would be anticipated. The animals would avoid the ROW area and ancillary facilities during the 4-month construction period, likely returning to the region upon the construction completion. Potential effects to this herd unit would be limited to a small and incremental loss of vegetation in the short term.

As discussed above for general wildlife habitats, a total of 35.48 acres of short-term surface disturbance is estimated for Construction Option A. Of these 35.48 acres, only a calculated 9.66 acres would be affected within the perennial grasslands and an additional 24.07 acres would be affected in other native shrub communities that would have some forage value with dispersed understory grasses for grazers (see Table 4-8). Under Construction Option B, an additional 0.93 acre of the native desert peach/sagebrush/bitterbrush community would be affected. Long-term habitat lost would be 3.88 acres, but only 0.13 acre would be located within native plant communities.

In addition to the committed protection measures listed in Table 2-6 and Appendix B to minimize impacts from surface disturbance and enhance reclamation, PSREC also has committed to covering construction holes left open overnight to prevent impacts to livestock or wildlife. This PSREC BMP is outlined in *Measure Wildlife-3* in Table 2-6.

4.16.2.6 Potential Impacts to Wildlife from Noise

As discussed above for general wildlife effects from project construction activities, wildlife tolerance of noise levels will vary on a number of factors, including location, topography, type of noise source, levels and duration, and species' sensitivity. Construction noise would encompass four components: 1) equipment use during the 4-month line construction period, 2) short-term helicopter use for line pulling and pole construction on Doyle SWA under the Proposed Action's Construction Option A, 3) standard construction procedures for Doyle SWA under Construction Option B, and 4) noise levels during line operation.

<u>Standard Construction Equipment</u>

The anticipated noise impacts to local wildlife resources from use of standard construction equipment along the project ROW during the 4-month project construction period would vary based on the species' sensitivity. Typically, animals either avoid noise sources or become habituated to the localized noise levels. The season, noise levels and duration, and buffering factors (e.g., area topography, cover, forage) all contribute to the relative level of effects.

Noise levels associated with use of construction equipment at the new Herlong Substation, near U.S. 395, and along Garnier Road would not impact local wildlife resources, given the ambient noise levels in these areas from daily traffic levels and

other human uses. It is anticipated the noise levels associated with equipment use along the more rural east/west corridor between Garnier Road and the Fort Sage Substation may result in a low level, short-term displacement of animals along the ROW corridor. As discussed above for general construction practices, it is assumed species less sensitive to increased noise levels would either avoid the construction activities during line construction, returning to the area upon final project reclamation, or habituate to these noise sources in the short term. Species considered more sensitive to increased noise (e.g., mule deer, nesting raptors) would likely be more affected from equipment use and pedestrian presence during construction. However, potential effects to mule deer from project noise in the project area would be low, based on the limited extent of project construction activities along this linear ROW near and adjacent to existing infrastructure, such as existing power line and road ROWs. Additionally, PSREC's committed protection measure in Table 2-6 and Appendix B would prevent impacts to the CDFG's M3 Doyle Muzzleloader Rifle Buck Hunt. *Measure Doyle SWA-5* states PSREC would cease construction activities along the project ROW during the period immediately before and during the Muzzleloader Hunt, specifically from the second Saturday in November through the end of the 9-day hunting period.

No impacts to active raptor nests would be anticipated from increased construction noise from use of standard equipment, based on PSREC's committed *Measure Widlife-5*. This measure would protect active nest sites within the species-specific buffer areas, if warranted.

Helicopter Construction – Option A

Detailed helicopter operation scenarios to minimize time and ground disturbance during project construction are discussed in Section 2.5.2.4. Use of helicopters for line construction would reduce the duration and extent of standard construction activities but would increase noise levels in the short term along portions of the ROW and the 0.5-mile segment of Doyle SWA. In general, wildlife will respond to low-altitude aircraft over-flights, but as stated for other disturbances, the extent of these impacts would depend on a number of factors including the aircraft flight altitude and approach, speed, associated noise levels and duration, life history characteristics of the species, habitat types, season, activity at the time of exposure, sex and age of the individual, and previous exposure to aircraft (Busnel and Fletcher 1978).

Section 2.5.2.4 describes in detail the proposed helicopter use under Construction Option A. The Proposed Action would use a light duty helicopter to pull the sockline and ferry personnel, reducing construction time from an estimated 10 to 15 days for line stringing down to approximately 10 to 15 hours (i.e., 2 to 3 hours per day for three days and five hours to ferrythree personnel to construction sites). Additionally, a medium-lift helicopter would be used to set the three two-pole structures on the Doyle SWA, estimating these pole structures could be set in one hour.

The reduction in the construction period would be substantial and overall a reduction in effects to wildlife resources. Noise levels from helicopter use for line pulling and

personnel transport would be high, but sporadic, at any one location. Since the construction sequence would move more rapidly than using standard ground-based equipment, animals would be exposed to shorter periods of construction noise.

Section 4.10 outlines the calculated noise levels associated with these activities. The anticipated noise levels for the medium-lift helicopter for use on erecting structures on Doyle SWA would range from 67 to 73 dBA: 1) level flight, flying 60 knots at 500 feet above the ground the noise levels would range from 72.5 to 73 dBA; 2) noise levels 500 feet either side of flight path would range from 67 to 70.5 dBA (see Section 4.10, Noise). As shown in Table 4-6, these levels would range from moderate to high sound levels. Sound levels for the light duty helicopter used for line stringing would be less than those estimated for the medium duty helicopter.

The impact analysis focused on potential effects to key wildlife resources, encompassing mule deer, breeding raptors, and special status species (see Section 4.17). A number of studies have examined responses of various wildlife species to helicopter and fixed wing over-flights, generally indicating the degree of disturbance was a function of proximity of the aircraft, but few studies have shown helicopter over-flights have resulted in long-term, high adverse impacts to wildlife populations. In general, it appears most impacts from helicopter over-flights at a distance of 500 feet agl are minor and short term (Altman 1958; Krausmann and Hervert 1983; Miller and Smith 1985; Stockwell et al. 1991).

Study examples include documentation of desert mule deer responses to low-level helicopter flights at 130 to 350 feet above the ground were minor (Krausman et al. 1986). For ungulates, the lowest observed adverse effect level is highly variable, ranging from approximately 1,000 feet to 1 mile and thresholds for behavioral effects from sound ranging from 73 to 113 dBA (Efroymson et al. 2000).
Most bird response to low-level helicopters are varied. Approximately 40% of red-tailed hawks at 35 active nest sites were reported to flush from nests by medium duty helicopter (e.g., Bell 205) over-flights of 100 to 150 feet above the ground upwards of 130 to 350 feet line of site from the nests. However, no effects to nesting success, chick survival, or annual production resulted from these short-term disturbances (Anderson et al. 1989). The presence of eggs or young increases the tenacity of breeding birds. Cummings (1994) observed no response from nesting eagles to a Bell 205 helicopter at 100 feet over the nest, and Carrier and Melquist (1976) also observed no effect to ospreys' nest success from helicopter over-flights. Craig and Craig (1984) observed prairie falcons flushed from perches from low-level over-flights of a helicopter, but also noted that red-tailed hawks and golden eagles had no response to helicopter over-flights. White and Sherrod (1973) used a variety of turbine engine and piston engine helicopters to survey bald eagle, golden eagle, peregrine falcon, gyrfalcon and rough-legged hawk nests for a 6-year period. They reported productivity estimates of raptors from areas not surveyed by helicopters were similar to productivity estimates of raptors surveyed by helicopters. Finally, Phillips et al. (1991) observed similar behavior with golden eagles in Wyoming. Brooding golden eagles remained on the nest until a

light duty helicopter (e.g. Hiller 12E) was within 100 feet of the nest. Once the helicopter had departed the golden eagle immediately returned to the nest site.

Specific to active raptor nests on Turtle Mountain, such as golden eagle, prairie falcon, and burrowing owl, impacts to nesting birds from helicopter use along the project ROW would not be anticipated. This assumption is based on two factors: 1) the distance of these nests along the rocky ridgeline as compared to the ROW alignment and 2) PSREC's committed protection *Measure Wildlife-5* to avoid and protect active raptor nest sites within the species-specific buffer areas, if warranted.

In summary, no impacts to key wildlife resources in the project area would be anticipated from use of helicopter for line construction. This assessment is based on the short-term nature of the disturbances, the reduction in the overall construction period by 9 to 13 days, and the commitment to avoid active raptor nests during the breeding period.

Standard Construction - Option B

The anticipated noise impacts to local wildlife resources, particularly mule deer, from use of standard construction equipment for Doyle SWA under the construction Option B would parallel that discussed above for standard construction effects along the ROW during the 4-month construction period. This scenario would remove the use of a medium duty helicopter for erecting the three structures along this 0.5-mile line segment within a 1-day period, reducing the isolated and peak noise levels anticipated for this effort in the short term. However, the overall construction period would increase, resulting in an increase in human presence and surface area effects over a longer period.

Line Operation

During project operation, no increased effects to area wildlife resources would occur from low level corona and occasional maintenance activities (e.g., maintenance trucks).

4.16.2.7 Project Operation and Potential Effects to Birds

Based on work completed the last few decades on avian electrocutions and collisions with power lines, several information sources are available that aid in determining potential risks to birds from power line operations. Three primary sources include the Avian Power Line Interaction Committee's (APLIC's) *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994* (APLIC 1994) and APLIC's and USFWS' *Avian Protection Plan (APP) Guidelines* (APLIC and USFWS 2005). The 1994 source document on bird collisions with power lines is currently being updated. The revised collision manual is scheduled for release in 2011.

Regarding avian electrocution risk, a line of this size built to 120kV specifications typically would not pose an electrocution risk to birds. The NESC specifies electric

conductor clearances, and the NESC requires greater clearances above the ground and between conductors as voltages increase. Both APLIC (2006) and APLIC and USFWS (2005) generally recommend 60 inches of horizontal space and 40 inches of vertical space between energized and/or grounded portions of the structures. However, for a 120kV transmission line, horizontal separation between phase-to-phase or phase-to-ground contact points should be a total of 72 inches for this line voltage.

The dimensions and design of the proposed Fort Sage 120kV transmission line would meet or exceed these recommended distances. As shown in Figure 2-1, the H-frame structure would have suspended insulators; therefore, there is no avian electrocution risk for this configuration. Additionally, for the other structure types, either insulating properties of the wood poles or line design dimensions to prevent raptor electrocution. Specifically, The span length between H-frame structures would range between 700 and 900 feet; single-pole spans would be approximately 300 feet. Any modification to structure design, based on site-specific field conditions, would be minor and would adhere to the construction standards and specifications, including the design criteria/committed environmental protection measures developed for this Proposed Action. Project design standards are listed in Table 2-1. These design standards would allow for a future increase in line capacity, including installation of two circuits and a wider use of steel poles, depending on future energy demands.

Table 2-1 states line design would comply with raptor-friendly construction standards that require 72 inches between energized surfaces and grounded structures for 120kV voltage. All steel poles with either horizontal suspension insulators or post-type insulators would be fitted with attachment hardware and insulators rated at 161kV and specified at 72 inches or greater. Single-pole wood structures either would incorporate a 72-inch buffer between energized and grounded surfaces or apply cover-up materials on each pole's groundwire (e.g., wire molding). No electric distribution line underbuild with smaller phase-to-phase and phase-to-ground clearances is proposed for the 120kV transmission line structures.

The potential risk of birds colliding with transmission lines depends on a number of factors, such as habitat types, line orientation to migratory flyways and foraging flight patterns, number of migratory and resident bird species, species composition and area familiarity, visibility and weather patterns, types of human-related disturbance, and line design (Anderson 1978; Beaulaurier et al. 1982; Bevanger 1994, 1999; Crowder 2000; Ferrer and Janss 1999; Hebert and Reese 1995; Heck 2007; Olendorff and Lehman 1985; Thompson 1978). The flight altitude and flight speed of species approaching the line and the wing loading to aspect ratio also are key factors in collisions (Beaulaurier et al. 1982; Rayner 1988). APLIC developed a reference, *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994* (APLIC 1994) that depicts the factors associated with avian collision risks and provides a guide in assessing potential collision risk to area birds from power line operation. As discussed above, this resource is currently being updated and is scheduled to be released in 2011, but many of the factors outlined in this and the other publications still apply.

Overhead static wires located over the transmission conductors to intercept lightning strikes are not energized and are typically smaller diameter than the conductor wires. The reduced visibility of the static wires increases the collision risk for birds (Avian Power Line Interaction Committee [APLIC] 1994; Crowder 2000; Electric Power Research Institute [EPRI] 2003, Heck 2007, Pandey et al. 2008). Previous studies on avian collisions with transmission lines have indicated that 65% to 93% of observed collisions occurred with the overhead static wire (Beaulaurier et al. 1982; Faanes 1987; Pandey et al. 2008, Murphy et al. 2009). Recent studies have shown a reduction in the incidence of avian collisions when power lines are marked with avian flight diverters (Yee 2008; Ventana Wildlife Society 2009).

The potential for bird collisions with the proposed Fort Sage 120kV transmission line would be low, based on a number of factors and associated studies on this issue. Project-specific factors that would reduce the collision risk to both resident and migrant birds would be line location relative to adjacent habitats, avian species present, and past studies examining bird interactions with these types of structures. Specifically, 1) the line ROW does not cross or bisect habitats that typically attract large numbers of birds (e.g., foraging, nesting, or roosting areas), 2) no bird concentrations occur on or near the ROW corridor, 3) the line does not cross a daily movement or seasonal migration corridor for birds, 4) there is no historical evidence to suggest the existing transmission or distribution lines in the vicinity of the new 120kV transmission line have posed a moderate to high collision risk to either resident or migratory species, and 5) PSREC has realigned the proposed ROW to avoid higher quality habitats (e.g., Long Valley Creek, Turtle Mountain).

The proposed project ROW was realigned to avoid high-quality habitat along Long Valley Creek and on Turtle Mountain. The current ROW alignment for both these areas would pose a low collision risk to resident and migratory birds. Although a number of nesting raptors occur on the higher elevations of Turtle Mountain south of the ROW alignment (see Map 2-1 Sheet 5), the line at the base of Turtle Mountain would not bisect two areas of high use, and raptors are not as prone to line collision (Olendorff and Lehman 1985). Similarly, the Proposed Action crossing of Long Valley Creek is of low habitat value for area wildlife along this dry, ephemeral reach. The presence of the existing 69kV transmission line along Garnier Road also would increase line visibility and minimize avian collision risks in this area. Appendix E provides representative photos of the habitats associated with Turtle Mountain and Long Valley Creek.

In summary, no electrocution risk would occur from project operation. Avian collision risk would be low for all area species, based on a number of factors and site-specific variables. The Proposed Action would not result in a substantial adverse modifications to wildlife habitat, substantial adverse effects to native species populations, or interfere with migratory or daily movement patterns. With the implementation of the applicable protection measures in Section 2.6 and Appendix B, impacts to wildlife would be less than significant.

4.17 Special Status Wildlife Species

This section describes impacts to special status wildlife species that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse impact on special status wildlife species if it has a substantial adverse effect either directly or through habitat modification, interferes substantially with the movement of a special status species, results in the loss of special status species causing effects of biological significance, or conflicts with local policies or adopted plans protecting specific biological resources.

4.17.1 No Action Alternative

No impacts to special status wildlife species would be anticipated for the No Action Alternative.

4.17.2 Proposed Action

Table 4-10 summarizes the federal and state special status species assessed for the Proposed Action. Species are presented in phylogenetic order. More detailed species' discussions are subsequently provided for key wildlife species. Species that have a low to no potential to occur in the project area, were not surveyed, and are not discussed in detail include the: bald eagle, American peregrine falcon, short-eared owl, greater sage-grouse, mountain plover, pygmy rabbit, western white-tailed jackrabbit, and northern leopard frog. Appendix E provides a greater level of detail by species and how the 2010 survey process was structured.

Table 4-10 Special Status Wildlife Species Impact Summary

Common Name	Status[1]	Potential Occurrence in the Project Area	Impact Summary	Applicable Protection Measures
Greater Sandhill Crane	MBTA ST CDFG-FP	Previously documented in project area along Long Valley Creek 2 miles west of ROW by CNDDB. Not observed in 2007. Vocalization recorded approximately 0.5 mile west of Garnier Road in agricultural fields during 2010 surveys. Possible foraging habitat in project area; no nesting habitat along ROW.	No impacts to the greater sandhill crane from project construction would occur and the potential collision risks to birds during project operation at the Long Valley Creek crossing is anticipated to be low.	None
Bald Eagle	BGEPA MBTA SE CDFG-FP	Low potential to occur in project area. Suitable foraging habitat present in region, but no documented occurrences have been recorded in or near project area. No habitat for communal winter roosts is present.	No impacts to bald eagles would be anticipated.	None
Golden Eagle	BGEPA MBTA CDFG-FP CDFG-WL	Known to occur in project area; confirmed breeder. Active golden eagle nests documented in both 2007 and 2010 on Turtle Mountain outside the ROW; foraging habitat occurs throughout project area.	1) No electrocution risk to birds. 2) Potential impacts to nesting birds would be avoided by PSREC's commitment to protect active golden eagle nests, if construction were to occur February 1 to August 31. 3) Possible displacement of individuals from increased human presence and increased noise levels in the vicinity of the transmission line ROW would be minor, short term, and limited in area. 4) Collision risk for golden eagles during line operation would be low.	*Measure Wildlife-2* *Measure Wildlife-4* *Measure Wildlife-5*

Table 4-10 Special Status Wildlife Species Impact Summary, continued

Common Name	Status[1]	Potential Occurrence in the Project Area	Impact Summary	Applicable Protection Measures
Swainson's Hawk	MBTA ST	Known to occur in project area. In 2007, one observed flying north edge of Long Valley Creek. In 2010, eight individuals observed, two active nests located within 0.5 mile of ROW, one active nest within 1.5 miles of ROW. Foraging habitats occur throughout project area.	1) No electrocution risk to birds. 2) Potential impacts to nesting birds would be avoided by PSREC's commitment to protect active Swainson's hawk nests, if construction were to occur April 15 to August 15. 3) No impacts to foraging Swainson's hawks from project construction would be anticipated, given its habitat associations and short-term nature of the project. 4) Potential collision risk to Swainson's hawks along the project ROW would be low, parallel to the discussion for general raptors' collision risk with overhead lines.	*Measure Wildlife-2* *Measure Wildlife-4* *Measure Wildlife-5*
Prairie Falcon	MBTA CDFG-WL	Known to occur in project area. In 2007, located eyrie on cliff ledge approximately 0.2 mile south of proposed ROW. In 2010, previously documented eyrie inactive, one adult observed near Fort Sage Substation; one adult observed at Turtle Mountain. Could occur year-round.	1) No electrocution risk to birds. 2) No impacts to nesting prairie falcons would be anticipated, given PSREC's committed protection measures, if construction were to occur March 15 to August 15. 3) No impacts to foraging prairie falcons from project construction would be anticipated. 4) Potential collision risk to prairie falcons would be low.	*Measure Wildlife-2* *Measure Wildlife-4* *Measure Wildlife-5*
American Peregrine Falcon	MBTA SE CDFG-FP	Unlikely to occur in project area. Possible rare occurrence during migration. Foraging would be opportunistic with Long Valley Creek providing the best foraging habitat. No nesting habitat.	No impacts to peregrine falcons would be anticipated.	None
Northern Harrier	MBTA CDFG-SSC	Known to occur in project area. In 2007, species observed. In 2010, not observed, and no evidence of breeding. Possible foraging and/or wintering in PAS along Garnier Road.	1) No electrocution risk to birds. 2) No nesting habitat for the northern harrier occurs along ROW. 3) No impacts to foraging northern harriers from project construction would be anticipated. 4) Potential collision risk to northern harrier would be low.	*Measure Wildlife-2* *Measure Wildlife-4*

Table 4-10 Special Status Wildlife Species Impact Summary, continued

Common Name	Status[1]	Potential Occurrence in the Project Area	Impact Summary	Applicable Protection Measures
Burrowing Owl	MBTA BLM-S (CA & NV) CDFG-SSC	Known to occur in project area. In 2007, one active nest burrow located approximately 300 yards south of proposed ROW on NE-facing slope of Turtle Mountain. In 2010, six individuals, three active nesting burrows, and one inactive burrow documented. Four burrow sites located E/SE of Turtle Mountain ranging from 200 feet to 0.3 mile from ROW centerline. Nest burrow recorded in 2007 located near one of the 2010 active nest sites.	1) No impacts to nesting birds or their young would be expected if construction were to occur March 1 to August 31. 2) No impacts to foraging burrowing owls would be expected based on measure to survey, avoid, and protect active nest sites. 3) No collision risks for this species.	*Measure Wildlife-4* *Measure Wildlife-5* *Measure Wildlife-7*
Short-eared Owl	MBTA CDFG-SSC	Unlikely to occur in project area. May forage and/or winter in agricultural lands along Garnier Road; no nesting habitat.	No impacts to short-eared owls would be anticipated.	None
Long-eared Owl	MBTA CDFG-SSC	Known to occur in project area. Confirmed breeder in vicinity of project area. In 2007, nest located along Long Valley Creek, approximately 600 feet upstream (southeast) of Garnier Road bridge. Not observed in 2010.	1) No impacts from nesting long-eared owls would occur from project construction, given PSREC's committed protection measures. 2) No impacts to foraging owls from line construction or operation would occur. 3) This species is not prone to power line collision given its associated habitats and flight behavior.	*Measure Wildlife-4* *Measure Wildlife-5*
Greater Sage-grouse	FC BLM-S (CA & NV) CDFG-SSC	Unlikely to occur in project area. Based on BLM and CDFG data, no known leks or grouse present. Not known to occur in the vicinity project area in either California or Nevada (Hall 2007, pers. comm.; Hampson 2007, pers. comm.; Haney 2008, pers. comm.). No survey warranted, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	No impacts to the greater sage-grouse would be anticipated.	None

Table 4-10 Special Status Wildlife Species Impact Summary, continued

Common Name	Status[1]	Potential Occurrence in the Project Area	Impact Summary	Applicable Protection Measures
Mountain Plover	MBTA CDFG-SSC	Unlikely to occur in project area. Potential for rare occurrences during migration. No survey, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	No impacts to mountain plovers would be anticipated.	None
Long-billed Curlew	MBTA CDFG-WL	Known to occur in project area. In 2007, 10 individuals observed foraging west of Garnier Rd, approximately 150 feet west of proposed ROW. Not observed in 2010.	1) No impacts to breeding birds would be anticipated, given limited potentially suitable nesting habitat. 2) No impacts to foraging birds during construction, as individuals would avoid activities in the short term. 3) Project reclamation would aid in restoring native ground habitats post-construction for possible foraging. 4) PSREC has committed to coordinating with the applicable federal and state agencies for pre-construction survey planning, if warranted.	*Measure Wildlife-1* *Measure Wildlife-4*
Willow Flycatcher	MBTA SE	Low potential to occur in project area along Long Valley Creek. Unlikely to breed or migrate in area. Not observed in 2007 or 2010.	No impacts to willow flycatchers would be anticipated since species presence has not been documented and riparian habitat along Long Valley Creek would be spanned by the power line.	None
Bank Swallow	MBTA ST	Known to occur in project area. Observed flying near Long Valley Creek in 2007 where primary habitat occurs. Possible breeder and likely forager in project area. Not observed in 2010.	No impacts to bank swallows would be anticipated from project construction or operation. No nesting was determined along Long Valley Creek and no impacts to the channel, bed, or bank of this creek would occur from project construction, given the drainage would be spanned.	*Measure Wildlife-1* *Measure Wildlife-4*

Table 4-10 Special Status Wildlife Species Impact Summary, continued

Common Name	Status[1]	Potential Occurrence in the Project Area	Impact Summary	Applicable Protection Measures
Loggerhead Shrike	MBTA CDFG-SSC	Known to occur in project area. In 2007, common along proposed ROW, often perching on poles or power lines. In 2010, 16 individuals observed and 4 nests located, 2 of them believed inactive. These were located from the ROW center (6 feet) to 0.17 mile from the centerline.	1) Breeding pairs would likely avoid the construction ROW if the 4-month construction period coincided with this species' breeding period April 15 to May 31. 2) Breeding pairs may move into adjacent territories or active nest sites located within 200 feet of ROW would be protected. 3) No impacts to nesting birds would be anticipated from project construction, based on avoiding and protecting in coordination with applicable agencies. 4) No impacts to this species from project operation would be anticipated.	*Measure Wildlife-1* *Measure Wildlife-4* *Measure Wildlife-8*
Yellow-breasted Chat	MBTA CDFG-SSC	Unlikely to occur in project area. If present, could occur along Long Valley Creek corridor during breeding season or in migration. Not observed in 2007 or 2010.	No impacts to the yellow-breasted chat would occur. No records of individuals in area and riparian habitat along Long Valley Creek would be spanned by the power line.	None
Yellow Warbler	MBTA CDFG-SSC	Known to occur in project area. In 2007, confirmed breeder with singing male along Long Valley Creek approximately 50 yards downstream (northwest) of Garnier Road bridge and proposed ROW. Not observed in 2010.	No impacts to the yellow warbler would occur. Riparian habitat along Long Valley Creek would be spanned by the power line.	None
Yellow-headed Blackbird	MBTA CDFG-SSC	Unlikely to occur in project area due to lack of suitable habitat. Not observed in 2007 or 2010.	No impacts to the yellow-headed blackbird would occur. Habitat is not suitable along the project ROW. No records of individuals in area and riparian habitat along Long Valley Creek would be spanned by the power line.	None

Table 4-10 Special Status Wildlife Species Impact Summary, continued

Common Name	Status[1]	Potential Occurrence in the Project Area	Impact Summary	Applicable Protection Measures
American Badger	CDFG-SSC	Known to occur in project area. Confirmed resident. In 2007, adult observed and active badger burrow complex located. In 2010, 10 active dens located.	1) No impacts to active badger den sites by avoiding and protecting. 2) No impacts to the badger would be anticipated from project operation.	*Measure Wildlife-1* *Measure Wildlife-7*
Pygmy Rabbit	CDFG-SSC	Unlikely to occur in project area, based on CNDDB records and historical distribution information. No survey, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	No impacts to pygmy rabbits would be anticipated.	None
Western White-tailed Jackrabbit	CDFG-SSC	Unlikely to occur in project area, based on CNDDB records and historical distribution information. No survey, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	No impacts to the western white-tailed jackrabbit would be anticipated.	None
Northern Sagebrush Lizard	BLM-S (CA)	May occur in project area. Surveys determined not warranted by BLM.	Individual lizards could be lost within the construction ROW during project construction. Loss of individuals would be expected to be sporadic, rare, and not result in a population-level effect to this species. No impacts to the sagebrush lizard from project operation would occur.	None
Northern Leopard Frog	CDFG-SSC	Unlikely to occur in project area, although habitat upstream and downstream of Long Valley Creek crossing may support this species in the region. No survey, based on avoidance of suitable habitat.	No impacts to the northern leopard frog would be anticipated.	None

Table 4-10 Special Status Wildlife Species Impact Summary, continued

Common Name	Status[1]	Potential Occurrence in the Project Area	Impact Summary	Applicable Protection Measures
Carson Wandering Skipper	FE	Low to no potential to occur in project area based on historic records, previous regional surveys by the Honey Lake Conservation Team, BLM records, further discussions with the applicable agencies, and a habitat reconnaissance conducted in 2007. No survey warranted.	No impacts to the Carson wandering skipper from the proposed project would occur. The Carson wandering skipper would not occur along the proposed project route; therefore, no adverse effects to this species or its habitat would occur from project construction and operation.	None
Honey Lake Blue	BLM-S (NV) Nevada = Critically Imperiled	Known to occur on Doyle SWA approximately 2 miles north of the ROW and on BLM land approximately 0.5 mile south of the proposed ROW (i.e., Turtle Mountain area). No survey warranted, based on low potential for effects to species.	Potential short- and long-term impacts to this butterfly species would be limited to a small, incremental, and short-term loss of individual plants of wild buckwheat (*Eriogonum* sp.) during project construction. PSREC would include *Eriogonum* sp. within the native species mix for project reclamation.	None

[1]FE = Federally Listed as Endangered
FC = Species Candidate for Federal Listing
MBTA = Migratory Bird Treaty Act
BGEPA = Bald and Golden Eagle Protection Act
BLM-S = BLM Sensitive Species
CA = California
NV = Nevada
CA Special Status Species:
- SE = State-listed as Endangered
- ST = State-listed as Endangered
- CSC = California Species of Special Concern
- CDFG-FP = CDFG - Fully Protected
- CDFG-SSC = CDFG - Species of Special Concern
- CDFG-WL = CDFG - Watch List

Greater Sandhill Crane

Potential impacts to the greater sandhill crane focused on the potential collision risk to area birds during line operation; no impacts to this bird species from project construction would be anticipated. As previously discussed, avian collision risk depends on a number of specific factors pertaining to the area and bird species present. Collisions with power lines have been documented for sandhill cranes (Brown and Drewien 1995; Murphy et al. 2009) and like many large-bodied water birds, sandhill cranes may be prone to colliding with overhead lines in and adjacent to habitats consistently occupied (see Section 3.17).

Specific to the project area, sandhill cranes have been documented breeding along Long Valley Creek, approximately 2 miles west of the Proposed Action ROW (CNDDB 2009) (see Map 3-5), and one was vocalizing approximately 0.5 mile west of Garnier Road during the spring 2010 surveys (Hardy and Arsenault 2010). The potential collision risk for individual cranes during foraging and flying in the area of the Proposed Action would be low. Although sandhill cranes may move along the Long Valley Creek drainage, a number of factors would minimize the risk of cranes colliding with the 120kV transmission line. First, the line does not bisect or cross established high-use areas (e.g., foraging, roosting habitats) for cranes; second, the new line is proposed to cross the intermittent portion of this creek along a paved, heavily used highway; third, the presence of the existing 69kV transmission line increases overall power line visibility at this crossing; and finally, no historic avian mortality issues have been recorded for this site. In summary, no impacts to the greater sandhill crane from project construction would occur and the potential collision risks to birds during project operation at the Long Valley Creek crossing is anticipated to be low.

Golden Eagle

The impact assessment for the golden eagle encompassed three primary areas, including: 1) the potential disturbance to nesting birds in the vicinity of Turtle Mountain, 2) the potential disturbance during construction to foraging birds along the power line ROW, and 3) the potential for increased collision risk during line operation. As discussed in Section 3.17, active golden eagle nests have been recorded historically along the rocky outcrops of Turtle Mountain, and individual eagles forage throughout the project region. In 2007 and 2010, active nests were recorded within 0.25 to 0.45 mile south of the project ROW, respectively.

Potential impacts to nesting birds would be avoided by PSREC's commitment to protect active raptor nests, as outlined in Table 2-6 and in Appendix B. Parallel to the impact discussion for general raptor species in Section 4.16, if project construction were to occur during the breeding season (February 1 through August 31), potential impacts to nesting golden eagles would be avoided or minimized by PSREC's commitment to contract with a qualified biologist conduct raptor nest surveys prior to the initiation of construction to identify active nest sites and protect individual nests, as warranted (see *Measures Wildlife-4* and *Wildlife-5*).

PSREC would coordinate with the BLM wildlife biologist on a site-specific basis to determine whether a construction restriction within a specified buffer area surrounding an active nest site would be warranted for a specified time period to protect breeding golden eagles. The Eagle Lake Field Office RMP (BLM 2007, 2008) specifies 0.5 mile for activities within line of sight or 0.25 mile for areas with a visual buffer that would prevent direct line of sight. On State lands, PSREC would coordinate with the designated CDFG biologist to assess and protect nesting raptors within 0.5 mile of the project ROW on a site-specific basis. Protection of active raptor nests would apply during project construction until the young had fledged or if the nesting attempt fails.

No impacts to active golden eagle nesting would be anticipated from increased construction noise from either standard construction equipment or helicopter use, based on several factors. These factors would include distance of the active golden eagle nests documented on Turtle Mountain (0.25 to 0.45 mile from the construction ROW), the fact few raptor species are affected by sporadic helicopter over-flights (see Section 4.16), the location of the helicopter use would not be in close proximity to the eagle nest sites, and PSREC's committed *Measure Widlife-5* would apply a buffer area during project construction, if warranted.

Potential disturbance to foraging golden eagles during line construction would be limited to possible displacement of individuals from increased human presence and increased noise levels in the vicinity of the transmission line ROW. However, potential displacement of foraging birds would be short term in duration and limited in area, moving the birds temporarily out of the construction zones.

Golden eagles commonly use power line poles as hunting perches and may use the structures for foraging activities during project operation. Parallel to the discussion in Section 4.16, the power line structures would be constructed to raptor-friendly specifications per APLIC (1994, 2006) (see *Measure Wildlife-2*).

Potential collision risk for golden eagles during line operation would be low, even though individual eagles would likely use the new power line structures for perching. The orientation of the proposed transmission line at the base of Turtle Mountain was examined relative to potential avian collision risk, specifically because of the proximity to several nesting raptors on Turtle Mountain. However, these transmission line spans would pose a low collision risk to birds, including nesting and foraging golden eagles. The line orientation would not bisect a high-use travel corridor, and raptors (i.e., birds of prey) are not as prone to line collision (Olendorff and Lehman 1985). Although raptors spend considerable time in the air, collisions occur relatively infrequently compared to other bird species (Bevanger 1999). Aerial hunters like raptors possess excellent flying abilities along with binocular vision, do not fly in restrictive flocks (such as waterfowl), and typically would only be susceptible to colliding with power lines when preoccupied or distracted (e.g., territorial defense, prey pursuit) (Olendorff and Lehman 1985; Thompson 1978). Additionally, a recognized BLM report on raptor collisions over a 10-year period compiled data from the U.S. and six other countries. The report concluded, except in the case of critically endangered species (e.g., California condor),

collisions have been typically a random, low level, and biologically inconsequential mortality factor for raptors (Olendorff and Lehman 1985).

In summary, the potential for direct or indirect impacts to resident golden eagles would be low to none, based on the following: 1) committed environmental protection measures developed to protect area eagles, 2) biological factors relative to golden eagles and a project of this nature, and 3) project size and location. The Proposed Action would be in compliance with the MBTA, BGEPA, and despite not being a renewable energy project, it also would be in accordance with the BLM's July 9, 2010 Instruction Memorandum No. 2010-156 (BLM 2010c).

Swainson's Hawk

Swainson's hawks breed and forage in the project area. As referenced in Table 2-6 and Appendix B, discussed above for golden eagles, and previously discussed for general raptor species, PSREC has committed to identify active raptor nests prior to construction and coordinate with BLM and CDFG wildlife biologists on a site-specific basis to determine whether construction restrictions within a specified buffer area (e.g., 0.25 mile or 0.5 mile for Swainson's hawk) would be warranted, if construction were to occur between April 15 and August 15. No impacts to foraging Swainson's hawks from project construction would be anticipated, given its habitat associations and short-term nature of the project. Additionally, the potential collision risk to Swainson's hawks along the project ROW would be low, parallel to the discussion for general raptors' collision risk with overhead lines in Section 4.16.

Prairie Falcon

The prairie falcon historically nested on Turtle Mountain and could forage throughout the project area. The potential impacts to nesting or foraging prairie falcons parallel those discussed for the golden eagle and Swainson's hawk. No impacts to nesting birds would be anticipated, given PSREC's committed protection *Measures Wildlife-4* and *Wildlife-5*. The specified buffer distance for prairie falcons would range from 0.25 mile to 0.5 mile, depending on site-specific factors, if construction were to occur between March 15 and August 15. No impacts to foraging prairie falcons from project construction would be anticipated. The potential collision risk to prairie falcons would be low and the same as that discussed for general raptor species in Section 4.16.

Northern Harrier

The northern harrier could occur throughout the project region. It would most likely occur foraging and/or wintering in pastures and agricultural lands along Garnier Road. No suitable nesting habitat of wet meadows or wetlands would be intersected by the project route; therefore, potential impacts to nesting birds would not apply. Similar to other raptor species discussed, no impacts to foraging birds would be anticipated and collision risk during project operation would be low.

Burrowing Owl

A number of burrowing owl nest burrows and individuals were documented in the project area during the 2010 field surveys. The primary issues examined for this owl species from project construction would be possible disturbance to nest burrows from direct impacts from construction equipment or disturbance from increased noise and human activity in proximity to nests.

As discussed for other raptor species, no impacts to active burrowing owl nest burrows would be anticipated during project construction. Based on PSREC's committed measure to protect active raptor nests in conjunction and communication with the applicable BLM and CDFG wildlife biologists, no impacts to nesting birds or their young would be expected if construction were to occur March 1 to August 31 (see Table 2-6 *Measures Wildlife-4, Wildlife-5* and *Wildlife-7*). Pre-construction surveys would be completed and a buffer area would be applied to an active nest site until the young had fledged and left the burrow. The specified buffer distance for the burrowing owl is 0.25 mile (BLM 2007, 2008).

No impacts to foraging burrowing owls would be expected, and no collision risks to this species would result from line operation, based on this species typical lower flight pattern and keen eye sight (i.e., burrowing owls are not prone to power line collisions).

Long-eared Owl

This owl species has been documented along Long Valley Creek where the habitat is more suitable for nesting. Parallel to the other raptor species, no impacts from nesting long-eared owls would occur from project construction, given PSREC's committed protection *Measures Wildlife-4 and Wildlife-5* to conduct pre-construction surveys and protect active raptor nests, if present and warranted. No impacts to foraging owls from line construction or operation would occur. This species is not prone to power line collision given its associated habitats and flight behavior.

Long-billed Curlew

This shorebird species would most likely occur in the agricultural fields and pastures along Garnier Road and along portions of the Long Valley Creek drainage. No impacts to this special status bird species would be anticipated. Breeding is not likely along the ROW corridor, given the limited availability of potentially suitable nesting habitat. No impacts to foraging birds would be anticipated during construction. If present, foraging individuals would avoid the ROW area during periods of human activity, and project reclamation would aid in restoring the native habitats post-construction. If pre-construction surveys for this species are warranted, PSREC has committed to coordinating with the applicable federal and state agencies for pre-construction survey planning (see *Measure Wildlife-1*).

Willow Flycatcher

No impacts to the willow flycatcher would be anticipated from project construction or operation, since no birds were recorded during the 2010 species' surveys. Additionally, the montane riparian habitat located along Long Valley Creek would not be impacted by line construction. The proposed 120kV transmission line would cross Long Valley Creek along the Garnier Road bridge, spanning the riparian vegetation.

Bank Swallow

No impacts to bank swallows would be anticipated from project construction or operation. This bird species would be an uncommon nester and could forage in or migrate through the area. The Long Valley Creek crossing provides the only suitable nesting habitat for this species along the proposed ROW. No nesting was determined during the 2010 field surveys. As discussed for the willow flycatcher, the proposed 120kV transmission line would cross Long Valley Creek along the Garnier Road bridge. Therefore, the vegetation would be spanned and no impacts to the channel, bed, or bank of this creek would occur from project construction.

Loggerhead Shrike

This songbird is relatively common and nests along the ROW. Pairs may avoid the construction ROW if the 4-month construction period coincided with this species' breeding period April 15 to May 31. However, in the event active shrike nests occurred in or near the project ROW, no impacts to breeding shrikes during project construction would be anticipated. Based on the committed protection measure outlined in Table 2-6*, Measure Wildlife-8*, PSREC has committed to avoiding and protecting active loggerhead shrike nests within 200 feet of the project ROW until the young had fledged. No impacts to loggerhead shrikes from project operation would be anticipated.

Yellow-breasted Chat

No impacts to this songbird would occur from project construction or operation. No records of individuals occur for this area, it was not documented during the 2010 surveys, and the riparian habitat along Long Valley Creek would be spanned by the power line along the Garnier Road bridge.

Yellow Warbler

This species was documented near the ROW crossing of Long Valley Creek along Garnier Road in 2007 and likely breeds along this riparian drainage. Based on that no riparian habitat would be disturbed by line construction, no direct impacts to yellow warblers would occur. Potential impacts to breeding birds from increased noise and human presence along the ROW crossing of Long Valley Creek would be minimized by the level of existing traffic along this paved road.

Yellow-headed Blackbird

No impacts to the yellow-headed blackbird would occur from project construction or operation. No suitable breeding habitat occurs along the route and no individuals were recorded during the 2010 field surveys.

American Badger

In 2010, 10 active badger dens were located along the 13.67-mile route. No impacts to active den sites from project construction along the line ROW or associated temporary access routes would be anticipated. PSREC has committed to avoid and protect active badger dens during project construction, including selective pole placement and access minimization, coordinating with the applicable agencies, where warranted (see Table 2-6 *Measure Wildlife-7*). No impacts to the American badger would be anticipated from project operation.

Northern Sagebrush Lizard

Individual lizards could be lost within the construction ROW by equipment use and operations during project construction. Loss of individuals would be expected to be sporadic, rare, and not result in a population-level effect to this species. No impacts to the sagebrush lizard from project operation would occur.

Carson Wandering Skipper

No impacts to the Carson wandering skipper from the proposed project construction or operation would occur. As previously discussed, the BLM's Eagle Lake Field Office RMP (BLM 2007, 2008) delineated potentially suitable habitat for this endangered butterfly species, based on vegetation types and soil series information. None of the potentially suitable habitat identified by the BLM for the Eagle Lake area occurs within the proposed Fort Sage 120kV project area. The Carson wandering skipper would not occur along the proposed project route; therefore, no adverse effects to this species or its habitat would occur from project construction and operation.

Honey Lake Blue

The Honey Lake blue has been documented in the project area and may use habitats located along the proposed project ROW. Potential short- and long-term impacts to this butterfly species would be limited to a small, incremental, and short-term loss of individual plants of wild buckwheat (*Eriogonum* sp.) during project construction. However, PSREC would include *Eriogonum* sp. within the native species mix for project reclamation. It also is assumed the native buckwheat plants would become re-established along the ROW in the long term. In summary, the potential effects to the Honey Lake blue from the Proposed Action would be low and incremental.

4.18 Visual Resources

This section describes impacts to visual resources that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have adverse impacts on visual resources, if it has a substantial adverse effect on a scenic resource or views from a designated scenic highway, or it substantially degrades the existing visual character of the site and its surroundings.

4.18.1 No Action Alternative

Under the No Action Alternative, no effects to visual resources would occur.

4.18.2 Proposed Action

During project construction, surface disturbance, equipment emissions, and the presence of equipment and workers would result in low to moderate short-term visual effects. During project operation, the transmission line structures, conductors, and new Herlong Substation would be visible in the foreground to casual observers from certain areas along the ROW. However, the Proposed Action would not disrupt scenic vistas or degrade the overall character or quality of the area, since this project is compatible with existing infrastructure.

4.18.2.1 BLM-Administered Lands

On federal lands, the Proposed Action is located in an area of low visual sensitivity to primary-view corridors. It would be almost entirely screened by the Fort Sage Mountains within the area boundary between the VRM Class II and Class IV on BLM-administered lands and, therefore, would not cause adverse impact to the visual resource as viewed from the heavily traveled route of U.S. 395.

Specifically, the proposed structures on BLM land, which are 64 to 68 feet agl, would be no closer than 4 miles to U.S. 395. At this distance, auto headlights would not create a visible glare or reflection off the structures. To see the transmission line structures, a viewer would have to look nearly perpendicular to the highway, using binoculars to scan the horizon. Even if viewed with some form of visual aid, the structures on BLM land would be positioned far into the background in that they would not break the horizon of the area's naturally mountainous landscape features. Further, the proposed transmission line route travels along the northeast side of the Fort Sage Mountains and is almost entirely screened from view from U.S. 395. One or possibly two support structures proposed on BLM land would be positioned beyond the toe of Turtle Mountain where the proposed line would cross initially into Section 17 and then into Section 8 (see Map 2-1 Sheet 5). However, the support structures that may be visible from U.S. 395 off the tip of Turtle Mountain would be located on BLM land where the visual management objective is Class IV (which allows modifications to the existing character of the landscape).

In summary, the portion of the Proposed Action crossing BLM-administered lands would not disrupt scenic vistas or degrade the overall character or quality of the visual resource of the surrounding landscapes along the Scenic Corridor established by Lassen County for U.S. 395.

4.18.2.2 State, County, and Private Lands

East/West Transmission Line Segment: The segment of the 120kV transmission line proposed to travel east/west approximately 4 miles through state and private lands (see Map 1-1) would include the following structure types, as depicted in Chapter 2: 20 H-frame tangent poles (see Figure 2-1), 2 three-pole angle structures (see Figure 2-2), and 8 single-pole structures (see Figure 2-3). Pole height would range from 64 to 68 feet agl, depending on structure location and clearance required. Line spans for the H-frame structures would be approximately 700 to 900 feet. While the proposed structure heights are greater than the existing 34-foot-tall distribution poles for the Desert Tap corridor, the line spans would be greater, which would aid in minimizing the visual perception of a block of vertical features. Additionally, structures along this ROW segment are no closer than 2 miles (middle-ground viewing distance) from U.S. 395, with the closest three structures being a single-pole configuration. Further, the background scenery as viewed from U.S. 395 looking toward the east/west line segment, rises into foothills mottled with vegetation texture and contrasting colors.

North/South Transmission Line Segment: The segment of 120kV transmission line proposed to run north/south through state and private lands and terminating at the proposed Herlong Substation is planned along the east side of Garnier Road paralleling the existing 69kV transmission line located on the west side of the road. The Proposed Action would utilize single-pole design along the roadway, ranging from 64 to 68 feet agl for structure height. The existing 69kV transmission line structures with a distribution underbuild are the same height (64 to 68 feet agl) along the west side of Garnier Road. This segment of line would extend approximately 2 miles, intersecting with U.S. 395. Poles positioned from 0.5 to 2 miles north of this intersection of Garnier Road and U.S. 395 would be considered to be in the middle-ground viewing zone for highway travelers. Within this viewing range and standing parallel to an existing line, new poles would not be distinctive landscape features and would be absorbed into the rising background terrain of foothills. The new poles are not anticipated to break the horizon between the background terrain and sky because the elevation drops approximately 150 feet along this 2-mile segment moving north and away from U.S. 395. The elevation on Lassen County land (the borrow pit) adjacent to U.S. 395 at the south terminus of this line segment is 4,250 feet; the elevation 2 miles north of U.S. 395 where the line turns east from Garnier Road drops to 4,100 feet. The poles of greatest concern would be located in the foreground viewing zone within 0.5 mile north of U.S. 395.

Both the east/west and north/south segments of the proposed transmission line on state, county, and private lands were designed to follow existing road alignments along essentially flat terrain with gradual elevation changes. Because terrain features typically create landscape characteristics (e.g., distinctive geologic features, plains, mountain

ranges), avoiding new access road construction would prevent scarring of terrain features. Additionally, vegetative patterns typically create landscape qualities such as texture, color, and form. Therefore, by minimizing and/or mitigating disturbance to vegetation, these landscape qualities would remain intact.

Vertical structures have already been introduced into the landscape along both segments of the route by the existing distribution and transmission lines. The proposed 120kV structures are not likely to be viewed as unfamiliar vertical forms in the landscape. Therefore, consolidating existing and proposed infrastructure along existing area roads would limit damage to area vegetation, protect the landscape's textural and color qualities, and avoid the introduction of unnatural line features into the characteristic landscape form and terrain.

Specifically, the visual resources would be minimally disrupted by the two segments of the transmission line on state, county, and private lands because of the following scenic-viewing conditions:

- Approximately 6 miles of the 6.5 miles of the proposed transmission line that crosses state, county, and private lands would be located within the middle-ground viewing zone where vertical pole features are not distinctive nor visible while traveling at highway speeds averaging 65 mph.

- The background landscape rises into foothills with mottled textures and earthen colors that would absorb the brown color and vertical form of the distantly-spaced pole structures.

- The 0.5 mile of proposed structures located in the foreground viewing zone north of the intersection of U.S. 395 and Garnier Road is consolidated with, and running parallel to, existing infrastructure where a bisection of the primary scenic vista has already been established.

- The existing transmission line structures already dominate the foreground viewing zone to the north of this intersection, and both existing and proposed lines would intersect the primary travel route on a perpendicular, which would reduce the duration of viewing structures against a scenic backdrop to a few seconds in passing. Even with the high volume of viewers, middle-ground pole structures would be absorbed by the background scenic vista.

- Structures that would dominate the foreground viewing zone to the south of this intersection are set against a view-constricting foreground terrain feature and existing substation infrastructure on the opposite side of the primary travel route from desirable scenic vistas.

In summary, the portion of the Proposed Action crossing state, county, and private lands would not adversely affect the visual character of the surrounding area or disrupt

scenic vistas or degrade the overall character or quality of the visual resource within the county-identified Scenic Corridor along U.S. 395.

4.18.2.3 Proposed Herlong Substation

The proposed Herlong Substation, with associated fencing and transmission infrastructure, is not expected to introduce an adverse visual impact into the surrounding area or the viewshed of primary scenic significance or county-identified Scenic Corridor of the U.S. 395 travel route. The visual resource would be minimally disrupted by the proposed substation because of the following project site characteristics:

- The substation would be located on the opposite side of the highway from the primary scenic vista.
- The facility setting is proposed at the base of landscape terrain where the viewshed is constricted to the south and limited to foreground views offering no distant vistas.
- The neighboring landscape has previously been affected by existing substation facilities and associated transmission lines crossing over U.S. 395.
- The project site is bordered by an existing electrical substation and utilitarian access road; both are within the U.S. 395 viewshed.

Parallel to that discussed for the north/south transmission line segment, the addition of the Herlong Substation southeast of the intersection of U.S. 395 and Garnier Road would add this facility to other infrastructure dominating the foreground viewing zone and set against a view-constricting foreground feature on the opposite side of the primary travel route from desirable scenic vistas. Additionally, the speed of travel along U.S. 395 would minimize the duration of viewing the new substation to viewing only for a few seconds in passing within an already disturbed landscape setting. In summary, the proposed Herlong Substation would not disrupt scenic vistas or degrade the overall character or quality of the visual resource within the county-identified Scenic Corridor along U.S. 395.

4.19 Land Use

This section describes impacts to land use that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse impact on land use if it would physically divide an established community or conflict with an applicable land use plan.

4.19.1 No Action Alternative

There would be no effects to the existing land use under the No Action Alternative**.**

4.19.2 Proposed Action

The construction and operation of the Proposed Action would not conflict with any land use plans. The placement of the Proposed Action adjacent or within existing road and power line ROWs would aid in minimizing land use effects. As discussed in Section 4.8 and Section 4.13 for soils and vegetation, respectively, a total of 3.88 acres of land would be removed in the long term, but this loss would be minor, particularly along existing road and power line ROWs that are designated use corridors. Land between the structures could continue to be used as rangeland, pasture, farmland, or any other use that does not threaten the safe and reliable operation of the proposed transmission line. Reclamation measures have been developed to enhance revegetation and minimize weeds along the project ROW. Section 4.13 discusses the specific reclamation approaches and *Measures Reclamation-1* through *Reclamation-8* in Table 2-6 and Appendix B outline those developed specifically for the Proposed Action. These measures would aid in re-establishing post-construction land uses along the ROW.

No established communities would be divided by the Proposed Action. No commercial or industrial land uses would be affected by the proposed upgrade. The Herlong Substation would be constructed on land owned by PSREC. The Proposed Action also would be in conformance with both the Lassen County General Plan 2000 and the Washoe County High Desert Area Plan.

The Proposed Action would not result in adverse land use effects.

4.20 Socioeconomics

This section describes impacts to socioeconomics that could result from construction and operation of the Proposed Action. The Proposed Action has the potential to have an adverse impact on socioeconomics if it would have a substantial adverse effect on the region's jobs, income, or revenues.

4.20.1 No Action Alternative

Under the No Action Alternative, no short-term benefits to regional or local socioeconomic conditions would occur in the form of increased number of jobs, income, and spending anticipated from project construction. Similarly, no increased tax revenues would result from project operation.

4.20.2 Proposed Action

Positive and beneficial effects would result from the temporary increase in jobs, income, and spending during the 4-month construction period. Additionally, operation of the Proposed Action would increase the tax revenues received by Lassen County, California and Washoe County, California, the Washoe County School District, and the Fort Sage Unified School District (a district of the Lassen County Office of Education).

4.20.2.1 Construction

The estimated construction period for the Proposed Action would be 4 months. The cost of construction would be approximately $17 million, the majority being the cost of the new transformers, ancillary electrical equipment, and concrete pad foundations at the Fort Sage Substation and proposed Herlong Substation.

To the extent practicable, materials would be purchased locally, including aggregate for concrete and other standard supplies needed for construction. The crew for the 4-month general construction period would average between 25 and 37 workers. Since construction would consist of an "assembly line" approach, slightly fewer workers would be required at the beginning and end of construction than would be required during the middle of the construction period.

Construction of the Proposed Action would be advertised in electrical generation trade journals and area newspapers. Since federal dollars are being used, award of construction of the project would have to meet standards, regulations, and guidelines of the federal government.

The portion of the construction workforce that does not require specialized skills would likely be filled locally. Non-local workers could originate from other counties in northeastern California, northwestern Nevada, or from farther distances. The few construction workers who are predicted to commute on a weekly basis would occupy local lodging and would likely have less than 1 hour drive to the job site. The portion of the proposed ROW located in Washoe County, Nevada (1.7 miles), is in a remote area lacking services. Consequently, for this discussion, the affected area is limited to Lassen County, California.

Table 4-11 describes the types of positions that would be required during construction.

Table 4-11 Construction Workforce for the Proposed Project

Type of Worker	Average Number Required During Construction
Carpenter/form setter	2
Cement finisher	1
Cement, rebar	1
Electrician helper	2
Electrician, industrial	1
Electrician, master	1
Laborer	10 to 22
Structural steel worker	2
Backhoe operator	1
Cherry picker operator	1
Cable crane operator	1
Dozer operator	1
Power shovel operator	1
Estimated daily total	**25 to 37**

Assuming 10% of the construction workforce would commute on a weekly basis, an estimated three to four workers would require lodging during the week. Local lodging facilities in Lassen County would have sufficient availability to accommodate these workers.

Construction would result in secondary economic effects including: 1) indirect employment resulting from the purchase of goods or services by firms involved with construction and 2) induced employment resulting from construction workers spending their income locally. Similarly, indirect and induced income and spending effects also would occur as "ripple" effects from construction. Estimated indirect and induced effects of construction that could occur within Lassen County may add four jobs, less than $100,000 in labor income, and approximately $140,000 in total output. Similar to direct economic impacts from construction, these secondary economic impacts would occur one time. The secondary effects would likely lag behind direct effects by 6 to 12 months.

In summary, approximately 40% of construction workers (10 to 15 workers) could originate from outside the area, and approximately 10% (3 to 4 workers) would commute weekly. During construction, this would result in a temporary additional daily population in the project area from Monday through Friday. This change would be noticeable because of the extremely small population near the project area. However, the population increase would be temporary and would occur only during the week (the majority occurring during daytime hours). Due to the small number of construction workers and because the increase in population is temporary, socioeconomic impacts from construction would be low and short term. The increase in demand for services would be small and temporary, and no businesses or residences would be displaced by construction of the Proposed Action. Communities and businesses would retain their physical arrangement and function.

4.20.2.2 Operation

The Proposed Action would involve operation of the 120kV transmission line and substations 24 hours per day, 7 days per week. Operation costs would be less than $200,000 annually.

As with construction, operation of the Proposed Action would result in secondary (indirect and induced) economic effects in Lassen County, California and Washoe County, Nevada. Unlike during construction, indirect and induced impacts from operation would represent little to no permanent increases in area economic variables because no new employees would likely be added to PSREC personnel. There would be no increase in population, concentration of population, or increase in demand for public services. Operation of the Proposed Action would not disrupt or displace businesses or residences.

Low but beneficial economic effects to the local community and economy would include additional spending at local establishments by maintenance workers (lodging, gas, and food) and by PSREC (supplies for operational and maintenance functions).

4.21 Cumulative Impacts

4.21.1 Cumulative Impacts to Air Quality

According to the Sacramento Metropolitan AQMD Road Construction Emissions Model calculations for the Proposed Action, there would be minor short-term increases in fugitive dust and heavy equipment emissions during construction that would have a low cumulative impact on the region with respect to criteria pollutants and GHGs. Operationally, no significant criteria pollutants would be emitted by the project and the GHG emissions generated from the project operation and maintenance activities would be negligible. Other linear projects in the project area, including the North Valleys Rights-of-Way Project and the Reno-Alturas 345kV Transmission Line, have been constructed for some years, thus no cumulative effects from construction or project operations would be expected from these projects. The inclusion of an additional 4,000 acres to the BLM's North Fort Sage Grazing Allotment in 2009 for a 10-year permit issuance could have a minor, seasonal short term effect during construction of the Proposed Action as a result of cattle-trailing dust. Furthermore, indirectly, the Proposed Action would result in efficiencies that should reduce cumulative GHG emissions overall. Therefore, the project would not contribute to any cumulative impact on air quality or global climate change.

4.21.2 Cumulative Impacts to Cultural Resources

The Proposed Action identified a number of measures to avoid or minimize potential impacts to cultural resources during project construction and operation. Potential adverse cumulative effects to area cultural resources would be low to none, based on the implementation of these Proposed Action measures. However, the previous construction of the North Valleys Rights-of-Way Project and the Reno-Alturas 345kV Transmission Line has created positive cumulative effects with the direct communications with the area Native American Tribes. As a result of the construction of these previous linear projects, there is increased interaction and cooperation between the BLM and the area tribal authorities. Existing uses of the federal and state lands would continue in the region, potentially affecting cultural resources at the same level as present. Since no new, permanent access roads are proposed for the project, no increased cumulative effects to cultural resources from long-term public access would result.

4.21.3 Cumulative Impacts to Environmental Justice

No adverse environmental impacts to minority or low income populations from implementation of the Proposed Action are anticipated; therefore, no cumulative impacts would occur. The North Valleys Rights-of-Way Project and the Reno-Alturas 345kV Transmission Line have no cumulative effects on environmental justice as they are located in the project area in Nevada where no residences occur. Additionally, there are no cumulative effects of the BLM's addition of 4,000 acres to the North Fort Sage Grazing Allotment, as this land has been maintained as public lands for many years.

4.21.4 Cumulative Impacts to Prime Farmland

There is no prime farmland in the project area; therefore, no cumulative impacts would occur.

4.21.5 Cumulative Impacts to Flood Hazards

No additional effects to the Long Valley Creek floodplain would result from cumulative actions in the project area.

4.21.6 Cumulative Impacts to Wetlands

The Proposed Action would have no effects to the area wetlands; therefore, the Proposed Action would not contribute to any cumulative impacts to wetlands resources or Waters of the U. S.

4.21.7 Cumulative Impacts to Geology and Seismicity

No past, present, or reasonably foreseeable future actions, as identified for this region, would increase the potential geologic or seismic hazards from implementation of the Proposed Action. The previously constructed North Valleys Rights-of-Way Project and the Reno-Alturas 345kV Transmission Line have no cumulative effects, as their construction and operations are in strict accordance with the 2007 California Building Code and 2006 International Building Code's Structural Code.

4.21.8 Cumulative Impacts to Soils

Implementation of the Proposed Action would result in short-term effects to 35.48 acres of soils under construction Option A. Under construction Option B, a total of 36.41 acres of soils would be disturbed in the short term. Long-term permanent disturbance of soils would affect a total of 3.88 acres. Past, present, and future projects have affected and would continue to affect regional soil resources, particularly soil effects from additional 4,000 acres of livestock grazing, both legal and illegal OHV use, and incremental changes to the area's linear infrastructure, including the North Valleys Rights-of-Way Project and the Reno to Alturas 345kV Transmission Line. However, the Proposed Action's compliance with required reclamation standards and soil protection measures, as outlined in Table 2-6 and Appendix B, would minimize the cumulative effects to area soils. In summary, the incremental increase in short-term soil disturbance and long-term soil loss from the Proposed Action in combination with other regional projects would be low.

4.21.9 Cumulative Impacts to Water Resources

Potential cumulative impacts to water resources from the Proposed Action and the applicable past, present, or reasonably foreseeable future actions, such as the North

Valleys Rights-of-Way Project and the Reno to Alturas 345kV Transmission Line, would be limited to possible effects from water runoff during storm events that may occur during project construction in combination with other surface water runoff that may occur in nearby locations with eroded soils (e.g., illegal OHV use areas). However, these effects would be expected to be fully mitigated by the Proposed Project, since PSREC's committed protection measures, BMPs, and SWPPP have been developed to prevent or minimize water quality impacts from project construction activities. No other cumulative effects to water resources were identified. The addition of 4,000 acres to the BLM's North Fort Sage Grazing Allotment would not impact any naturally-occurring surface water resources since none are present in the grazing areas.

4.21.10 Cumulative Impacts from Noise

Potential cumulative effects from the Proposed Action in combination with past, present, and reasonably foreseeable future actions would primarily include low to moderate levels of cumulative noise emissions during project construction (the North Valleys Rights-of-Way Project and the Reno to Alturas 345kV Transmission Line have already been constructed) and incremental low levels during project operation. Noise from the addition of 4,000 acres to the North Fort Sage Grazing allotment would be low and limited to cattle and vehicular activities associated with cattle round-up.

Construction noise would add to existing traffic and OHV levels in the project vicinity; however, none of these levels would be anticipated to exceed either Lassen County, California or Washoe County, Nevada recommended noise levels thresholds of 65 to 70 Ldn and 75 Ldn, respectively, at property boundaries of sensitive noise receptors (i.e., residences) located along the ROW. Noise levels for recreational users in the project vicinity could be high, but sporadic and short-term in nature. However, as stated for the Proposed Action, PSREC's commitment to cease construction activities along the project ROW during the period immediately before and during the CDFG's 9-day M3 Doyle Muzzleloader Rifle Buck Hunt would avoid cumulative impacts to hunters during this period (see *Measure Doyle SWA-5* in Table 2-6 and Appendix B).

Potential long-term cumulative noise effects would be incremental and inconsequential for line operation. This assessment is based on the anticipated operational noise levels being lower than current ambient noise levels and the distance of the project to area residences. Potential cumulative impacts to the two residences located near the existing and proposed Herlong Substations would be a low, incremental increase in noise from the two substation operations; however, these would not be expected to exceed ambient noise levels in this area at the intersection of Garnier Road and U.S. 395.

4.21.11 Cumulative Impacts from Hazardous Materials

Cumulative impacts from potential hazardous materials in or near the project area from past, present, and future actions in combination with the Proposed Action would be low to none. PSREC's committed BMPs and protection measures to minimize the potential for accidental spills of hazardous materials during project construction and maintenance

activities would minimize possibility for chemical exposure or contamination issues. Maintenance activities along the previously constructed Reno to Alturas 345kV Transmission Line and the North Valleys Rights-of-Way Project are required to comply with federal and state regulations, thus minimizing potential spills or exposure. Other regional activities (e.g., illegal dumping areas on state lands, illegal OHV use) would incrementally add a low potential of exposure in the short term; however, no effects from the Proposed Action would occur in these areas or for these activities with PSREC's commitment to span the dump areas to avoid direct contact with these materials and use only existing access routes (i.e., no new access route construction) to minimize illegal OHV use. The proposed new Herlong Substation would have a Spill Prevention Control and Countermeasure (SPCC) Plan in place and no additional cumulative actions in this substation vicinity would result in increased cumulative effects from hazardous materials.

4.21.12 Cumulative Impacts to Fire Management

Past and current fire suppression, past and current livestock grazing, and current and future dispersed recreation have the most potential to affect fuels, rangeland vegetation, potential wildfire behavior, and invasive species in the project area. During construction of the Proposed Action, the risk of wildland fire would incrementally increase during the 4-month construction period. However, PSREC's committed BMPs, environmental protection measures developed for the project, and additional approaches on BLM lands would aid in minimizing both wildfire risks and enhance reclamation efforts to minimize flammable fuels (i.e., weeds) (see *Measures ROW Grant-31* and *ROW Grant-32, Measures Reclamation-1* through *Reclamation-8,* and *Measures Vegetation-3* and *Vegetation-5* in Table 2-6 and Appendix B).

4.21.13 Cumulative Impacts to Vegetation and Special Status Plant Species

As discussed for soils and wildlife resources, cumulative impacts of the Proposed Action with other past, present, and future regional projects would be the incremental addition of the short-term effects to 32.93 acres of native vegetation and long-term loss of 0.13 acre of native vegetation resources from implementation of the Proposed Action. The 2.39 acres of previously disturbed land that would be reclaimed in the long term would be a beneficial impact to these resource areas. Potential cumulative effects from increased weed populations also would be incremental from implementation of the Proposed Action in conjunction with other activities, such as illegal OHV use and infrastructure development. Cumulative effects to the potential for increased area weeds from other projects in the project area, including the North Valleys Rights-of-Way Project, the Reno-Alturas 345kV Transmission Line, and the 4,000 acres added to the BLM's North Fort Sage Grazing Allotment in 2009, also would be a potential incremental increase during project operations, but depend on the reclamation success for all past, present, and future projects. However, the environmental protection measures developed for the Proposed Action would minimize the short- and long-term cumulative effects, based on the commitment to reclaim disturbed areas and implement measures to minimize noxious weeds in the long term (see Table 2-6 and Appendix B), such that

the potential for adverse cumulative impacts to vegetation communities and sensitive plant species would be low.

4.21.14 Cumulative Impacts to Livestock Grazing

Cumulative effects to the BLM's North Fort Sage Grazing Allotment or CSLC's PRC 6823.2 grazing lease would be the short-term, incremental surface disturbance along the proposed ROW during construction of the Proposed Action during one growing season. No additional cumulative effects to livestock forage availability would be anticipated.

4.21.15 Cumulative Impacts to Recreation Areas

Potential cumulative impacts to area recreational users from past, present, and future activities in conjunction with the Proposed Action would be low and incremental as the North Valleys Right-of-Way Project and Reno to Alturas 345kV Transmission Line have been constructed. No additional effects from the addition of 4,000 acres to the North Fort Sage Grazing Allotment would be expected, based on the BLM's *Addition to North Fort Sage Grazing Allotment,* Environmental Assessment (Eagle Lake Field Office June 2009). Construction effects would be limited to minor, short-term impacts from possible user avoidance along ROW segments during the construction period by area hunters, OHV riders, and other recreational users. No cumulative impacts to the CDFG's M3 Doyle Muzzleloader rifle buck hunt or the BLM's Fort Sage OHV SRMA races would apply, given no effects to these two events from the Proposed Action would occur.

4.21.16 Cumulative Impacts to Wildlife Resources

No impacts to aquatic wildlife resources would occur from implementation of the Proposed Action; therefore, no cumulative effects to fisheries or other aquatic organisms would occur. The short- and long-term cumulative effects to terrestrial wildlife would be the ongoing incremental habitat fragmentation and loss from human uses in this area. Examples would include the incremental effects to wildlife habitat from the regional North Valleys Rights-of-Way Project and the Reno to Alturas 345kV Transmission Line EIS and Fort Sage Substation Project. These cumulative incremental changes would be low to moderate, depending on the habitats affected. The federal and state habitat management programs by the BLM and CDFG would aid in minimizing these habitat effects, in addition to PSREC's committed environmental protection measures detailed in Table 2-6 and Appendix B, which would reduce both the direct and indirect effects in the long term. Overall, past, present, and future activities in conjunction with the Proposed Project would not be expected to significantly modify habitat, interfere substantially with the movement of native resident or migratory wildlife species, or result in the significant loss of key wildlife species.

4.21.17 Cumulative Impacts to Special Status Animal Species

Potential cumulative effects to special status animal species would parallel those discussed for terrestrial wildlife species. These effects would be less associated with past linear projects (e.g., North Valleys Rights-of-Way Project or Reno to Alturas 345kV Transmission Line Project) based on their habitat reclamation success and timing, but more with ongoing incremental habitat fragmentation and loss from human uses in this region, potentially affecting native wildlife habitats. As stated for general wildlife, these incremental changes would be low to moderate, depending on the habitats and associated species affected primarily by increased surface disturbance (i.e., burrowing owl, American badger, northern sagebrush lizard, and loggerhead shrike). Although area disturbance (e.g., illegal OHV use) could negatively impact small mammals and burrowing animals, no population-level effect to the regional raptor prey base would be anticipated for species such as the golden eagle, prairie falcon, Swainson's hawk, northern harrier, burrowing owl, or long-eared owl. As discussed for general wildlife resources, the federal and state habitat management programs by the BLM and CDFG would aid in minimizing these habitat effects, in addition to PSREC's committed environmental protection measures detailed in Table 2-6 and Appendix B. No cumulative impacts to the Long Valley Creek drainage and its associated songbird species would occur. Overall, past, present and future activities in conjunction with the Proposed Project would not be expected to "take" any federally or state-listed species, significantly modify habitats, interfere substantially with the movement of any special status species, or conflict with local policies or adopted plans protecting biological resources.

4.21.18 Cumulative Impacts to Visual Resources

Introduction of the Proposed Action to past, present, and future features within the regional viewshed would result in low and incremental long-term impacts to visual resources. Impacts on BLM-administered lands would consist of the incremental changes to the landscape from the addition of the Proposed Action to the existing North Valleys Rights-of-Way Project and the existing Reno to Alturas 345kV transmission line. Both of these previously constructed infrastructure projects occur in remote, sparsely populated areas where there is limited local traffic. The area is most often accessed by ORV recreationalists in the Fort Sage OHV SRMA. These activities are generally occurring on the designated trail system, although some illegal trails have become established outside of the designated areas. Clustering these aboveground and underground ROWs within a regional context and applying project-specific reclamation would aid in minimizing visual effects. Cumulative impacts to state, county, and private lands from the existing and proposed infrastructure would not substantially degrade the overall character or quality of area aesthetics within Lassen County's designated Scenic Corridor established along U.S. 395.

4.21.19 Cumulative Impacts to Land Use

No cumulative impacts to important land uses, such as prime farmland, big game management, or residential use would occur from implementation of the Proposed Action. No established communities would be divided. The Proposed Action would not directly induce growth or foster the conversion of agricultural land to urban development. The previously constructed North Valleys Right-of-Way and Reno to Alturas 345kV Transmission Line have not induced growth or fostered conversion of agricultural land to urban development because there is no local access to this infrastructure. Lassen County's General Plan emphasizes preservation of open space and agricultural lands in the areas of open, flat, irrigated terrain. The project's location and incremental cumulative impacts to existing land uses would be in conformance with both Lassen County's General Plan and Washoe County's High Desert Area Plan. No additional cumulative long-term effects would be anticipated.

4.21.20 Cumulative Impacts to Socioeconomics

Workers would not likely relocate to cities or unincorporated areas near the project area, since the 4-month construction period would be short. Beneficial effects to local businesses and the economy would include additional spending by workers for food, gas, and lodging; spending by the construction contractor for materials needed for construction; and additional jobs and related income. These effects are expected to be low to moderately low.

No cumulative effects to area tourism would be anticipated, since 1) the construction period would be relatively short and 2) construction activities would be occurring in an area that is not widely used, or accessed by tourists. Additionally, no cumulative effects to revenue generated by hunters and OHV users would be anticipated. As discussed in Section 4.15 and Section 4.16, PSREC has committed to minimizing potential impacts to hunters and other recreational users in the project area.

4.22 Growth-inducing Impacts

This section discusses the potential for the Proposed Action to foster economic or population growth either directly or indirectly in the surrounding environment, including the potential for the Proposed Action to remove obstacles to population growth.

The 120kV Interconnect line is intended to address regional limitations of current power capacity, stabilize voltage levels, meet expected demand (particularly the needs of the Federal Government at the Sierra Army Depot and at the Federal and State Correctional Facilities); and satisfy regulatory requirements. Specifically, the project's construction and operation would: a) provide a second source of power into PSREC's system, increasing the reliability of power delivery to the area and stabilizing the PSREC electric system, and b) provide sufficient power to meet the anticipated area's traditional growth.

As referenced in Chapter 1, *Purpose and Need*, PSREC has performed requisite studies to determine the health of its electric system. The studies indicate the PSREC system has underlying problems that expose its member-owners to outages, interruptions, and stability problems that must be mitigated and corrected. The studies also show the PSREC system is at or near capacity and is unreliable due to its relative low voltage and the location and age of the infrastructure serving the PSREC system. Overall, the system is comprised of 20- to 50-year-old wooden structures, and the 69kV system is undersized for the load it serves today.

Currently, April 2011, the electric system is at capacity. During the past winter months of 2010/2011, numerous outages occurred due to the stress on the existing system as a result of winter storms, generator failures, maintenance outages, and equipment failures of other electrical utilities that provide power to the PSREC system.

The solution to these stability and reliability issues is to connect the PSREC system to a higher voltage source that increases the electromotive force behind the system, raises the distance over which electric current may be transmitted, and increases current flow. The Proposed Project also would reduce the overall impedance on the system by interconnecting at a mid-point (proposed new Herlong Substation), thereby reducing the length of the electrical power line (and distance) to the major and high priority loads, as previously described.

Furthermore, and pursuant to the governing regulations of the State of California, PSREC must support a portfolio of renewable energy projects. Renewable energy projects require reliability and stability components due to the inherent fluctuations in renewable energy projects. Currently, the PSREC system cannot compensate for these fluctuations without a higher voltage connection to the Bulk Electric System.

In summary, the goals and objectives of the Proposed Action would be to 1) meet regional electrical energy needs that are time sensitive and primarily a result of high-level defense demands from the Sierra Army Depot and high-level security demands from the Federal and State Correctional Facilities, 2) increase the reliability of power delivery to the area, and 3) stabilize the PSREC electric system. The Proposed Project would provide sufficient power over an approximate 30-year life span to compensate for the anticipated traditional growth to serve the increase in expected demand, which is evaluated in the County's General Plan and related environmental analyses (Lassen County Board of Supervisors 2009). The Proposed Action would not result in growth inducing impacts that have not been otherwise evaluated by Lassen County and federal agencies (Lassen County Board of Supervisors 2009; BLM 2008, 2009).

Chapter 5
Consultation and Coordination

5.0 CONSULTATION AND COORDINATION

5.1 PSREC's Fort Sage to Herlong 120kV Interconnect Project Mission Statement

PSREC's mission statement is to provide reliable electrical service for its members as well as furthering the prosperity of the community and region. PSREC is committed to ensuring that their members and community enjoy the highest quality of life at the most reasonable price.

The 120kV Interconnect Project will address regional limitations of current power capacity, stabilize voltage levels and meet expected demand. Specifically, the project's construction and operation would a) provide a second source of power into PSREC's system, increasing the reliability of power delivery to the area and stabilizing the PSREC electric system and b) meet the area's traditional growth.

Pertinent California Legislation and Regulations:

SB 1368	Greenhouse Gas Emissions Performance Standard: Prohibits long-term, base-load generation/contracts, if emissions are more than natural gas.
AB 32	Global Warming Solutions Act: Reduce emissions to 1990 levels by 2020.
AB 380	Resource Adequacy: Requires load-serving entities to maintain adequate physical generating capacity.

5.2 Outreach Contact Record

5.2.1 Pre-Scoping Meetings

Intergovernmental (State and Local) and informal interest group coordination was conducted over the development of the project and preparation of this document. The agencies, organizations, and individuals who received scoping documents, are listed in Table 5-1.

5.2.2 Representative Comments Received

Table 5-2 contains representative comments received; some organizations did not respond. Associated correspondence is located in Appendix A1.

Table 5-1 Initial Public Scoping Mailing List

First Name	Last Name	Title	Company	Address 1	Address 2	City	State	Zip
Paul	Plouviez		Bench Creek Ranch	43333 Austin Highway		Fallon	NV	89406
Ken	Nelson	Carson City District Office	Bureau of Land Management	5665 Morgan Mill Road		Carson City	CA	89701
Richard	Callas	Senior ES Supervisor	California Department of Fish and Game	601 Locust St.		Redding	CA	96001
Brian	Ehler	Environmental Scientist	California Department of Fish and Game	728-600 Fish and Game Road		Wendel	CA	96136
Kari	Lewis		California Department of Fish and Game	601 Locust St.		Redding	CA	96001
Gary B.	Stacey	Regional Manager	California Department of Fish and Game	601 Locust St.		Redding	CA	96001
Marcelino	Gonzalez		California Department of Transportation	PO Box 496073		Redding	CA	96049-6073
Doug	Cushman	Northern Watershed Unit	California Regional Water Quality Control Board	Lahontan Region	2501 Lake Tahoe Blvd.	South Lake Tahoe	CA	96150
Jim	Porter	Public Land Management Specialist	California State Lands Commission	100 Howe Avenue, Ste. 100 South		Sacramento	CA	95825-8202
Cherilyn	Riddell	Office of Historic Preservation	Department of Parks and Recreation	PO Box 942896		Sacramento	CA	94296-0001
K.A.	Hashagen	Coordinator	Dept. of Fish & Game, NDDB	PO Box 944209		Sacramento	CA	94244-2090
Michael	DeSpain	Environmental Director	Greenville Rancheria	410 Main Street	PO Box 279	Greenville	CA	95947
Gabriel	Gorbet	Tribal Administrator	Greenville Rancheria	410 Main Street	PO Box 279	Greenville	CA	95947
Honorable Erica	Kellison	Chairperson	Greenville Rancheria	PO Box 279		Greenville	CA	95947

Table 5-1 Initial Public Scoping Mailing List, continued

First Name	Last Name	Title	Company	Address 1	Address 2	City	State	Zip
Conrad	Montgomery	Director	Lassen County Dept. of Comm. Dev.	707 Nevada Street		Susanville	CA	96130
Nick	Alosi		Lassen Motorcycle Club	5485 Trapper Court		Sun Valley	NV	89433
Lorena	Gorbet		Maidu Cultural and Development Group	PO Box 426		Greenville	CA	95947
Katy	Sanchez	Program Analyst	Native American Heritage Commission	915 Capitol Mall, Room 364		Sacramento	CA	95814
Kenneth	Weaver	Previous District Conservationist	Natural Resources Conservation Service (office closed)	170 Russell Ave., Suite C	Susanville Service Center	Susanville	CA	96130-4271
Neil	Byzick	Tribal Administrator	Pit River Tribal Council	37118 Main Street		Burney	CA	96013
Jessica	Jim	Chairperson	Pit River Tribal Council	37118 Main Street		Burney	CA	96013
Anna	Barnes	Cultural Representative	Pit River Tribe Aporige Band	Box 125		New Bieber	CA	96068
Jolee	George	Cultural Representative	Pit River Tribe Atsugewi Band	PO Box 398		Burney	CA	96013
Chris	Pirosko		Pit River Tribe	37118 Main Street		Burney	CA	96013
Ben	Aleck	Cultural Resources Director	Pyramid Lake Paiute Tribal Council	PO Box 256		Nixon	NV	89424
Marvin	Wright	Chairman	Pyramid Lake Paiute Tribal Council	PO Box 256		Nixon	NV	89424
Michon	Eben	Cultural Resources Coordinator	Reno-Sparks Indian Colony	1937 Prosperity Street		Reno	NV	89502
Arlan	Melendez	Chairman	Reno-Sparks Indian Colony	98 Colony Road		Reno	NV	89502
Stacy	Dixon	Chairman	Susanville Indian Rancheria	745 Joaquin Street		Susanville	CA	96130

Table 5-1 Initial Public Scoping Mailing List, continued

First Name	Last Name	Title	Company	Address 1	Address 2	City	State	Zip
Tim	Keesey	Environmental Department	Susanville Indian Rancheria	745 Joaquin Street		Susanville	CA	96130
Amy	Huberland	Northeast Info Center, Dept. of Anthropology	University of California			Chico	CA	95929-0377
Will	Ness	Regulatory Branch	US Army Corp of Engineers	Sacramento District	1325 J Street	Sacramento	CA	95814-2922
Laura	Valoppi	Division Chief Wildlife and Sport Fish Restoration Program	US Fish & Wildlife Service	2800 Cottage Way, Ste. W-1729		Sacramento	CA	95825
Adrian P.	Freund	Director	Washoe County Dept. of Community Development	PO Box 11130		Reno	NV	89520-0027
Darrel	Cruz	Environmental Specialist	Washoe Tribe of Nevada and California	919 Highway 395 South		Gardnerville	NV	89410
Jorge	Lopez	Executive Director	Washoe Tribe of Nevada and California	919 Highway 395 South		Gardnerville	NV	89410
Waldo	Walker	Chairman	Washoe Tribe of Nevada and California	919 Highway 395 South		Gardnerville	NV	89410
John	Donnelly		Wildlife Conservation Board	1807 13th Street, Ste. 103		Sacramento	CA	95811

Table 5-2 Representative Comments Received

Date	Agency	Contact Name/Title	Comments
3/03/08	Air Resources Board	Mary D. Nichols Chairperson	See Appendix A1.
	Bench Creek Ranch	Paul Plouviez	No comments received.
8/07/08	California Department of Fish and Game	Gary B. Stacey Regional Manager	See Appendix A1.
8/15/08	California Department of Fish and Game	Tobi Freeny	See Appendix A1.
	California Department of Transportation	Marcelino Gonzalez	No comments received.
5/21/08	California Public Utilities Commission	Kenneth Lewis Program Manager Energy Division	See Appendix A1.
	California Regional Water Quality Control Board	Doug Cushman Northern Watershed Unit	No comments received.
8/04/08	California State Lands Commission	Jim Porter	See Appendix A1.
8/26/08	California State Lands Commission	Barbara Dugal, Chief Land Management Division	See Appendix A1.
1/19/07	Department of Interior, Bureau of Land Management	Ken Nelson Carson City District Office	Telecommunication Record - Jurisdiction for the proposed project lies with Eagle Lake Field Office, Susanville, CA, but if have questions, please advise.
6/17/08	Department of Interior, Bureau of Land Management Eagle Lake Field Office, Susanville, CA	Duane Jackson, Sue Noggles, and Sharynn Blood	See Appendix A1.
	Department of Parks and Recreation	Cherilyn Riddell Office of Historic Preservation	No comments received.

Table 5-2 Summary of Comments Received, continued

Date	Agency	Contact Name/Title	Comments
7/09/08 11/16/10	Federal Aviation Administration	Karen McDonald Specialist	See Appendix A1. Requested additional information for new Determination of Hazard to Air Navigation, filed in April 2010.
	Greenville Rancheria	Honorable Erica Kellison Chairperson	See Environmental Director comments.
2/22/08	Greenville Rancheria	Michael D. DeSpain Environmental Director	See Appendix A1.
	Greenville Rancheria	Gabriel Gorbet Tribal Administrator	See Environmental Director comments.
	Honey Lake Maidu	Ron Morales	No comments received.
6/19/07	Lassen County Dept. of Community Development	Conrad Montgomery Director	No written comments received. Meeting on June 19, 2007 indicated no permit needed in Lassen County, thus no CEQA trigger.
	Lassen Motorcycle Club	Nick Alosi	No comments received.
	Maidu Cultural and Development Group	Lorena Gorbet	No comments received.
	Maidu Nation		No comments received.
7/3/08	Native American Heritage Commission	Katy Sanchez Program Analyst	See Appendix A1.
	Natural Resources Conservation Service	Kenneth Weaver District Conservationist	No comments received.
	Pit River Tribal Council	Jessica Jim Chairperson	No comments received.
	Pit River Tribal Council	Neil Byzick Tribal Administrator	No comments received.
	Pit River Tribe Atsugewi Band	Jolee George Cultural Representative	No comments received.
	Pit River Tribe	Chris Pirosko	No comments received.
	Pit River Tribe Aporige Band	Anna Barnes Cultural Representative	No comments received.
	Pyramid Lake Paiute Tribal Council	Mervin Wright Chairman	Invited to meet on site with BLM, PSREC, and WCRM; did not attend.

Table 5-2 Summary of Comments Received, continued

Date	Agency	Contact Name/Title	Comments
	Pyramid Lake Paiute Tribal Council	Ben Aleck Cultural Resources Director	Invited to meet on site with BLM, PSREC, and WCRM; did not attend.
	Reno-Sparks Indian Colony	Arlan Melendez Chairman	See comments for Cultural Resources Coordinator.
4/1/08	Reno-Sparks Indian Colony	Michon Eben Cultural Resources Coordinator	Met on site with BLM, PSREC, and WCRM on April 1, 2008.
2/12/08 7/17/08	Susanville Indian Rancheria 745 Joaquin Street Susanville, CA 96130	Mr. Stacy Dixon Tribal Chairman	See Appendix A1.
2/12/09	Union Pacific Railroad	Jon E. Devish Manager-Contracts	See Appendix A1.
	University of California	Amy Huberkind Northeast Info Center, Dept. of Anthropology	No comments received.
	U.S. Army Corp of Engineers	Will Ness Regulatory Branch	No comments received.
2/17/09	U.S. Fish and Wildlife Service	Laura Valoppi Division Chief Wildlife and Sport Fish Restoration Program	Ms. Valoppi has been requested to concur with CDFG recommendation to issue easement for Doyle SWA land.
7/09/08	Washoe County Community Development	Bill Whitney Senior Planner	See Appendix A1.
	Washoe Tribe of Nevada and California	Waldo Walker Chairman	See comments for Environmental Specialist.
	Washoe Tribe of Nevada and California	Jorge Lopez Executive Director	See comments for Environmental Specialist.
	Washoe Tribe of Nevada and California	Darrel Cruz THPO, Environmental Specialist	Met on site with BLM, PSREC, and WCRM.

Table 5-2 Summary of Comments Received, continued

Date	Agency	Contact Name/Title	Comments
	Wildlife Conservation Board	John Donnelly	Coordination among WCB, CDFB, USFWS, PSREC, and EDM has resulted in Doyle SWA Mitigation Plan.

5.3 Individual Landowners Contacted for Right of Entry or Right-of-Way Acquisition

Richard M. & Nancy R. Hill

Betty J. Douglass

Estate of Dr. Eric M De Saventhum

Peter G. LaBarge & Julie Skeen

Lambert C. & Marcia A. Barnum

Jack H. & Jacqueline Brown

Bertie L. Gravier

Michael G. Sinerius & Tamara L. Sternod

Robert Whitmire

Marie Wilson Family Trust

Charlotte J. Bishop or John Thomas Rodgers

Donald E. & Jackie Baker

SBM-Lassen County General Partnership

5.4 Additional Agency Contacts (Specific to Wildlife Issues)

Doug Satica
U.S. Bureau of Management
Litchfield Facility Manager
Wild Horse and Burro Program

Chris Hampson
Nevada Department of Wildlife
Game Biologist

Craig Stowers
California Department of Fish and Game
Deer Program Coordinator

Frank Hall
Retired - California Department of Fish and Game
Wildlife Biologist

Tobi Freeny
California Department of Fish and Game
Environmental Scientist
Aquatic Conservation Planning
Northern Region

Darlene McGriff
California Department of Fish and Game
Senior Biologist Specialist
Biogeographic Data Branch
California Natural Diversity Database

California Natural Diversity Database

Nevada Natural Heritage Program

5.5 Native American Tribal Contacts

The following Tribes were briefed about the project during consultation meetings and several of the Tribes attended a field tour. With the exception of comments received from the Susanville Indian Rancheria in July 2008, no formal comments were expressed except during the field tours.

- Greenville Rancheria: 10-2-07, 2-21-08, 3-27-09 and a site tour on 4-8-2008
- Pit River Tribe: 6-29-07, 4-24-08, 6-12-08, 3-25-09
- Pyramid Lake Paiute Tribe: 10-9-07, 2-15-08, 11-20-08
- Reno-Sparks Indian Colony: 8-7-07, 4-24-08, 12-16-08, 3-17-09 and a site tour on 4-1-08
- Susanville Indian Rancheria: 7-13-07, 11-2-07, 1-11-08, 4-11-08, 7-10-08, 10-10-08, 1-9-09, 5-26-09, and a site tour on 4-1-2008
- Washoe Tribe of Nevada and California: 7-19-07, 10-3-07, 3-20-08, 10-15-08, 4-15-09, and a site tour on 4-8-08

Pyramid Lake Paiute Tribal Council
Mr. Mervin Wright, Chairman
P.O. Box 256
Nixon, Nevada 89424

Pyramid Lake Paiute Tribe
Mr. Ben Aleck – Museum Curator, NAGPRA Coordinator, Cultural Resources
P.O. Box 256
Nixon, Nevada 89424-7401

Susanville Indian Rancheria
Mr. Stacy Dixon, Chairman
745 Joaquin St.
Susanville, California 96130

Susanville Indian Rancheria
Ms. Melany Johnson, Tribal Historic Preservation Officer
745 Joaquin St.
Susanville, California 96130

Washoe Tribe of Nevada and California
Mr. Waldo Walker, Chairman
919 Highway 395 South
Gardnerville, Nevada 89410
Washoe Tribe of Nevada and California
Mr. Darrel Cruz, Tribal Historic Preservation Officer
919 Highway 395 South
Gardnerville, Nevada 89410
916-920-3150 ext. 1427

Greenville Rancheria
Mr. Kyle Self, Chairperson
410 Main St.
P.O. Box 279
Greenville, California 95947

Greenville Rancheria
Ms. Crista Stewart, Environmental Director
410 Main St.
P.O. Box 279
Greenville, California 95947

Reno-Sparks Indian Colony
Mr. Arlan Melendez, Chairman
98 Colony Rd.
Reno, Nevada 89502

Reno-Sparks Indian Colony
Ms. Michon Eben, Cultural Resources Coordinator
1937 Prosperity St.
Reno, Nevada 89502

5.6 Names of Preparers

United States Department of Agriculture
Rural Utilities Service

Dennis E. Rankin, Environmental Protection Specialist
Laura Dean, PhD, Archeologist/Federal Preservation Officer

MPE, Inc. Environmental Consulting
Mary Ann Mix, Senior Environmental Planner
M.J. Oresik, Regulatory Specialist
Shelly Scott, Mapping Specialist/Administrative Manager
Denise F. Jackson, Landscape Architect

EDM International, Inc.
Lori Nielsen, Senior Project Manager/Wildlife Biologist
Amy Dean, Wetlands Specialist
Melissa Landon, GIS Manager
Paul Petersen, GIS Specialist
Randy Walsh, Resource Specialist
Christie Riebe, Technical Editor
Linda Koepsell, Technical Document Manager

Jeanene Hafen, Botanist
John Hafen, Botanist
Nancy Harnach, Botanist
William Harnach, Botanist

Paul Hardy, Wildlife Biologist

Western Cultural Resource Management, Inc.
Edward Stoner, Senior Archaeologist
Thomas J. Lennon, Principal Investigator
Jennifer Sigler, Archaeologist
Mary Ringhoff, Archaeologist
Jaclyn Raley, Technician

Tri Sage Consulting
James Bengochea, Civil Engineering Manager

Holland and Knight, LLP
Elizabeth (Betsy) Lake, Partner

5.7 Reviewers

United States Department of Interior
Bureau of Land Management
Eagle Lake Field Office, Susanville, CA
Ken Collum, Field Manager
Charles Wright, Realty Specialist
Rhonda Sue Noggles, NEPA Coordinator and Planner

Sharynn-Marie Blood, Archaeologist
Melissa Nelson, Wildlife Biologist
Carolyn Gibbs, Botanist
Patrick Farris, Rangeland Management Specialist

Lassen County Community Development
Richard Simon, (former) Senior Planner
Conrad Montgomery, (former) Director

Washoe County, Nevada
Bill Whitney, Planner

California Department of Fish and Game
Richard Callas, Senior ES Supervisor
Brian Ehler, Environmental Scientist
Karen Kovacs, Wildlife Programs Branch, Supervising Biologist
Eric Haney, Interior Conservation Planning Supervisor, Northern Region - Region 1
William Gallup, Wildlife Conservation Board

California State Lands Commission
Cy R. Oggins, Chief, Division of Environmental Planning and Management
Jim Porter, Public Lands Manager
Christopher Huitt, Staff Environmental Scientist
Pamela Griggs, Senior Staff Counsel
Joan Walter, Environmental Scientist
Eric Gillies, Environmental Program Manager

U.S. Fish and Wildlife Service, Region 8
Wildlife and Sport Fish Restoration Program
Becky Miller, Grant Management Specialist
Justin Cutler, Grant Management Specialist

Chapter 6
References

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APPENDIX A
AGENCY AND PUBLIC COMMENT LETTERS

APPENDIX A1
120kV COMMENTS

FEB 12 2009

Folder: 02540-71

GREG LOHN
PLUMAS-SIERRA RURAL ELECTRIC COOPERATIVE INC.
73233 STATE ROUTE 70, SUITE A
PORTOLA CA 96122

RE: Proposed construction of a 120 Kv Wireline Crossing of Railroad Property at Mile Post 369.43 on the Winnemucca Subdivision at or near Herlong, Lassen County, California.

Greg:

Attached is your original copy of our Agreement, fully executed on behalf of the Railroad Company. When you or your representative enter the Railroad Company's property, a copy of this fully-executed document must be available at the site to be shown on request to any Railroad employee or official.

In accordance with the terms of the Agreement, you are required to notify the following Railroad Company's Manager of Track Maintenance and the Telecommunications ("Call Before You Dig") number at least 10 days in advance of the date you plan on entering the right of way for further instructions and approval to commence construction.

Mr. Bill Sanchez - MTM
Union Pacific Railroad Company
1 South Pyramid Way
Sparks, NV 89431
(775) 356-2619, Cellular (775) 848-4159

Mr. Paul Braden - MSM
Union Pacific Railroad Company
51 Gould Street
Winnemucca, NV 89445
(775) 623-6122

Telecommunications ("Call Before You Dig"): 1-800-336-9193

Union Pacific Railroad Real Estate 1400 Douglas Street Stop 1690 Omaha, Nebraska 68179-1690 fx. (402) 501-0340

PLUMAS-SIERRA RURAL ELECTRIC COOPERATIVE INC.

As an additional note, the top of the casing must be a minimum of two feet below the existing fiber optic cable. Any open excavation required within five feet of the fiber optic cable must be dug by hand.

All future insurance notices should be forwarded to:

Union Pacific Railroad Company
(Attention: Jon E. Devish - Folder No. 02540-71)
1400 Douglas St. STOP 1690
Omaha, NE 68179-1690

If you have any questions, please contact me at (402) 544-8563.

Sincerely,

Jon E. Devish
Manager - Contracts

Mar 03 09 12:02p PSREC Engineering (530) 832-0398 p.3

SUSANVILLE INDIAN RANCHERIA

RECEIVED
FEB 27 2008
BLM Eagle Lake

February 12, 2008

Dayne Barron
BLM Eagle Lake Field Manager
2950 Riverside Drive
Susanville, CA 96130

RE: Plumas-Sierra Electric Cooperative proposal for the construction of a 120 kilowatt transmission line in the Turtle Mountain area (T26N, R16E and R17E)

Dear Mr. Barron:

Susanville Indian Rancheria (SIR) a federally recognized Indian Tribe in northeastern California, comprised of four distinct Tribes: Mountain Maidu, Northern Paiute, Pit River and Washoe would like to comment and request additional information on the proposal for the construction of a 120 kilowatt transmission line in the Turtle Mountain area. These areas are within the ancestral lands of the SIR and there are indeed prehistoric villages at Fort Sage associated with the Wadadakuta band of the Northern Paiute. Turtle Mountain is considered to be a sacred mountain or Traditional Cultural Property (TCP) to all Tribes of the SIR. Many of our people still travel to Turtle Mountain for spiritual guidance, as they have from time immemorial. We cannot impart on you fully, the pure sacredness of this mountain. SIR is requesting a larger and more detailed map of the area of potential effect (APE).

Cultural resources include but are not limited to: rock cairns, burials, village sites, milling stations, bedrock mortars, lithic scatters, associated manos, metates, hammerstones, projectile points, fire cracked rock, charcoal, and knolls. The wildlife, water, ethnobotanicals, air quality, visual aesthetics, agricultural resources, and other potential environmental impacts are also cultural resources that we are concerned about.

SIR wishes to be directly involved with the cultural resource inventories and is requesting that Native American Monitors from the SIR be hired to assist in the cultural resource surveys. If you have any questions or comments, please contact Melany L. Johnson at 530-251-5633 or nagpra1@citlink.net.

Sincerely,

Mr. Stacy Dixon
Tribal Chairman

745 JOAQUIN STREET ■ SUSANVILLE, CA 96130 ■ (530) 257-6264 ■ FAX 257-7986

TRIBAL EPA
LIVING IN HARMONY

Greenville Rancheria

P.O. Box 279 / 410 Main Street • Greenville, CA 95947 • 530.284-7990 • Fax 530.284-6612

February 22, 2008

Bureau of Land Management
Eagle Lake Field Office
2950 Riverside Drive
Susanville, CA 96130

Attn: Dayne Barron

Re: Plumas-Sierra Fort Sage to Herlong 120 kv Transmission Line Interconnect Project

Mr. Barron,

The Greenville Rancheria tried to contact Plumas-Sierra in October 2007 regarding this project with no response. The consultation process in accordance with State and Federal guidelines has not been adhered to regarding this project. The Greenville Rancheria would like to request consultation directly with Plumas-Sierra to review the proposed project in the Fort Sage Area and address the undocumented sites. The Tribe cannot make comments on the Area of Potential Effect until we receive more information.

Thank you,

Michael D. DeSpain
Environmental Director, Greenville Rancheria
mdespain.epa@greenvillerancheria.com

Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

March 3, 2008

Mr. Aaron Jones
Golden State Power Cooperative
14619 Hamlin Street
Van Nuys, California 91411

Dear Mr. Jones:

Thank you for meeting with us to discuss whether the proposed regulation for reporting greenhouse gases is applicable to members of the Golden State Power Cooperative (GSPC). Based on the information you provided us, the proposed regulation would not apply to your members.

You informed us that the GSPC is a non-profit organization that includes three low-density, rural electricity service areas within California and has less than 20,000 members who receive electricity directly from out-of-state energy providers or from the Western Area Power Administration, a federal agency. The cooperative does not sell electric power and only purchases electricity for the sole use of its members.

The proposed regulation will be adopted to meet legislative requirements in the California Global Warming Solutions Act of 2006, Assembly Bill 32 (AB 32). The legislation requires the California Air Resources Board (ARB) to account for power imported into California as well as power generated inside the state. Our proposed mandatory reporting regulation requires operators of power generating facilities, retail providers, and power marketers to report information to ARB on their greenhouse gas emissions and power transactions. The regulation does not mention or include rural power cooperatives. Since the out-of-state entities that import electricity into California to service the members of the GSPC will be required to report their electric power transactions, ARB will be accounting for the power imported into California without requiring your members to report.

ARB has only begun to develop regulations needed to meet requirements in AB 32 and may need to refine the proposed reporting regulation in the future to accommodate the needs of emission control regulations. However, for now, the reporting regulation does not apply to cooperatives.

Mary Ann Mix

From: Lewis, Kenneth E. [KL1@cpuc.ca.gov]
Sent: Wednesday, May 21, 2008 12:20 PM
To: Jim Rice
Cc: MaryAnn Mix; Greg Lohn; Bob Marshall
Subject: RE:

Jim:

To respond to your e-mail and letter, for the CPUC to be a lead agency for CEQA, the Commission has to making a discretionary decision. Since we don't have any jurisdiction over electric coops and therefore there is no discretionary decision to be made, we would not be involved in any CEQA review of your project.

Ken Lewis
Program Manager
Energy Division
CPUC

From: Jim Rice [mailto:jrice@psln.com]
Sent: Thursday, May 15, 2008 1:21 PM
To: Lewis, Kenneth E.
Cc: 'MaryAnn Mix'; 'Greg Lohn'; 'Bob Marshall'
Subject:

Mr. Ken Lewis,

Please accept the attached letter from Plumas-Sierra Rural Electric Cooperative requesting your assistance with our proposed 120kV transmission line between Nevada and California near Herlong, CA.

This letter was previously submitted to Mr. John Boccio who recommended we send this letter to you for review. The suggested date for a meeting was based on our original submittal date and we recognize that probably is no longer realistic.

Thanks,

James W. Rice
Mgr. Technical Services
Plumas-Sierra Rural Electric
530-832-6031 ofc
530-251-7307 cell
530-832-5761 fax

3/13/2009

Mary Ann Mix

From: Duane_Jackson@ca.blm.gov
Sent: Tuesday, June 17, 2008 5:55 PM
To: mix@mpeinc.net; Dennis.Rankin@wdc.usda.gov; Dayne_Barron@blm.gov; Rhonda_Noggles@ca.blm.gov; Sharynn-Marie_Blood@blm.gov; glohn@psrec.coop
Cc: Duane_Jackson@ca.blm.gov
Subject: Fw: Tribal Consultation Mailing List

Mary Ann -

I have forwarded the mailing list for the tribes. Ignore the "Ask Sharynn" columns.

Myself, Sue Noggles, and Sharynn Blood (in part) reveiwed the project description. Since it is not in word I will try to list our thoughts for you.

Our comments include:

Page 9, PP 6, Check last sentence.
Page 10, Botanical Species, First Sentence - Might help to clarify what "It" refers to.
Page 10, Cultural/Historic Surveys, PP3, Third sentence. When we were discussing it we thought it would be better to refer to the MOA/PA on how new discoveries are handled. Or to explain that one will be in place. Which may be the case but I realized this is going to the public and that may not make sense. Anyway, I am wavering on this comment :) Page 11, Visual Analysis, - Although were are the vocal (one word for us) agency the write up doesn't discuss anything but the BLM land, are we it?
No issues on the rest of it?
Page 11, Last 2 PP. - We got confused. First Sentence: " Because the proposed line route..... it initially crossed within Class 1V. Then we didn't understand the shifting discussion. Are you suggesting a new shift to avoid the VRM 11 on the north end of Turtle Mountain? Sorry, we decided if we couldn't figure it out we should mention it.
Page 12, Last PP: "Will cause not adverse impact". For us, this is a bit pre-decisional.

Letter - Period after first PP.

None of these are show stoppers for us so as far as we are concerned it is good to go. dj

---

Duane Jackson
Realty Specialist
BLM, Eagle Lake Field Office
2950 Riverside Drive
Susanville, California
Work: 530-252-5312
Fax: 530-257-4831

----- Forwarded by Duane Jackson/CASO/CA/BLM/DOI on 06/17/2008 04:02 PM -----

Sharynn-Marie Blood/CASO/CA/BLM/DOI
06/17/2008 02:37 PM

To: Duane Jackson/CASO/CA/BLM/DOI@BLM
cc:
Subject: Tribal Consultation Mailing List

STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
California Relay Service From TDD Phone **1-800-735-2922**
from Voice Phone **1-800-735-2929**

Contact Phone: **(916) 574-1865**
Contact FAX: **(916) 574-1955**

AUG 25 2008

File Ref: SD 2008-07-03.3

Mr. Greg Lohn
Project Manager
Plumas-Sierra Rural Electric Cooperative
73233 State Route 70, Suite A
Portola, CA 96122-7069

Dear Mr. Lohn:

Subject: Letter of Non-Objection: Proposed Entry onto State-Owned School Lands Located in Sections 10, 11 & 12, Township 26 North, Range 16 East, and Section 7, Township 26 North, Range 17 East, MDM, Lassen County

Plumas-Sierra Rural Electric Cooperative (PSREC) proposes to construct a new 120 kV transmission line (Project) in Lassen County, and a portion of the proposed Project crosses the state-owned school lands referenced above (Subject Properties). This letter is provided in response to your request on behalf of PSREC for a Right of Entry (ROE) on the Subject Properties. The purpose of the ROE is to conduct botanical, biological, archeological, and other applicable on-site field studies (Studies) on the subject properties as required under the National Environmental Policy Act and the California Environmental Quality Act.

Staff of the California State Lands Commission (CSLC) does not object to entry onto the Subject Properties by authorized representatives of PSREC for the purpose of conducting the Studies outlined above, subject to the conditions below:

1) Permission to enter the Subject Properties shall be effective beginning from the date of the CSLC's receipt of an executed copy of this Letter of Non-Objection, through December 22, 2008. In the event that the Project has not been completed by December 22, 2008, then PSREC will need to contact the CSLC for permission to re-enter the Subject Properties.

Mr. Greg Lohn
SD 2008-07-03.3

2) If unanticipated cultural resources are found during the Studies, the area will be avoided, and the CSLC will be notified immediately of the discovery. If human remains are discovered, the county coroner must be notified within 24 hours, and there shall be no further disturbance of the site until the following conditions are met: a) the county coroner has determined that no investigation of the cause of death is required, and, b) if the remains are of Native American origin, the CSLC shall be notified within 24 hours so that it can coordinate with the Native Americans designated by the Native American Heritage Commission for appropriate treatment of the remains.

3) All personal property, tools, or equipment taken onto or placed upon the Subject Properties shall remain the personal property of PSREC or its contractors. Such personal property shall be promptly removed by PSREC or their contractors at their sole risk and expense upon the completion of the Studies. The State does not accept any responsibility for any damage, including damages to any personal property, including any equipment, tools, or machinery on State lands.

4) All motorized vehicles must stay on existing roads wherever possible, and ground disturbances will be kept to an absolute minimum.

5) The Subject Properties currently are leased for grazing to Matandy Land & Cattle Company and Lambert C. Barnum & Marcia A. Barnum (note addresses of the lessees at the conclusion of this letter). PSREC shall notify the CSLC's lessees prior to entering onto the Subject Properties and shall make every effort to avoid disturbances to all livestock that may be encountered.

6) This Letter of Non-Objection shall permit visual surveys of the Subject Properties only; no botanical, biological or cultural resource samples may be taken.

7) All other applicable governmental regulations, including those required by the U.S. Bureau of Land Management pertaining to survey activities to be conducted on adjacent federal lands, shall be followed during the project.

This letter is not intended, nor shall it be construed as, a waiver or limitation of any right, title, or interest of the California State Lands Commission in any lands under its jurisdiction.

Please arrange to have this Letter of Non-Objection signed by an authorized representative of PSREC in the space provided on the following page accepting the conditions as set forth in this letter and return the signed original to this office prior to your entrance onto the Subject Properties. If a signed copy of this letter is not received before September 5, 2008, this Letter of Non-Objection shall be null and void.

Mr. Greg Lohn
SD 2008-07-03.3

If you have any questions, please contact Jim Porter, Public Land Management Specialist, at (916) 574-1865.

Sincerely,

Barbara Dugal, Chief
Land Management Division

To the extent permissible by law, the State of California (State) shall not be liable and PSREC, and any of its agents, assigns, lessees, or contractors shall indemnify, hold harmless, and, at the option of the State, defend State, its officers, agents, and employees against and for any and all liability, claims, damages or injuries of any kind and from any cause, arising out of or connected in any way with the proposed activities.

Accepted by
Plumas-Sierra Rural Electric Cooperative:

_____

_____
Title

_____
Date

cc: √Ms. Mary Ann Mix
MPE, Inc.
P.O. Box 3040
Hailey, ID 83333

Matandy Land & Cattle Company
P.O. Box 83
Standish, CA 96128

Lambert C. Barnum & Marcia A. Barnum
P.O. Box 280
Murphys, CA 95247

Jim Porter, LMD

07/03/2008 14:31 FAX 916 657 5390 NAHC 001/002

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390

July 3, 2008

Mary Ann Mix
MPE, INC
P.O. Box 3040
Hailey, Idaho 83333

Sent by Fax: 208-788-6009
Number of Pages: 2

Re: Proposed 120kV Transmission Line and Substation project; Lassen County.

Dear Ms. Mix:

A record search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4040.

Sincerely,
Katy Sanchez
Katy Sanchez
Program Analyst

07/03/2008 14:32 FAX 916 657 5390 NAHC 002/002

Native American Contacts
Lassen County
July 3, 2008

Greenville Rancheria of Maidu Indians
Chairperson
PO Box 279 Maidu
Greenville , CA 95947
(530) 284-7990
(530) 284-6612 - Fax

Honey Lake Maidu
Ron Morales
1101 Arnold Street Maidu
Susanville , CA 96130
(530) 257-3275

Maidu Nation
Clara LeCompte
P.O Box 204 Maidu
Susanville , CA 96130

Greenville Rancheria of Maidu Indians
Mike DeSpain, EPA/Cultural Resources
PO Box 279 Maidu
Greenville , CA 95947
mdespain.
(530) 284-7990
Fax: (530) 284-6612

Susanville Indian Rancheria
Stacy Dixon, Chairperson
745 Joaquin Street Paiute
Susanville , CA 96130 Maidu
(530) 257-6264 Pit River
(530) 2527-7986 - Fax Washoe

Susanville Indian Rancheria
Melany Johnson, Cultural Resources Technician
745 Joaquin Street Paiute
Susanville , CA 96130 Maidu
cultural@sir-nsn.gov Pit River
(530) 251-5636 Washoe
(530) 251-5635 Fax

Maidu Cultural and Development Group
Lorena Gorbet
PO Box 426 Maidu
Greenville , CA 95947
(530) 284-1601

Greenville Rancheria of Maidu Indians
Gabriel Gorbet, Tribal Administrator
PO Box 279 Maidu
Greenville , CA 95947
ggorbet@greenvillerancheria.com
(530) 284-7990
Fax: (530) 284-6612

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the propose 120kV Transmission Line and Substation Project; Lassen County.

Federal Aviation Administration
Air Traffic Airspace Branch, ASW-520
2601 Meacham Blvd.
Fort Worth, TX 76137-0520

Aeronautical Study No.
2008-AWP-3207-OE

Issued Date: 07/09/2008

Greg Lohn
Plumas Sierra Rural Electric Cooperative
73233 State Route 79, Ste. A
PO Box 2000
Portola, CA 96122

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Transmission Line Fort Sage to Herlong 120kV Transmission Line
Location:	HERLONG, CA
Latitude:	40-07-15.00N NAD 83
Longitude:	120-10-17.00W
Heights:	60 feet above ground level (AGL) 4125 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

See attachment for additional condition(s) or information.
Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking and/or lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

Any height exceeding 60 feet above ground level (4125 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 01/09/2010 unless:

(a) extended, revised or terminated by the issuing office.
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2008-AWP-3207-OE.

Signature Control No: 575765-102308075 (DNE)
Karen McDonald
Specialist

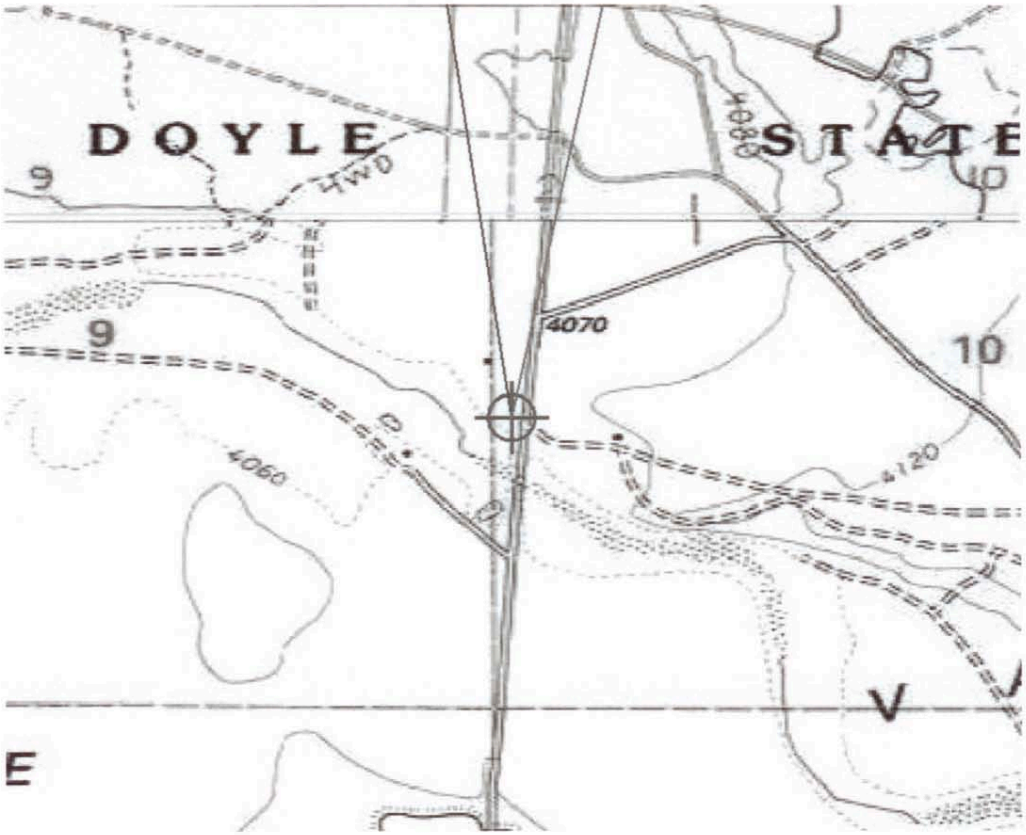
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2008-AWP-3207-OE

Determination is issued for One Pole Only within this planned transmission line routing. The pole is at the specific latitude/longitude, site elevation, and above ground level height submitted by the sponsor. No other poles within the transmission line routing were evaluated, nor is this determination to be interpreted as an evaluation of any other poles within the transmission line routing.

Page 3 of 4

Verified Map for ASN 2008-AWP-3207-OE



Page 4 of 4

WASHOE COUNTY
NEVADA

Community Development

"Dedicated to Excellence in Public Service"
Adrian P. Freund, AICP, Community Development Director

COMMUNITY DEVELOPMENT

July 9, 2008

Mary Ann Mix
MPE, Inc
P.O. Box 3040
Hailey, Idaho, 83333

Subject: Plumas Sierra Rural Electric Cooperative

Dear Ms. Mix:

I response to your letter addressed to Adrian P. Freund dated June 26, 2008. A Special Use Permit will be required from Washoe County Department of Community Development in order to construct the proposed electrical transmission line. That permit can be found on-line at our web site: http://www.washoecounty.us/comdev/applications/applications_fy2007_08/development_applications.htm If you have questions concerning our Special Use Permit process I would invite you to talk with one of our Current Planners, they can be reached at 775-328-3600.

In regards to your other questions pertaining to natural and cultural resources I would suggest your firm contact the following agencies to gather data that will help you complete the EA for the Nevada portion of the proposed project:

- T&E species: The Nevada Natural Heritage Program.
- Cultural: Nevada State Historic Preservation Office
- Riparian/Wetland The map provided shows a playa approximately one mile north of the proposed project's Nevada portion. I would urge you to contact the Nevada Department of Wildlife for guidance if you find any evidence of wetlands or riparian habitat close to the proposed route.

Please be aware that the three sections of private property that the proposed route is located on in Nevada (29, 32, 33) all have "Presumed Public Roads" located on them. Please contact our Public Works Department 775-328-2041 to find out more information concerning the status of these roads. You might also examine the directives found in the "Regional Utility Corridor Report". The report can be found on the Truckee Meadows Regional Planning Agency website: http://tmrpa.org/publications_4.html

I hope that you find this information useful and Washoe County appreciates having its natural, cultural and scenic resources evaluated in relation to the proposed project.

Bill Whitney
Senior Planner

BW:bw

Post Office Box 11130, Reno, NV 89520-0027 – 1001 E. Ninth St., Reno, NV 89512
Telephone: 775.328.3600 – Fax: 775.328.3648
www.washoecounty.us/comdev/
"Your Community Development Department"

208 - 788 - 6000

SUSANVILLE INDIAN RANCHERIA

July 17, 2008

Mr. Dennis E. Rankin
Environmental Protection Specialist
USDA Rural Development
1400 Independence Ave, SW
Washington, DC 20250-0700

RE: Plumas-Sierra Rural Electric Cooperative, Inc (PSREC)

Dear Mr. Rankin:

Susanville Indian Rancheria (SIR) a federally recognized Indian Tribe in northeastern California, comprised of four distinct Tribes: Mountain Maidu, Northern Paiute, Pit River, and Washoe would like to comment on the proposal for the construction of a 120 kilowatt transmission line in the Turtle Mountain area. SIR understands that the Rural Utilities Service (RUS) is acting as the lead agency for the environmental review of the project. The Bureau of Land Management (BLM) Eagle Lake Field Office (ELFO) is serving as a cooperating agency. These areas are within the ancestral lands of the SIR and are in SIR's Cultural Resource Protection Zone. Turtle Mountain and the Fort Sage surroundings are sacred areas and are considered to be Traditional Cultural Properties (TCP's). Many of our people still travel to Turtle Mountain for spiritual guidance, as they have from time immemorial. We cannot impart on you fully the pure sacredness of this mountain. As a federally recognized Indian Tribe with sovereign status with the United States government, SIR requests to be a cooperating member of this undertaking.

On April 1, 2008, SIR Natural Resources Department staff, Melany L. Johnson, Reno Sparks Indian Colony (RSIC) Cultural Manager, Michon Eben, and staff from BLM ELFO attended a field tour of the proposed project area along with Edward J. Stoner, Project Manager for Western Cultural Resource Management, Inc., Greg Lohn, Project Manager, and Jim Rice, Manager Technical Services System Operator for Plumas Sierra Rec. Mr. Stoner had completed a cursory survey of the areas and found some artifacts and evidence of habitation. While we were on the field tour more artifacts were discovered by Melany and Michon. Cultural resources include but are not limited to: rock cairns, burials, village sites, milling stations, bedrock mortars, lithic scatters, associated manos, metates, hammerstones, projectile points, fire cracked rock, charcoal, and knolls. The wildlife, water, ethnobotanicals, air quality, visual aesthetics, agricultural resources, and other potential environmental impacts are also cultural resources that we are concerned about.

SIR wishes to be directly involved in assisting with the cultural resource surveys and inventories along with the other affected Tribes of the area. During any ground disturbing activities we are requesting that paid Native American Monitors are on site. We also need to have an agreement and mitigation measures in place before ground

745 JOAQUIN STREET • SUSANVILLE, CA 96130 • (530) 257- 6264 • FAX 257-7986

disturbance, regarding the artifacts found on the surface, and those that will be found subsurface, and any Native American burials that may be unearthed during ground disturbance.

We thank you for your letter and look forward to working with you. If you have any questions or comments, please contact Melany L. Johnson, SIR, Tribal Historic Preservation Officer at 530-251-5633 or nagpra1@citlink.net.

Sincerely,

Mr. Stacy Dixon
SIR Tribal Chairman

Cc: Edward J. Stoner, Jr., WCRM
Greg Lohn, Plumas-Sierra Rec
Jim Rice, Plumas-Sierra Rec
Chairman Arlan Melendez, Reno Sparks Indian Colony
SIR Tribal Government Liaison Committee (TGLC)
Melany L. Johnson, SIR

MPE, INC
Environmental Consulting

TELEPHONE CONVERSATION RECORD

Date: 08/04/08 **Project:** 120kV

Contact Name/Company: Jim Porter, CA State Lands

Contact Phone Number: 916-574-1865

Details:

Div. of Env. Planning & Management
review)

app. needs to include all facilities - exist + proposed
Submit app. + letter from CAPUC

Notice - cadastral survey
legal descrip of R/W of exist + proposed
facilities
Cannot survey w/o CA SLC permission
need to comply w/ reqs for survey

feet on either side of CL
window

Write ROE letter
for Eng.

copy in duplicate
Schoolland's

251-7449

MPE Employee Signature:

PO Box 3040 • Hailey, Idaho 83333 • Phone 208-788-3940 • Fax 208-788-6009 • mpe@sunvalley.net

State of California – The Resources Agency
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
NORTHERN REGION
601 Locust Street
Redding, CA 96001
(530) 225-2300

ARNOLD SCHWARZENEGGER, Governor

August 7, 2008

Ms. Mary Ann Mix
MPE, Inc.
Post Office Box 3040
Hailey, Idaho 83333-3040

Dear Ms. Mix:

Plumas Sierra Rural Electric Cooperative
Preliminary Studies and Environmental Assessment

The Department of Fish and Game (DFG) has reviewed the preliminary information that the Bureau of Land Management (BLM) has received regarding the easement across public land. The project study area is located east of US-395 in the Honey Lake Valley, and extends southeast of Herlong, California and crosses into Nevada. The proposed action is to construct a 120 kV transmission line originating in Washoe County, Nevada at the Fort Sage Substation and terminating at the proposed new Herlong Substation, adjacent to the existing Herlong Substation, located at the intersection of Highway 395 and Garnier Road. The DFG offers the following comments on this project in our role as a trustee agency for California's fish and wildlife resources.

The Fort Sage Mountains provide critical habitat for mule deer, as it is part of the winter range for the Doyle herd. It was noted in the scoping information that "very few mule deer were present within the project area at the time of surveys (May & June); however, the sagebrush and bitterbrush habitats showed heavy signs of mule deer use." DFG acknowledges that these vegetation types provide high quality forage for deer during harsh winters, and as such, we recommend that removal of bitterbrush and sagebrush be avoided. Additionally, the construction of the transmission lines should occur outside of winter months to avoid disturbance to deer during periods when winter forage is essential for their survival.

The project will cross Long Valley Creek and the project proponent is required by Section 1602 of the Fish and Game Code (Code) to notify the DFG prior to undertaking any activity which substantially alters the bed, channel or bank of a lake, river or stream. In issuing a streambed alteration agreement pursuant to Code Section 1602, the DFG will be required to comply with the California Environmental Quality Act (CEQA). Consequently any environmental compliance documents prepared by the applicant or cooperating federal

Conserving California's Wildlife Since 1870

agencies must disclose the details of any project activities within the jurisdiction of Code Section 1602 and address all of the potential biological streambed alteration impacts associated with those activities and propose feasible mitigation for any identified impacts. A 50-foot no-disturbance buffer zone is recommended from the top of the bank of Long Valley Creek, or 25 feet from the outer edge of riparian vegetation dripline; whichever is greater.

Finally, a small portion of the proposed route would cross the Doyle State Wildlife Area, property owned and managed by the DFG. The applicant's representatives have contacted DFG and Wildlife Conservation Board (WCB) staff regarding an easement for this line segment. Any questions regarding the easement should be directed to Debbie Townsend at the WCB at (916) 445-1113 or (916) 445-8448.

Thank you for the opportunity to review and comment on this project. If you have any questions, please feel free to contact Biologist Kate Grossman at (530) 225-2239 or Wildlife Biologist Brian Ehler at (530) 340-6808.

Sincerely,

GARY B. STACEY
Regional Manager

cc: Messrs. Bruce Webb and Dr. Richard Lis
Ms. Kate Grossman
Department of Fish and Game
601 Locust Street
Redding, CA 96001

Ms. Debbie Townsend
Wildlife Conservation Board
1807 13th Street, Suite 103
Sacramento, CA 95811

ec: Messrs. Brian Ehler and Bob Williams
behler@dfg.ca.gov, bwilliams@dfg.ca.gov

Mary Ann Mix

From: Tobi Freeny [TFREENY@dfg.ca.gov]
Sent: Friday, August 15, 2008 4:39 PM
To: Kim Burns; Lori Nielsen
Cc: Brian Ehler; Eric Haney; Richard Callas; Mary Ann Mix; Jim Rice; Greg Lohn
Subject: Re: PSREC 120 kV Long Valley Creek crossing

Lori,

Under this scenario Section 1602 does not apply since you have indicated that there will be no impacts to the bed, bank, or channel of the ephemeral reach of Long Valley Creek. If the poles are placed outside of the drainage and only the 120 kV transmission line will be crossing the drainage above ground from pole to pole the project is out of the California Department of Fish and Game's jurisdiction and no notification for a Lake or Streambed Alteration is required. If you have any other questions please feel free to contact me any time.

Thank you
>>> "Lori Nielsen" <lnielsen@edmlink.com> 8/14/2008 10:27 AM >>>
Kim,

Thank you for your time and efforts to respond regarding CDFG's Section 1602 of the Wildlife Game Code. Here is the web site that contains the photos of PSREC's proposed crossing of Long Valley Creek of a new 120 kV transmission line proposed between the Fort Sage and Herlong Substations. I also attached a map that shows this crossing in Section 10, as the line turns south along the paved Garnier Road.

http://76.246.248.227/~psrec/lvc/

Photos 4-8 on this web site depict the bridge and road over an ephemeral reach of Long Valley that PSREC would use to construct the line. You will see an existing 69 kV transmission line on the other side of Garnier Road.

PSREC has indicated they would place the poles along the highway, outside of the channel; therefore, there should be no direct impacts to the channel, bed, or bank. PSREC has standard erosion-control measures that would prevent indirect effects from erosion during the construction period.

Would you please let us know if Section 1602 still applies under this scenario?

Please don't hesitate to contact me if you need additional information or clarification.

Thanks again,

Lori Nielsen

1

Lori A. Nielsen, Senior Wildlife Biologist/Project Manager

EDM International, Inc.

4001 Automation Way | Fort Collins CO 80525 U.S.A.

P: 970.204.4001 | F: 970.204.4007

LNielsen@edmlink.com | www.edmlink.com

Tobi Freeny
Environmental Scientist
Aquatic Conservation Planning
Department of Fish and Game
Northern Region
601 Locust Street
Redding, California 96001
(530) 225-2867 office
(530) 225-0324 fax

APPENDIX A2
ACHP NOTIFICATION PSREC

May 21, 2009

Reid Nelson
Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, NW
Suite #803
Washington, DC 20004

Attn: Matt Thomas

RE: Fort Sage 120 kV Transmission Line and Substation Project
Washoe County, NV and Lassen County, CA
Plumas Sierra Rural Electric Cooperative, Portola, CA

Dear Mr. Nelson:

The Rural Utilities Service (RUS), an agency which administers the U.S. Department of Agriculture's Rural Development, Utilities Programs is authorized to provide financial assistance for infrastructure development in rural areas under its Electric Program. The Plumas Sierra Rural Electric Cooperative (PSREC) has applied to RUS for financial assistance to construct the Fort Sage 120kV Transmission Line and Substation Project commencing in Washoe County, NV and terminating in Lassen County, CA. The proposed project is 13.17 miles in length, crosses 4.24 miles of BLM-administered land in northeastern California, and would be compatible with existing plans, policies, regulations and laws of adjacent local, state, Tribal, and Federal agencies to the extent practical.

The RUS is considering funding this application, thereby making the proposal an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). As determined by the RUS, the area of potential effects (APE) for this undertaking includes the 13.17 miles of new right-of-way in which the transmission line will be constructed. The results of the archeological survey conducted to identify historic properties in the APE can be found in the attached report titled, "*A Cultural Resource Inventory of approximately 12.3 miles of Transmission Line for the Plumas-Sierra Fort Sage to Herlong 120kV Interconnection Project in Lassen County, California and Washoe County, Nevada (May 2009*).

For this project, 11 newly recorded archaeological sites have been evaluated as significant per NRHP criteria and are recommended as eligible. Of these, 3 are prehistoric, 7 are multicomponent, and 1 is historic in age. A total of 22 sites are recommended as not eligible to the NRHP. Additionally, 2 previously recorded sites in the project area in Nevada also are eligible to the NRHP.

For the sites eligible to the NRHP, avoidance is recommended. For sites that cannot be avoided, and would be impacted, a finding of Adverse Effect is recommended with treatment and/or data recovery proposed to mitigate any adverse effects. Treatment and/or data

recovery might include subsurface excavation, artifact collection and analysis, photo documentation, or historical research. For the sites not eligible to the NRHP, a recommendation of No Effect/No Further Work is proposed.

Due to the aeolian nature of the soils, there is a slight possibility that additional excavations and inadvertent discoveries of cultural/historic resources could be encountered during construction. To ensure no effects would occur to inadvertent discoveries, a Memorandum of Agreement is proposed that establishes protocol and treatment measures should a resource be unearthed. PSREC; federal lead, cooperative, and participating agencies; the California and Nevada SHPO; and the Washoe Tribe of Nevada and California, Susanville Indian Rancheria, Greenville Indian Rancheria, and Reno-Sparks Indian Colony are proposed as signatories or concurring parties to this MOA.

RUS is requesting the Advisory Council on Historic Preservation (ACHP) also be a signatory to this MOA. Due to the precipitous nature of on-going government agency funding in the State of California, there is concern that long delays may result as personnel are eliminated from California State Government offices and an emergency may result. To ensure the appropriate protocol and requisite approvals are in effect for additional excavations and inadvertent discoveries, it is proposed that the ACHP be the approving agency.

Thus, we ask that the ACHP review the enclosed documentation and notify RUS within fifteen (15) days of its decision to participate as a signatory of the attached MOA.

Should you have any questions or require additional information, please contact Dr. Dean at 202-720-9634 or via email at Laura.Dean@wdc.usda.gov.

Sincerely,

Mark Plank
Director
Water and Environmental Programs
Engineering and Environmental Staff

USDA Rural Development

United States Department of Agriculture
Rural Development

MAR 2 6 2010

Ms. Michon Eben
Cultural Resources Coordinator
Reno-Sparks Indian Colony
1937 Prosperity St.
Reno, NV 89502

RE: Fort Sage 120 kV Transmission Line and Substation Project
Washoe County, NV and Lassen County, CA
Plumas Sierra Rural Electric Cooperative, Portola, CA

Dear Ms. Eben:

The Rural Utilities Service (RUS) is authorized to provide financial assistance for infrastructure development in rural areas under its Electric Program. The Plumas Sierra Rural Electric Cooperative (PSREC) has applied to RUS for financial assistance to construct the Fort Sage 120kV Transmission Line and Substation Project commencing in Washoe County, Nevada and terminating in Lassen County, California. The proposed project is 13.17 miles in length, crossing 4.24 miles of land administered by the Bureau of Land Management (BLM) in northeastern California. Accordingly, Both RUS and BLM must comply with Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). This undertaking will comply with federal and state law, and will be consistent with existing plans and policies of Indian tribes, and adjacent local, state and federal agencies to the extent practicable.

Initially, BLM was the lead agency for the purposes of Section 106 review. However, after consultation with your tribe had been initiated, the agencies determined that it was more appropriate for RUS to be designated as the lead agency for Section 106 review. It is my understanding that beginning as early as 2007, BLM and the PSREC have been engaged with Indian tribes to review and discuss project components.

As determined by RUS, the area of potential effects (APE) for this undertaking includes the 13.17 miles of new transmission line right-of-way, substations' footprints, access road rights-of-way, and lay down and other construction staging areas. The results of the archeological survey conducted to identify historic properties in the APE are presented in the enclosed report titled, A Cultural Resource Inventory of approximately 12.3 miles of Transmission Line for the Plumas-Sierra Fort Sage to Herlong 120kV Interconnection Project in Lassen County, California and Washoe County, Nevada (May 2009).

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For this project, RUS has determined that two previously recorded archeological sites located in the APE in Nevada are eligible for listing in the National Register of Historic Places (NRHP). In addition, RUS determined that eleven newly recorded archeological sites in the APE also are eligible for listing in the NRHP. Of these, three are prehistoric, seven contain multiple components, and one is historic in age. RUS found that a total of twenty-two sites did not meet the NRHP criteria. It is my understanding that you and the Nevada and California State Historic Preservation Offices (SHPOs) concur in these determinations. Working with the BLM, the Pyramid Lake Paiute Tribe, Washoe Tribe of Nevada and California, the Susanville Indian Rancheria, the Greenville Rancheria, and the Reno-Sparks Indian Colony, PSREC has modified the project so that adverse effects to historic properties will be avoided.

Due to the aeolian nature of the soils, however, there is a slight possibility that there will be an unanticipated adverse effect or unexpected historic property discovered during construction. To ensure that the needed protocols are in place, RUS developed the enclosed Programmatic Agreement (PA) which establishes the appropriate measures for the treatment of such discoveries. At the request of several consulting Indian tribes, this draft agreement also provides for a tribal representative to monitor construction.

The referenced archeological report (CD) and the draft PA are enclosed for your review. Please submit your comments on these documents to the RUS project manager, Mr. Dennis Rankin, via email to Dennis.Rankin@wdc.usda.gov. Should you have any questions or require additional information, please contact Dennis Rankin at 202-720-1953.

Sincerely,

Mark S. Plank
Director
Water and Environmental Programs
Engineering and Environmental Staff

Enclosures

cc:
Dennis Rankin, RUS
Mary Ann Mix, MPE
BLM
Plumas Sierra REC

USDA Rural Development

United States Department of Agriculture
Rural Development

MAR 2 6 2010

Ms. Melany Johnson
Tribal Historic Preservation Officer
Susanville Indian Rancheria
745 Joaquin St.
Susanville, CA 96130

RE: Fort Sage 120 kV Transmission Line and Substation Project
Washoe County, NV and Lassen County, CA
Plumas Sierra Rural Electric Cooperative, Portola, CA

Dear Ms. Johnson:

The Rural Utilities Service (RUS) is authorized to provide financial assistance for infrastructure development in rural areas under its Electric Program. The Plumas Sierra Rural Electric Cooperative (PSREC) has applied to RUS for financial assistance to construct the Fort Sage 120kV Transmission Line and Substation Project commencing in Washoe County, Nevada and terminating in Lassen County, California. The proposed project is 13.17 miles in length, crossing 4.24 miles of land administered by the Bureau of Land Management (BLM) in northeastern California. Accordingly, Both RUS and BLM must comply with Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). This undertaking will comply with federal and state law, and will be consistent with existing plans and policies of Indian tribes, and adjacent local, state and federal agencies to the extent practicable.

Initially, BLM was the lead agency for the purposes of Section 106 review. However, after consultation with your tribe had been initiated, the agencies determined that it was more appropriate for RUS to be designated as the lead agency for Section 106 review. It is my understanding that beginning as early as 2007, BLM and the PSREC have been engaged with Indian tribes to review and discuss project components.

As determined by RUS, the area of potential effects (APE) for this undertaking includes the 13.17 miles of new transmission line right-of-way, substations' footprints, access road rights-of-way, and lay down and other construction staging areas. The results of the archeological survey conducted to identify historic properties in the APE are presented in the enclosed report titled, A Cultural Resource Inventory of approximately 12.3 miles of Transmission Line for the Plumas-Sierra Fort Sage to Herlong 120kV Interconnection Project in Lassen County, California and Washoe County, Nevada (May 2009).

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Committed to the future of rural communities.

For this project, RUS has determined that two previously recorded archeological sites located in the APE in Nevada are eligible for listing in the National Register of Historic Places (NRHP). In addition, RUS determined that eleven newly recorded archeological sites in the APE also are eligible for listing in the NRHP. Of these, three are prehistoric, seven contain multiple components, and one is historic in age. RUS found that a total of twenty-two sites did not meet the NRHP criteria. It is my understanding that you and the Nevada and California State Historic Preservation Offices (SHPOs) concur in these determinations. Working with the BLM, the Pyramid Lake Paiute Tribe, Washoe Tribe of Nevada and California, the Susanville Indian Rancheria, the Greenville Rancheria, and the Reno-Sparks Indian Colony, PSREC has modified the project so that adverse effects to historic properties will be avoided.

Due to the aeolian nature of the soils, however, there is a slight possibility that there will be an unanticipated adverse effect or unexpected historic property discovered during construction. To ensure that the needed protocols are in place, RUS developed the enclosed Programmatic Agreement (PA) which establishes the appropriate measures for the treatment of such discoveries. At the request of several consulting Indian tribes, this draft agreement also provides for a tribal representative to monitor construction.

The referenced archeological report (CD) and the draft PA are enclosed for your review. Please submit your comments on these documents to the RUS project manager, Mr. Dennis Rankin, via email to Dennis.Rankin@wdc.usda.gov. Should you have any questions or require additional information, please contact Dennis Rankin at 202-720-1953.

Sincerely,

Mark S. Plank
Director
Water and Environmental Programs
Engineering and Environmental Staff

Enclosures

cc:
Dennis Rankin, RUS
Mary Ann Mix, MPE
BLM
Plumas Sierra REC

USDA Rural Development

United States Department of Agriculture
Rural Development

MAR 2 6 2010

Mr. Darrel Cruz
Tribal Historic Preservation Officer
Washoe Tribe of Nevada and California
919 Highway 395 South
Gardnerville, NV 89410

RE: Fort Sage 120 kV Transmission Line and Substation Project
Washoe County, NV and Lassen County, CA
Plumas Sierra Rural Electric Cooperative, Portola, CA

Dear Mr. Cruz:

The Rural Utilities Service (RUS) is authorized to provide financial assistance for infrastructure development in rural areas under its Electric Program. The Plumas Sierra Rural Electric Cooperative (PSREC) has applied to RUS for financial assistance to construct the Fort Sage 120kV Transmission Line and Substation Project commencing in Washoe County, Nevada and terminating in Lassen County, California. The proposed project is 13.17 miles in length, crossing 4.24 miles of land administered by the Bureau of Land Management (BLM) in northeastern California. Accordingly, Both RUS and BLM must comply with Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). This undertaking will comply with federal and state law, and will be consistent with existing plans and policies of Indian tribes, and adjacent local, state and federal agencies to the extent practicable.

Initially, BLM was the lead agency for the purposes of Section 106 review. However, after consultation with your tribe had been initiated, the agencies determined that it was more appropriate for RUS to be designated as the lead agency for Section 106 review. It is my understanding that beginning as early as 2007, BLM and the PSREC have been engaged with Indian tribes to review and discuss project components.

As determined by RUS, the area of potential effects (APE) for this undertaking includes the 13.17 miles of new transmission line right-of-way, substations' footprints, access road rights-of-way, and lay down and other construction staging areas. The results of the archeological survey conducted to identify historic properties in the APE are presented in the enclosed report titled, A Cultural Resource Inventory of approximately 12.3 miles of Transmission Line for the Plumas-Sierra Fort Sage to Herlong 120kV Interconnection Project in Lassen County, California and Washoe County, Nevada (May 2009).

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For this project, RUS has determined that two previously recorded archeological sites located in the APE in Nevada are eligible for listing in the National Register of Historic Places (NRHP). In addition, RUS determined that eleven newly recorded archeological sites in the APE also are eligible for listing in the NRHP. Of these, three are prehistoric, seven contain multiple components, and one is historic in age. RUS found that a total of twenty-two sites did not meet the NRHP criteria. It is my understanding that you and the Nevada and California State Historic Preservation Offices (SHPOs) concur in these determinations. Working with the BLM, the Pyramid Lake Paiute Tribe, Washoe Tribe of Nevada and California, the Susanville Indian Rancheria, the Greenville Rancheria, and the Reno-Sparks Indian Colony, PSREC has modified the project so that adverse effects to historic properties will be avoided.

Due to the aeolian nature of the soils, however, there is a slight possibility that there will be an unanticipated adverse effect or unexpected historic property discovered during construction. To ensure that the needed protocols are in place, RUS developed the enclosed Programmatic Agreement (PA) which establishes the appropriate measures for the treatment of such discoveries. At the request of several consulting Indian tribes, this draft agreement also provides for a tribal representative to monitor construction.

The referenced archeological report (CD) and the draft PA are enclosed for your review. Please submit your comments on these documents to the RUS project manager, Mr. Dennis Rankin, via email to Dennis.Rankin@wdc.usda.gov. Should you have any questions or require additional information, please contact Dennis Rankin at 202-720-1953.

Sincerely,

Mark S. Plank
Director
Water and Environmental Programs
Engineering and Environmental Staff

Enclosures

cc:
Dennis Rankin, RUS
Mary Ann Mix, MPE
BLM
Plumas Sierra REC

United States Department of Agriculture
Rural Development

MAR 2 6 2010

Ms. Crista Stewart
Environmental Director
Greenville Rancheria
410 Main St.
P.O. Box 279
Greenville, CA 95947

RE: Fort Sage 120 kV Transmission Line and Substation Project
Washoe County, NV and Lassen County, CA
Plumas Sierra Rural Electric Cooperative, Portola, CA

Dear Ms. Stewart:

The Rural Utilities Service (RUS) is authorized to provide financial assistance for infrastructure development in rural areas under its Electric Program. The Plumas Sierra Rural Electric Cooperative (PSREC) has applied to RUS for financial assistance to construct the Fort Sage 120kV Transmission Line and Substation Project commencing in Washoe County, Nevada and terminating in Lassen County, California. The proposed project is 13.17 miles in length, crossing 4.24 miles of land administered by the Bureau of Land Management (BLM) in northeastern California. Accordingly, Both RUS and BLM must comply with Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). This undertaking will comply with federal and state law, and will be consistent with existing plans and policies of Indian tribes, and adjacent local, state and federal agencies to the extent practicable.

Initially, BLM was the lead agency for the purposes of Section 106 review. However, after consultation with your tribe had been initiated, the agencies determined that it was more appropriate for RUS to be designated as the lead agency for Section 106 review. It is my understanding that beginning as early as 2007, BLM and the PSREC have been engaged with Indian tribes to review and discuss project components.

As determined by RUS, the area of potential effects (APE) for this undertaking includes the 13.17 miles of new transmission line right-of-way, substations' footprints, access road rights-of-way, and lay down and other construction staging areas. The results of the archeological survey conducted to identify historic properties in the APE are presented in the enclosed report titled, A Cultural Resource Inventory of approximately 12.3 miles of Transmission Line for the Plumas-Sierra Fort Sage to Herlong 120kV Interconnection Project in Lassen County, California and Washoe County, Nevada (May 2009).

For this project, RUS has determined that two previously recorded archeological sites located in the APE in Nevada are eligible for listing in the National Register of Historic Places (NRHP). In addition, RUS determined that eleven newly recorded archeological sites in the APE also are eligible for listing in the NRHP. Of these, three are prehistoric, seven contain multiple components, and one is historic in age. RUS found that a total of twenty-two sites did not meet the NRHP criteria. It is my understanding that you and the Nevada and California State Historic Preservation Offices (SHPOs) concur in these determinations. Working with the BLM, the Pyramid Lake Paiute Tribe, Washoe Tribe of Nevada and California, the Susanville Indian Rancheria, the Greenville Rancheria, and the Reno-Sparks Indian Colony, PSREC has modified the project so that adverse effects to historic properties will be avoided.

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The referenced archeological report (CD) and the draft PA are enclosed for your review. Please submit your comments on these documents to the RUS project manager, Mr. Dennis Rankin, via email to Dennis.Rankin@wdc.usda.gov. Should you have any questions or require additional information, please contact Dennis Rankin at 202-720-1953.

Sincerely,

Mark S. Plank
Director
Water and Environmental Programs
Engineering and Environmental Staff

Enclosures

cc:
Dennis Rankin, RUS
Mary Ann Mix, MPE
BLM
Plumas Sierra REC

APPENDIX A3
CALIFORNIA DEPARTMENT OF FISH AND GAME
CORRESPONDENCE ON DOYLE SWA

From:	Richard Callas
To:	lnielsen@edmlink.com;
CC:	Richard Callas; Mary Ann Mix; Greg Lohn;
Subject:	Fwd: Fort Sage Doyle SWA Mit Plan ADDENDUM
Date:	Tuesday, May 12, 2009 10:56:50 AM
Attachments:	Sections 8 & 22.pdf Doyle SWA Mit Plan Addendum 05-05-09.doc img238.pdf

Hi Lori,

The copy of the email you requested is attached.

Richard

>>> Richard Callas 5/6/2009 3:45 PM >>>
Becky and Justin,

As you know, recent surveys of the proposed transmission line easement in Section 22 determined that the property is owned by Lassen County and not the Department of Fish and Game as was initially believed. Ms. Lori Nielsen prepared the attached addendum to the mitigation plan developed for the Doyle Wildlife Area to remove reference to Section 22, in response to this new information.

Measures contained within the Mitigation Plan for portions of Doyle Wildlife Area affected by this project remain unchanged. Removal of the reference and associate mitigation measures from the Mitigation Plan for Section 22 by the attached addendum seems appropriate under the circumstances.

I have also attached documentation of the ownership for Section 22 for your records. Please contact me if you need any additional information.

Thanks,

Richard

State of California – The Resources Agency
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
NORTHERN REGION
601 Locust Street
Redding, CA 96001
(530) 225-2300

ARNOLD SCHWARZENEGGER, Governor

February 17, 2009

Ms. Laura Valoppi, Chief
Wildlife and Sport Fish Restoration Program
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-1729
Sacramento, CA 95825

Dear Ms. Valoppi:

Fort Sage to Herlong 120 kV Transmission Line and Substation Project

The Plumas-Sierra Rural Electric Cooperative (PSREC) has requested a utility easement across a portion of the Doyle Wildlife Area (Doyle WA) near Herlong, California. The purpose of this letter is to document the Department of Fish and Game's (Department's) support of this easement and to respond to correspondence received from your office on June 9, 2008.

PSREC is proposing to construct a 120 kilovolt (kV) transmission line and substation to improve the reliability of the existing electric system and to access renewable energy resources. The *Fort Sage to Herlong 120 kV Transmission Line and Substation Project* (Fort Sage Project) is approximately 14 miles long, extending from the Fort Sage Substation in Nevada to the new Herlong Substation. Through the Wildlife Conservation Board (WCB), the Department intends to grant a right-of-way (ROW) easement for two 0.5-mile transmission line segments on the Doyle WA. These segments are located in T26N, R17E, SW¼ S8 (Section 8) and in T26N, R16E, NW¼ S22 (Section 22).

In 1949, the Doyle WA was purchased as wintering range for mule deer, using federal Wildlife Restoration Act funds. Per federal regulations, the property must be held and maintained in perpetuity for the purpose for which it was acquired. In keeping with the primary purpose of the grant to conserve mule deer winter range habitat, the Department has worked with PSREC to develop the attached *Doyle WA Mitigation Plan* for the Fort Sage Project. The intent of this plan is, in part, to avoid adverse impacts to mule deer as well as ancillary species identified under the original grant.

Conserving California's Wildlife Since 1870

Ms. Laura Valoppi, Chief
February 17, 2009
Page Two

The attached Mitigation Plan outlines the proposed project, the anticipated short- and long-term impacts to mule deer from implementation of this project, and additional mitigation measures developed to offset these impacts. These measures include both on-site and off-site habitat enhancement to facilitate regeneration of native vegetation, including a focus on restoring antelope bitterbrush (*Purshia tridentata*) in select areas to benefit mule deer. PSREC will be responsible for monitoring, scheduling, and implementing, per the Plan's outlined protection measures. The WCB is prepared to coordinate directly with the U.S. Fish and Wildlife Service's Wildlife and Sport Fish Restoration Program personnel on the associated ROW easement.

PSREC has committed to the stated environmental protection measures as part of the Proposed Action and will work with the Department to implement the *Doyle WA Mitigation Plan* (Plan). Implementation of this Plan would support the purpose for which the Doyle SWA was acquired and "make the project whole," per the requirements under land purchases using Wildlife Restoration Act funds. The Department is satisfied with the Mitigation Plan and its associated measures.

In summary, the Department believes a sufficient mitigation strategy has been developed to mitigate the construction, operation, and maintenance of the Fort Sage Project across two segments of the Doyle WA and the property's purpose for wildlife will remain as initially designated. The formal land appraisals and draft easement language is forthcoming from the WCB. In the interim, we would like to request your concurrence with granting the ROW easement in accordance with the federal regulation sections 43 CFR 12.71, 43 CFR 12.932, and 50 CFR 80.14.

If you have any questions regarding the proposed easement at the Doyle WA for the Fort Sage Project or require additional information, please contact Senior Environmental Scientist Richard Callas at (530) 340-5077.

Sincerely,

GARY B. STACEY
Regional Manager

cc: See Page Three

APPENDIX A4
U.S. Fish and Wildlife Service Communications
Section 7 Review under Endangered Species Act

United States Department of Agriculture
Rural Development

December 20, 2009

Mr. Daniel Russell
U.S. Fish and Wildlife Service
2800 Cottage Way
Room W-2605
Sacramento, CA 95825

Dear Mr. Russell:

Introduction

The U.S. Department of Agriculture, Rural Utilities Service (RUS) would like to outline our position on addressing federally listed species for Plumas-Sierra Rural Electric Cooperative's (PSREC) proposed 120kV Transmission Line Interconnection Project from the Fort Sage Substation to the Herlong Substation (Project). The U.S. Department of Interior, Bureau of Land Management (BLM) is the federal cooperating agency on the Project. We would like to ensure clear communications with the U.S. Fish and Wildlife Service (USFWS) for this Project and address a recently received comment by the California State Lands Commission (CSLC). Specifically, the CSLC requested documentation of the section 7 process in accordance with the federal Endangered Species Act (ESA). The following information provides summary of this federal review under the ESA relative to the development of an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA).

The Project crosses the Nevada/California State line (see enclosed map from the Project Preliminary Draft EA). Given the lack of federally listed and proposed species in the project area, no Section 7 informal consultation was deemed necessary between RUS or the BLM and the USFWS. This determination was made per the Project wildlife analyses. The BLM's Eagle Lake Field Office (ELFO) contacted Ms. Marcy Haworth with the USFWS in Reno, Nevada regarding this project. It is standard for the BLM's ELFO to coordinate with the Reno office in Region 8, encompassing both Nevada and California. Additionally, Ms. Haworth is a species' specialist for the Carson wandering skipper (*Pseudocopaeodes eunus obscurus*), the only federally listed species in the overall project region, which is discussed further below.

RUS wanted to inform the USFWS Sacramento office of our determination regarding this project, since communications with the Reno office have occurred and RUS and the BLM have determined that no Section 7 informal or formal consultation process is

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warranted. I have enclosed the BLM letter dated October 16, 2009, to RUS, which supports the RUS position regarding this project.

Carson Wandering Skipper

As determined as part of the federal NEPA review process, the only federally listed species in the overall project region is the Carson wandering skipper, a small butterfly in the subfamily Hesperiinae (grass skippers) that is federally listed as endangered. The BLM's ELFO Resource Management Plan (RMP) and Final Environmental Impact Statement (FEIS) (2008) identified suitable habitat for the Carson wandering skipper within the ELFO boundaries; however, none of the identified habitat is located within PSREC's Project area. Surveys of BLM ELFO suitable habitat have occurred in various locations since 1998 but to date, no Carson wandering skippers have been found on ELFO lands. Detections of this species have occurred on non-BLM lands, including the California Department of Fish and Game (CDFG), California State Lands Commission (CSLC), Department of Defense (DOD), and private lands within the ELFO boundary, particularly in the vicinity of Honey Lake.

Baseline wildlife surveys, including cursory surveys for habitats typically suitable for the Carson wandering skipper, were conducted for the PSREC project on May 31 and June 23, 2007, along the proposed project ROW. The focus of these surveys was within grasslands and the salt-bush-greasewood plant community that included some saltgrass (*Distichlis spicata*), the host species for this butterfly species. No Carson wandering skippers were observed along the proposed power line ROW during the 2007 baseline surveys, and no unique areas that may support this species were identified along the proposed right-of-way (ROW).

Project Status

A Preliminary Draft EA has been prepared by MPE, Inc under a third-party agreement with RUS and PSREC. As part of this process, RUS has designated a member of the EA Team, Ms. Lori Nielsen of EDM International, Inc., out of Fort Collins, Colorado as RUS' "designated non-federal representative" to address the issues under the ESA. She has authorization by RUS to discuss this Project directly with the USFWS, if questions should arise.

The Team is currently addressing comments received from the CSLC as part of the State process under the California Environmental Quality Act (CEQA). As soon as that process is finalized, the EA will be released for public and agency review and comments.

Summary

In summary, it is both the RUS and BLM position that the federally listed Carson wandering skipper does not occur in the project area. Given no federally listed species are known to occur in this area and through the BLM's ongoing coordination and communications with the USFWS on Section 7 requirements, we do not deem it necessary to initiate either the informal or formal consultation process for PSREC's 120kV Project.

We respectively submit this letter to document RUS' and BLM's position on this Project. Please do not hesitate to contact either Lori Nielsen at (970) 204-4001 or me at (202) 720-1953 with questions.

Sincerely,

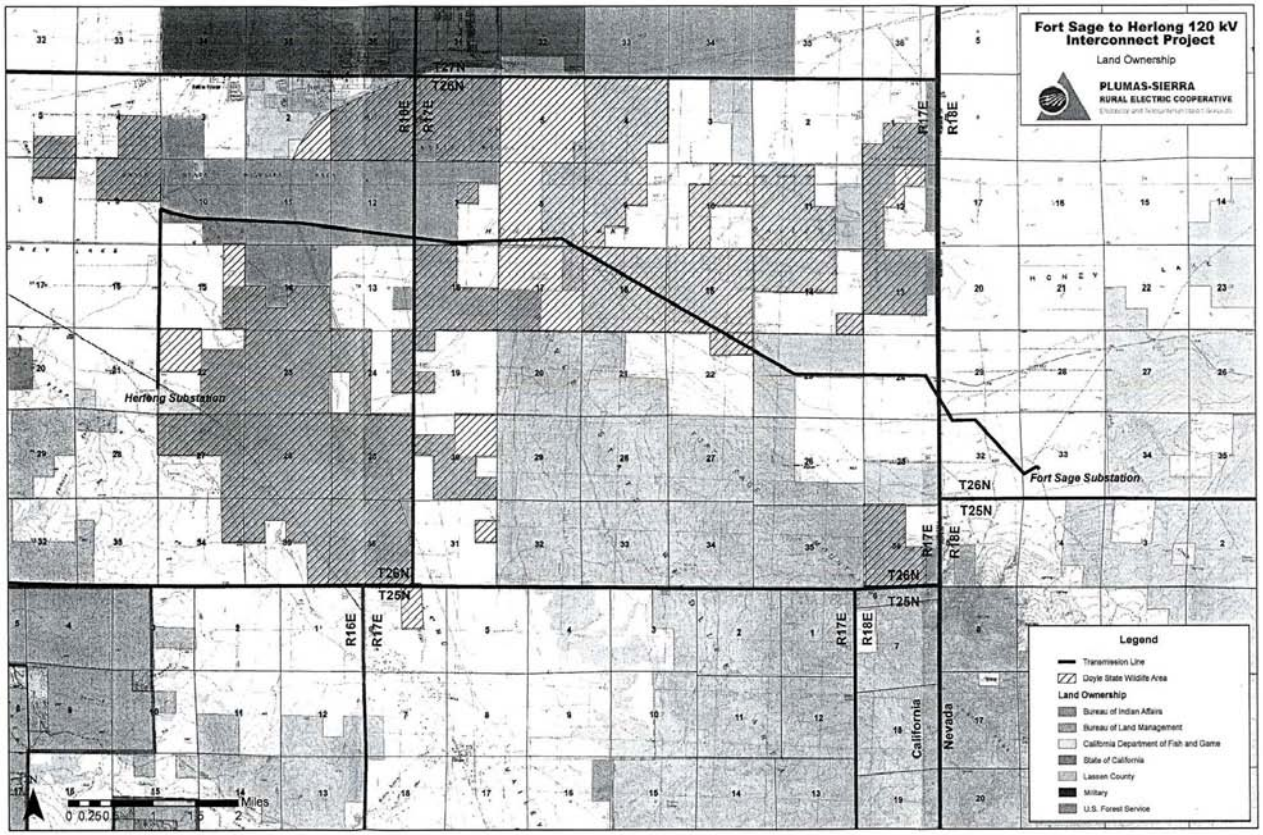
Dennis E. Rankin

Dennis E., Rankin
Environmental Protection Specialist
Rural Utilities Service

Enclosures

Cc: Marcy Haworth – USFWS
Charlie Wright - BLM
Melissa Nelson - BLM
Mary Ann Mix – MPE Inc.
Lori Nielsen – EDM International, Inc.

Fort Sage to Herlong 120 kV Transmission Line Project and Substation Interconnect



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Eagle Lake Field Office
2950 Riverside Drive
Susanville, CA 96130
www.ca.blm.gov/eaglelake

In Reply Refer To:
6843 P
CAN050

OCT 16 2009

Mr. Dennis Rankin
Rural Utilities Service
1400 Independence Ave., S.W.
Mail Stop 1571
Washington, D.C. 20250-1571

Dear Mr. Rankin,

The Bureau of Land Management (BLM) Eagle Lake Field Office (ELFO) would like to make a position statement addressing federally listed species for the Plumas-Sierra Rural Electric Cooperative's (PSREC's) proposed 120 kV Transmission Line Interconnection Project from the Fort Sage Substation to the Herlong Substation (Project). Given the lack of federally listed and proposed species and habitat in the Project area, no section 7 consultation was deemed necessary between the BLM and the U.S. Fish and Wildlife Service (Service). I have contacted Ms. Marcy Haworth with the Service in Reno, Nevada regarding this Project. The Nevada Fish and Wildlife Office is the lead Service office for the BLM Eagle Lake Field Office.

The only federally listed species in the overall project region is the Carson wandering skipper (*Pseudocopaeodes eunus obscurus*), a small butterfly in the subfamily Hesperiinae (grass skippers) that is federally listed as endangered. The ELFO Resource Management Plan (RMP) identified suitable habitat for the Carson wandering skipper within ELFO boundaries; however, none of the identified habitat is located within PSREC's Project area. Surveys of BLM ELFO suitable habitat have occurred in various locations since 1998; however, no Carson wandering skippers have been found on ELFO lands to date. Detections of this subspecies have occurred on non-BLM lands including California Department of Fish and Game, California State Lands Commission (CSLC), Department of Defense, and private lands within the ELFO boundary, particularly in the vicinity of Honey Lake.

Baseline wildlife surveys, including cursory surveys for habitats typically suitable for the Carson wandering skipper, were conducted for the PSREC Project on May 31 and June 23, 2007, along the proposed Project right-of-way (ROW). The focus of these surveys was within grasslands and the salt-bush-greasewood plant community that included some saltgrass (*Distichlis spicata*), the larval host plant species for this butterfly. No Carson wandering skippers were observed along the proposed Project ROW during the 2007 baseline surveys, and no unique habitat areas that may support this species were identified along the proposed ROW.

In summary, it is the BLM ELFO's position that the federally listed Carson wandering skipper does not occur within the project area. Given no federally listed species or habitat are known to occur in the area and through the BLM's ongoing coordination and communication with the Service on section 7 requirements under the Endangered Species Act (ESA), we do not deem it necessary to initiate either the informal or formal consultation process with the Service for the PSREC's proposed Project.

We understand the Rural Utilities Service's (RUS's) position is parallel regarding this issue and you will be submitting documentation for the CSLC's review under the environmental permitting process. Therefore, we respectfully submit this documentation for the BLM in support of the processes under the ESA to assist RUS in their environmental documentation processes. Please do not hesitate to contact Melissa Nelson, Wildlife Biologist, of my staff at 530-252-5305 with questions.

Sincerely,

Dayne Barron
Field Manager

cc: Marcy Haworth – USFWS
Mary Ann Mix – MPE Inc.
Lori Nielsen – EDM International, Inc.

APPENDIX B
MITIGATION MONITORING AND REPORTING PROGRAM

INTRODUCTION

Pursuant to the California Environmental Quality Act (CEQA), a Mitigation Monitoring and Reporting Program (MMRP) has been developed. The purpose of this program is to ensure compliance with the required mitigation measures (i.e., committed environmental protection measures) or project revisions during project implementation, requiring that the mitigation measures be adopted as conditions of approval. An MMRP can be a working guide to facilitate not only the implementation of mitigation measures by the Project proponent, but also the monitoring, compliance, and reporting activities by the applicable agencies and their monitors.

Subdivision (b) of Section 21081.6 requires the mitigation measures be "fully enforceable through permit conditions, agreements, or other measures." Incorporating the mitigation measures into the conditions of approval applied to the project meets this requirement. Besides ensuring implementation of mitigation measures, as required by statute, a MMRP may provide feedback, regarding the effectiveness of mitigating actions.

For Plumas-Sierra Rural Electric Cooperative's (PSREC) 120kV Interconnect Project, a "mitigation" or environmental protection program has been developed for the Proposed Action. This program encompasses: 1) the Committed Environmental Protection Measures listed in Table 2-6 of the EA and repeated in Appendix B1 and Appendix B3; 2) PSREC's Best Management Practices (BMPs) outlined in Table 2-6 of the Environmental Assessment (EA) and repeated in Appendix B1; 3) the California Department of Fish and Game's (CDFG) correspondence relative to crossing the Doyle State Wildlife Area (SWA) and the associated Mitigation Plan developed specifically for the Proposed Action's Construction Option B contained in Appendices B2 and B3; the 4) Cultural Resources Memorandum of Agreement (MOA) among the Rural Utilities Service (RUS), Bureau of Land Management (BLM), and California and Nevada State Historic Preservation Offices (SHPO) presented in Appendix B4; 5) implementation timing; and 6) list of agencies responsible for completing the measures ensuring their implementation.

The interdisciplinary impact analyses presented in Chapter 4 of the EA, incorporated the measures identified as part of this MMRP, where applicable, to better define anticipated impacts to natural resources from the proposed construction and operation of the Proposed Project.

The Doyle SWA Mitigation Plan address issues associated with constructing on Doyle SWA if Construction Option B were required. This Mitigation Plan was developed by a consortium of the CDFG, California Wildlife Conservation Board, Wildlife and Sport Fish Restoration Program of the U.S. Fish and Wildlife Service (USFWS), RUS, and PSREC. If Construction Option A is feasible, as outlined for the Proposed Action, the Doyle SWA Mitigation Plan would not be warranted.

The MOA among PSREC, the applicable federal agencies, Native American Tribes, and the California SHPO and Nevada SHPO summarized in Appendix B4 identifies the protocol and treatment of inadvertent discoveries of cultural and historic properties.

Because the Proposed Project is located on lands owned by the California State Lands Commission (CSLC) and CDFG and lands managed by the BLM, the agencies will work cooperatively together to ensure compliance with the committed protection measures during Proposed Project construction.

The number of construction monitors assigned to the Proposed Project would depend on the extent of concurrent construction activities and construction spread locations. The CSLC, CDFG, and BLM would ensure that each person delegated any duties or responsibilities is qualified to monitor for project compliance.

The CSLC, CDFG, and BLM would ensure that any deviation or wavier from the procedures identified under the MMRP is approved by the respective agency(ies). The appropriate chain of communication would be established for environmental monitoring during project construction. The project's environmental monitors would be responsible for monitoring and reporting to the oversight agency(ies).

PSREC is responsible for understanding and implementing the MMRP, ensuring these requirements are met by all of its construction contractors and field personnel. PSREC and its contractors also would be responsible for proactively communicating if waivers were requested, allowing sufficient time for agency review, input, and authorization.

APPENDIX B1
Committed Environmental Protection Measures

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Right-of-Way Construction				
ROW-1 PSREC BMP	All design; material; and construction, operation, maintenance, and termination practices would be in accordance with safe and proven engineering practices.	Follow safe construction procedures	During construction	RUS/BLM/CSLC
ROW-2 PSREC BMP	PSREC would survey and clearly mark the centerline and/or exterior limits of the ROW, where applicable. On state- or federally administered lands, this may be determined by the respective authorized officer.	Adhere to ROW boundaries by construction equipment	During construction	BLM/CSLC
ROW-3	Access routes would be flagged with a highly visible marker. The route must be approved by the landowner or authorized officer in advance of use. Reference Table 2-4 in the EA for specific details. All construction vehicle movement outside of the ROW would be restricted to pre-designated access routes, contractor-acquired access routes, or public roads.	Adhere to ROW boundaries by construction equipment	During construction	BLM/CSLC
ROW-4 PSREC BMP	The limits of construction activities would be pre-determined, with activity restricted to those limits. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate survey or construction activity limits. The access route would be flagged to avoid environmentally sensitive areas.	Adhere to ROW boundaries by construction equipment	During construction	BLM/CSLC
ROW-5 PSREC BMP	PSREC would limit excavation to the areas of construction. No borrow areas for fill material would be excavated on the ROW. Waste material resulting from construction, operation, or maintenance would be removed from the site.	Minimize surface disturbance and refuse	During construction	BLM/CSLC
ROW-6 PSREC BMP	Waste rock from structure foundation construction would be used on site.	Minimize offsite transport of materials	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW-7 PSREC BMP	PSREC would ensure the safety of the public entering the ROW. This would include, but would not be limited to, barricades for open trenches, flagmen with communication systems for single-lane roads without visible turnouts, and attended gates for blasting operations, as appropriate.	Follow safe construction procedures	During construction	BLM/CSLC
ROW-8 PSREC BMP	PSREC would protect all survey monuments found within the ROW. Survey monuments include, but are not limited to, General Land Office and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coast and Geodetic Survey benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of disturbance or destruction of any of the features summarized above, PSREC would report the incident, in writing, to the federal or state authorized officer and the respective installing authority, if known. If General Land Office or BLM ROW monuments or references were damaged during operations, PSREC would secure the services of a registered land surveyor or a BLM cadastral surveyor to restore the disturbed monuments and references using surveying procedures from the *Manual of Surveying Instructions for the Survey of the Public Lands of the United States*, latest edition. PSREC would record such survey in the appropriate county and forward a copy to the BLM authorized officer, if on BLM lands. If the BLM cadastral surveyors or other federal surveyors were used to restore a disturbed survey monument, PSREC would be responsible for the survey cost.	Minimize surface disturbance and associated features	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW-9	Prior to construction, all construction personnel would be instructed on protection of cultural and ecological resources. To assist in this effort, the construction contract would address (a) federal and state laws on antiquities, fossils, plants, and wildlife, including collection and removal and (b) the importance of these resources and the need to protect them.	Minimize or prevent impacts to cultural and ecological resources	Prior to and during construction	RUS/BLM/CSLC
ROW-10	Where warranted, modified structure design would be utilized to minimize ground disturbance, operational conflicts, visual contrast, or avian conflicts.	Minimize potential project impacts to biological and human resources	During construction and operation	RUS/BLM/CSLC
ROW-11	In designated areas, structures would be placed to avoid sensitive features such as riparian areas, water courses, and cultural sites, or to allow conductors to clearly span the features, within limits of standard tower design. Structure placement would minimize the amount of disturbance to sensitive features.	Minimize potential project impacts to biological and human resources	During construction and operation	BLM/CSLC
ROW-12	During transmission line construction, operation, or maintenance, the ROW would be maintained free of construction-related, non-biodegradable debris generated by PSREC-related activities.	Ensure refuse is collected and transported off site	During construction and operation	BLM/CSLC
ROW-13	All existing roads would be left in a condition equal to, or better than, their condition before construction of the transmission line.	Ensure roads and transportation are not impacted	During operation	BLM/CSLC
ROW-14	Fences and gates, if damaged or destroyed by construction activities, would be repaired or replaced to their original pre-disturbed condition, as required by the landowner or land management agency. Temporary gates would be installed only with permission of the landowner or the land management agency.	Ensure no damage to fences and gates	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW-15	Existing roads and trails on federal or state lands that would be blocked as a result of construction would be rerouted as directed by the applicable authorizing officer.	Ensure roads and transportation are not impacted	During construction	BLM/CSLC
ROW-16	The agency's authorized officer or the landowner would be consulted from construction through rehabilitation and reclamation.	Facilitate reclamation and revegetation	During and after construction	BLM/ CSLC/CDFG
ROW-17	PSREC would apply necessary mitigation to minimize problems of induced currents and voltages to conductive objects sharing the ROW.	Minimize potential for impacts to people or animals from induced currents	After construction	RUS
Reclamation				
Reclamation-1 PSREC BMP	In construction areas where re-contouring is not required and as requested by the landowner, vegetation would be left in place wherever possible to avoid excessive root damage and allow for re-sprouting.	Minimize surface disturbance and impacts to vegetation	During construction	BLM/CSLC/ CDFG
Reclamation-2 PSREC BMP	In construction areas where ground disturbance requires more extensive re-contouring and surface restoration, PSREC would communicate with the landowner or land management agency on the techniques to be used before ground-disturbance activities begin. The method of restoration typically consists of returning disturbed areas to their natural contour (to the extent practical), installing cross drains for erosion control, placing water bars in the road, and filling ditches.	Minimize surface disturbance and facilitate reclamation and revegetation	Before and during construction	BLM/CSLC
Reclamation-3 PSREC BMP	At pole locations, disturbed areas to be reclaimed would be stabilized by redistribution of topsoil, reseeding, and placement of a chopped, certified weed-free straw, reinforced with paper or synthetic netting to hold the matting in place.	Minimize surface disturbance and facilitate reclamation and revegetation	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Reclamation-4 PSREC BMP	A silt fence would be installed along the perimeter of temporary topsoil stockpile areas where runoff from a storm would be filtered for sediment prior to its release into a natural drainage. It is anticipated that no material would be spoiled or hauled off site. Excavated materials would be re-graded to maintain the general drainage profile.	Minimize surface disturbance and ensure no off-site transport of soils	During construction	BLM/CSLC
Reclamation-5 PSREC BMP	Following construction, PSREC would minimize residual rubble or debris that could provide microhabitats for small and medium-sized mammals. This measure would limit the potential increase in the site's prey base that may attract raptors or other predators.	Minimize future predation on small mammals by aerial predators	After construction	BLM/CSLC
Reclamation-6 PSREC BMP	PSREC would uniformly spread topsoil over disturbed areas for site reclamation. Spreading would not be done when the ground or topsoil is frozen or wet.	Facilitate reclamation and revegetation	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Reclamation-7 PSREC BMP	As part of PSREC's project reclamation plan, local native seed would be used to the extent possible, in accordance with the California Native Seed Policy, focusing on using native plant species common to the project area for surface reclamation following construction activities (including *Eriogonum* sp.). However, this seed mixture would not apply to Section 8 of the Doyle SWA parcel crossed by the Proposed Action, as discussed below. The Doyle SWA Mitigation Plan is presented in detail in Appendix B3, specific to construction Option B. In areas disturbed by either Option A (helicopter use) or Option B (standard construction) on Doyle SWA, the seed mixture(s) would be planted in the amounts specified in pounds of pure live seed per acre. There would be no primary or secondary noxious weed seed allowed in the seed mixture. Seed would be tested and the viability testing of seed would be done in accordance with state law(s) and no more than 6 months prior to purchase. Commercial seed would be either certified or registered seed. The seed mixture container would be tagged in accordance with state law(s) and available for inspection by the federal and state authorized officers.	Facilitate reclamation and revegetation	During construction	BLM/CSLC/ CDFG
Reclamation-8 PSREC BMP	Seed would be planted in an economic and efficient manner, using techniques such as hydroseeding, broadcasting, or pre-planted seed mats. The seed mixture would be evenly and uniformly distributed over the disturbed area. When broadcasting, the pounds per acre noted below would be doubled. On federal and state lands, the seeding would be repeated for a maximum of 2 years, if necessary. Evaluation of growth would not be made before completion of the second season after seeding. On federal and state lands, the authorized officer would be notified at least 14 days prior to seeding.	Facilitate reclamation and revegetation	During and after construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Reclamation-9	PSREC would develop a construction environmental monitoring program per communications with the applicable landowner or land management agency that includes: • Ensuring compliance with the requirements of the project EA, the mitigation measures and BMPs proposed by PSREC, and other environmental permits and approvals. • Identifying, documenting, and overseeing corrective actions, as necessary, to bring an activity back into compliance. • Verifying that the limits of all authorized construction work areas and locations of access roads are properly marked before clearing. • Verifying the location of signs and highly visible flagging that mark the boundaries of sensitive resource areas, drainages, water bodies, or areas with special requirements along the construction work area. • Identifying erosion/sediment control and soil stabilization needs in all areas. • Ensuring that subsoil and topsoil are tested to measure compaction and determine the need for corrective action. • Advising the construction contractor when conditions (such as wet weather) make it advisable to restrict construction activities to avoid excessive vehicle rutting. • Ensuring restoration of contours, replacement of topsoil, and monitoring of revegetation efforts. • Verifying that any soils or materials imported for use have been certified free of noxious weeds. • Determining the need for erosion control measures and ensuring that these measures are properly	Minimize potential soil erosion and facilitate reclamation and revegetation	Prior to, during, and after construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	installed, as necessary, to prevent sediment flow into drainages, water bodies, and sensitive areas and on to roads. • Inspecting and ensuring the maintenance of temporary erosion control measures at least: · on a daily basis in areas of active construction or equipment operation; · on a weekly basis in areas with no construction or equipment operation; and · within 24 hours of each 0.5-inch rainfall. • Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification. • Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase.			
Air Quality				
Air Quality-1	All requirements of the Lassen County Air Pollution Control District (LCAPCD) in California, and the Washoe County District Health Department, Air Quality Division, in Nevada, as applicable, would be followed and any necessary permits for construction activities would be obtained. Consultation with LCAPCD in June 2009 indicated no air quality permits would be required. A permit is required to operate a portable engine in excess of 50 horsepower; however, PSREC typically would obtain a statewide permit to do so.	Minimize exhaust emissions	Prior to and during construction	BLM/CSLC/ Lassen County/ Washoe County
Air Quality-2 PSREC BMP	PSREC would furnish and apply water on construction areas for dust control.	Minimize fugitive dust	During construction	BLM/CSLC
Air Quality-3 PSREC BMP	PSREC would be responsible for controlling dust by reducing travel speed and/or applying dust suppressants (e.g., magnesium chloride or other materials approved by the landowners or land managers). Dust would be	Minimize fugitive dust	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	considered a nuisance or hazard when a visible dust plume extends more than 300 feet from the source and has an estimated opacity exceeding 20% (objects are partially obscured). Additional methods of dust control that may be used by PSREC include, but are not limited to: • Application of water or magnesium chloride to access roads or sections of the ROW. • Application of water to specific activities on the ROW that generate dust plumes (i.e., trenching or blasting). • Curtailing of dust-generating activities during high winds. • Implementation of speed limits on vehicles using access roads or traveling the ROW. • Limitation of number of vehicles allowed on the ROW.			
Air Quality-4	All requirements of those entities having jurisdiction over air quality matters would be followed and any necessary permits for construction activities would be obtained. Open burning of construction debris (cleared brush, etc.) would not be allowed.	Minimize effects to air quality	Prior to and during construction	BLM/CSLC/ Lassen County/ Washoe County
Air Quality-5 LCAPCD BMP	Reasonable precautions would be taken to prevent PM from becoming airborne including, but not limited to, the following provisions: • Covering open-bodied trucks when used for transporting materials likely to cause airborne dust. • Installation and use of hoods, fans, and other fabric filters to enclose and vent the handling of dusty materials. Containment methods may be employed during sandblasting and other similar operations. • The application of asphalt, oil, water, or suitable chemicals to dirt roads, material stockpiles, land-clearing activities, excavation, grading, or other surfaces that can give rise to airborne dusts.	Minimize exhaust emissions	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	• The prompt removal of earth or other material from paved streets that have been deposited by earth-moving equipment, water, or other means.			
Cultural Resources				
Cultural-1	An intensive cultural resources inventory survey has been conducted. In addition, supplemental surveys of the access routes have been undertaken, as needed. A Memorandum of Agreement (MOA) was developed by the federal agencies, RUS and BLM, to comply with section 106 of the National Historic Preservation Act (see Appendix B4).	Ensure that cultural resources are protected and properly managed	Prior to construction	RUS/BLM
Cultural-2	A MOA identifies the protocol and treatment of inadvertent discoveries of cultural and historic properties.	Ensure that cultural resources are protected and properly managed	Prior to and during construction	RUS/BLM
Cultural-3 PSREC BMP	If an area proposed to be disturbed (e.g., off-site reclamation parcel), has not been surveyed for cultural artifacts, a cultural resources inventory survey would be conducted before reclamation or construction activities begin, in accordance with the MOA developed for this project.	Ensure that cultural resources are protected and properly managed	During construction	RUS/BLM/CSLC
Cultural-4 PSREC BMP	Any cultural resources inadvertently discovered during construction by PSREC or any person working on PSREC's behalf on private, state, or federal land would be reported immediately to the authorized officer and environmental monitor. If human remains are discovered, PSREC would suspend construction, notify the county coroner, notify the applicable landowner or land management agency, and follow the applicable California/Nevada state law. If Native American remains are suspected, the Native American Heritage Commission also would be notified and PSREC would suspend operations in the area until an evaluation is completed.	Ensure that cultural resources are protected and properly managed	During construction	RUS/BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Cultural-5 PSREC BMP	No surface disturbance or construction activity would be allowed within 100 feet of any eligible cultural sites, as specified by the federal or state authorized officer. Any deviation from this requirement would be negotiated with the authorized officer under the terms and conditions of the MOA.	Ensure that cultural resources are protected and properly managed	During construction	RUS/BLM
Soils				
Soils-1 PSREC BMP	Temporary erosion and sediment control devices for the new Herlong Substation, including sediment barriers, would be installed promptly after soil disturbance, in accordance with the NPDES requirements. These devices would be inspected on a daily basis in areas of active construction; on a weekly basis in areas with no active construction; and within 24 hours of each 0.5-inch or greater rainfall. PSREC would install temporary sediment barriers (e.g., staked straw bales) on either side of a water body channel, across the width of the substation construction site, and around spoil and topsoil stockpiles. Sediment barriers would be maintained, as necessary, to ensure effectiveness during construction. In steep terrain, temporary sediment barriers would be installed during clearing to prevent the movement of disturbed soil off the substation construction site. Temporary slope breakers consisting of wattles or compacted soil would be installed across the substation construction site, as necessary.	Minimize soil erosion	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Soils-2	Following structure placement, PSREC would place fill around each pole, using the soil excavated from the pole holes. PSREC would tamp the soil into place and mound the soil around each pole base. Approximately 1 cubic yard of excavated soil would be placed around each pole, resulting in an estimated 247 cubic yards of soil excavated for the project. Most of the soil would be used as fill and mounding around the poles; the remaining amount, no more than 0.5 cubic yard per pole, would be spread in the ROW so as to not destroy any existing vegetation.	Minimize effects to soils and vegetation	During construction	BLM/CSLC
Soils-3	In site-specific areas where soils are sensitive to disturbance, no widening or upgrading of existing access roads would occur during project construction or operation, except for repairs necessary to make roads passable.	Minimize effects to soils	During construction	BLM/CSLC
Soils-4 PSREC BMP	No construction activities would be performed when the soil is too wet to adequately support construction equipment. If equipment creates ruts more than 6 inches deep, the soil would be deemed too wet and construction would cease in that area.	Prevent soil compaction	During construction	BLM/CSLC
Soils-5 PSREC BMP	No soil removal is anticipated. If soil removal is deemed necessary, however, before soils are removed, PSREC would ensure soil storage sites are located within the appropriate areas along the ROW to prevent impacts to cultural and biological resources.	Minimize effects to cultural and biological resources	Prior to and during construction	BLM/CSLC
Water Resources				
Water-1	If damaged or destroyed by construction activities, water sources or facilities (e.g., tanks, developed springs, water lines, wells) would be repaired or replaced to their pre-disturbed condition, as required by the landowner or land management agency.	Protect water features	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Water-2	All construction and maintenance activities would be conducted to minimize disturbance to vegetation, drainage channels, and intermittent and perennial stream banks.	Minimize impacts to vegetation and natural water sources	During construction	BLM/CSLC
Water-3 PSREC BMP	Surface water quality would be protected from construction impacts by use of sediment barriers that would be maintained until satisfactory reclamation is established.	Protect water quality	During construction	BLM/CSLC
Water-4 PSREC BMP	PSREC would not refuel equipment within 500 feet of any live water source.	Prevent water contamination	During construction	BLM/CSLC
Noise				
Noise-1	The proposed hardware and conductor would limit the audible noise (AN), radio interference, and television interference due to corona. Tension would be maintained on all insulator assemblies to assure positive contact between insulators, thereby avoiding sparking. Caution would be used during construction to avoid scratching or nicking the conductor surface, which may provide points for corona to occur.	Minimize operational noise near sensitive receptors	During and after construction and during operation	RUS
Noise-2	If interference occurs, PSREC would respond to any complaints of line-generated radio or television interference by investigating the complaints and implementing appropriate mitigation measures. The transmission line would be patrolled on a regular basis to repair or replace damaged insulators or other line materials that could cause interference.	Minimize operational noise near sensitive receptors	During operation	RUS
Noise-3 PSREC BMP	Construction activities would occur during daylight hours, or from 7 a.m. to 7 p.m.	Reduce impacts to sensitive residential receptors by ensuring compliance with local noise ordinances	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Noise-4	Residents located along the project ROW would be notified 5 days prior to construction occurring within 500 feet of their residence.	Reduce impacts to sensitive residential receptors by ensuring compliance with local noise ordinances	During construction	BLM/CSLC
Hazardous Materials and Waste				
Hazardous Materials-1 PSREC BMP	Construction sites would be maintained in a sanitary condition at all times; waste materials generated by construction at those sites would be disposed of promptly at an appropriate waste disposal site (e.g., Herlong Transfer Station, Lassen County Bass Hill Landfill). 'Waste' means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.	Ensure refuse is collected and transported off site	During construction and operation	BLM/CSLC
Hazardous Materials-2	Totally enclosed containment would be provided for all trash and hazardous materials (if needed). All construction waste including trash, litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials would be removed to either the Herlong Transfer Station or Lassen County Bass Hill Landfill.	Ensure refuse is collected and transported off site	During construction and operation	BLM/CSLC
Hazardous Materials-3 PSREC BMP	PSREC would comply with all applicable federal, state, and local laws and regulations, existing or hereafter enacted or promulgated, with regard to any hazardous materials, as defined in this paragraph, that would be used, produced, transported or stored on or within the ROW or any of the ROW facilities or used in the construction, operation, maintenance, or termination of the ROW or any of its facilities. "Hazardous material" means any substance, pollutant, or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as	Reduces potential for unauthorized or accidental release or contact with hazards	Prior to and during construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	amended, in the U.S. Code 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste," as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 U.S.C. 6901 et seq. and its regulations. The term "hazardous material" also includes any nuclear material or byproduct as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.			
Hazardous Materials-4 PSREC BMP	PSREC, as cited by BLM ROW Grant No. CA 350-2008-27, application CACA48916, agrees to indemnify the U.S. against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined by CERCLA or RCRA) on the ROW unless the release or threatened release is wholly unrelated to PSREC's activity on the ROW. This agreement applies without regard to whether a release is caused by PSREC, its agent, or third parties.	Removes liability for unauthorized or accidental release or contact with hazards	Prior to and during construction	BLM
Vegetation				
Vegetation-1 PSREC BMP	PSREC would ensure the appropriate biological resource surveys have been conducted before construction begins, per coordination with the federal and state agencies.	Identify sensitive plant resources	Prior to construction	RUS/BLM/CSLC/ CDFG
Vegetation-2	Where possible, PSREC would trim (rather than cut) brush, and would cut (rather than blade) brush. Blading would be allowed only if terrain and brush present a clear hazard to personnel and equipment.	Minimize vegetation removal and disturbance	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Vegetation-3	To minimize the potential to spread invasive weeds, PSREC would clean off-road equipment (power or high-pressure cleaning) of all mud, dirt, and plant parts before moving equipment onto the project lands.	Minimize spreading of noxious weeds or other invasive species	During construction	BLM/CSLC
Vegetation-4	In site-specific areas where vegetation is sensitive to disturbance (and has been identified as such by the landowner or land manager, prior to construction), no widening or upgrading of existing access roads would occur during project construction, except for repairs necessary to make roads passable.	Minimize vegetation removal and disturbance	Prior to and during construction	BLM/CSLC
Vegetation-5	The BLM's Eagle Lake Field Office pamphlet on noxious weeds (BLM 2000) would be provided to all contractors and PSREC personnel. The terms and conditions of the CSLC lease also would be met relative to minimizing the potential spread of invasive plant species.	Minimize spreading of noxious weeds or other invasive species	During construction	BLM/CSLC
Vegetation-6	Prior to construction activities, PSREC would identify and provide a list of any noxious weeds present.	Minimize spreading of noxious weeds or other invasive species	Prior to and during construction	BLM/CSLC
Livestock Grazing				
Livestock-1 PSREC BMP	Construction excavations left open overnight would be covered to prevent injury to livestock. Covers would be secured in place and would be strong enough to prevent livestock from falling through the opening.	Prevent injury to livestock	During construction	BLM/CSLC
Recreation				
Recreation-1	PSREC would restrict construction activities in the Fort Sage OHV SRMA during the biannual spring motorcycle races to prevent potential impacts to race participants on BLM-administered lands.	No impacts to OHV race event	During construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Recreation-2	PSREC would coordinate with the BLM after project construction to verify actual structure and guy wire placement would not conflict with established trails and to mitigate any safety hazards to OHV users on designated trails. Potential mitigation could include minor trail route changes by the BLM.	Minimize safety issues for OHV users	After construction	BLM
Wildlife				
Wildlife-1 PSREC BMP	PSREC would ensure the appropriate biological resource surveys have been conducted prior to the initiation of construction, per coordination with the federal and state agencies.	Identify sensitive wildlife resources	Prior to construction	RUS/BLM/CSLC/ CDFG
Wildlife-2	Structures would be constructed to conform to RUS raptor-friendly specifications. Additional resources used in design would be Avian Power Line Interaction Committee's (APLIC) *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* and *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994*, scheduled to be updated in 2011.	Minimize impacts to resident and migratory birds	Prior to construction	RUS/BLM/CSLC/ CDFG
Wildlife-3 PSREC BMP	Construction excavations left open overnight would be covered to prevent injury to wildlife. Covers would be secured in place and would be strong enough to prevent wildlife from falling through the openings.	Prevent injury to wildlife	During construction	BLM/CSLC/ CDFG
Wildlife-4	With the exception of emergency repair situations, ROW construction, restoration, and termination activities in designated areas would be modified or discontinued during sensitive periods (e.g., nesting and breeding periods) for target animal species. Species would be identified during the preconstruction surveys (e.g., raptor nest clearance survey, bank swallow breeding survey), and potential restricted areas would be species dependent and approved in advance by the authorized officer of the BLM and CDFG, as noted in the MMRP. This measure would apply to target bird species either	Protect special status wildlife species, where applicable	Prior to and during construction	BLM/CSLC/ CDFG

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	documented in the project area or potentially occurring. As assessed in Section 4.17, Special Status Wildlife Species, these species could encompass any of the following: • Golden eagle, red-tailed hawk, Swainson's hawk, prairie falcon, American kestrel, Cooper's hawk, sharp-shinned hawk, northern harrier, great horned owl, long-eared owl, burrowing owl and bank swallows along Long Valley Creek.			
Wildlife-5	If project construction activities were to occur during the raptor breeding season (February 1 - August 31), raptor nest clearance surveys would be conducted in proximity to the project (e.g., transmission line ROW, access roads) by a qualified biologist. If active raptor nests (i.e., containing eggs or young) are documented, PSREC would coordinate with the BLM wildlife biologist and CDFG environmental scientist to determine if construction activities should be restricted near active raptor nests for a specified distance (e.g., 0.25 or 0.5 mile) and for a specified period. The potential construction buffer and extent of the seasonal restriction would be determined on a case-by-case and species-specific basis in conjunction with the BLM's established buffer zones and seasonal restrictions for raptor species outlined in Table 4-9 and the Eagle Lake Field Office RMP and ROD (BLM 2007, 2008). On state lands, PSREC would coordinate with the designated CDFG biologist to assess and protect nesting raptors within 0.5 mile of the project ROW on a site-specific basis. Some raptor species are more tolerant of human presence and disturbance than other species and whether a nest is within line-of-sight of the construction activities is integral to determining whether protection measures would be warranted. The applicable buffers and seasonal restrictions can vary and should take into account the species affected, topography, habitat suitability, degree of existing	Identify active nest sites and protect nesting raptors, eggs, and young in compliance with the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA)	Prior to and during construction	BLM/CDFG/ CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	disturbance, associated prey base, breeding phenology, and degree or extent of proposed disturbance. Protection of active raptor nests would apply during project construction and the breeding season period until the young had fledged or if the nesting attempt fails.			
Wildlife-6	PSREC would design site lighting at the substations to minimize bird attraction or nocturnal insect attraction and swarming. At a minimum, lights would be down shielded to minimize attracting birds or insects. This measure would minimize the potential for nocturnal bird foraging (e.g., nighthawks).	Minimize potential impacts to birds at substation sites	Project operation	BLM/CDFG/ CSLC
Wildlife-7	In conjunction with the pre-construction raptor nest clearance surveys (see *Measure Wildlife-5*), PSREC would contract with qualified wildlife biologists to conduct ground surveys for American badger dens and burrowing owl nest burrows to identify the location of active den or burrow sites for both species, parallel to survey methodology used in 2010. Active burrows within construction areas or access routes would be flagged and avoided during project construction by both pole placement and equipment use to prevent crushing of active den sites. Additionally, a 0.25-mile buffer would be developed around active burrowing owl nests until the young had left the nest burrow.	Prevent impacts to active American badger dens or burrowing owl nest sites.	Before and during project construction	BLM/CDFG/ CSLC
Wildlife-8	In conjunction with the pre-construction raptor nest clearance surveys (see *Measure Wildlife-5*), PSREC would contract with a qualified wildlife biologist to conduct additional nest surveys for active loggerhead shrike nest sites prior to construction initiation. If active nest sites are documented within 200 feet of the ROW, PSREC would coordinate with the BLM wildlife biologist or CDFG environmental scientist to determine if construction activities should be restricted near these nest sites and, if so, determine the applicable buffer area.	Minimize impacts to active loggerhead shrike nest sites.	Before and during project construction	BLM/CDFG/ CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Doyle SWA				
Doyle SWA-1	Assuming traditional construction methods (no helicopter use, Option B), a mitigation plan was developed by PSREC, CDFG, California Wildlife Conservation Board (WCB), and the Wildlife and Sport Fish Restoration Program of the U.S. Fish and Wildlife Service (USFWS) for the ROW easement crossing the Doyle SWA in Section 8 to further support the maintenance and enhancement of wintering mule deer. Detailed measures are outlined in the Final Mitigation Plan (see Appendix B3). Measures unique to Option B construction scenario on the Doyle SWA are reiterated in this corresponding tabular summary and listed below:	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA	During and after construction	CDFG
Doyle SWA-2	On-site reclamation measures applicable to Option B on Doyle SWA would include the following: • Plant antelope bitterbrush seedlings with *Vexar* tubing protection, with the planting density goal to reflect existing bitterbrush cover upon final reclamation. Before planting, PSREC would coordinate with the CDFG to determine the plant density goal. This determination would be based on findings by a qualified botanist and/or reclamation specialist retained by PSREC and approved by the CDFG. • The optimal planting period for bitterbrush is when soil moisture is the highest, which typically occurs during the spring. PSREC would coordinate with the CDFG on this planting period. • During project construction under Option B, three temporary perpendicular access routes would be constructed to the ROW and each of the three structures along this 0.5-mile segment of Doyle SWA, using a culvert and clean drain rock to fill the ditch level at the access road intersections with Fort	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA under Construction Option B	During and after construction	CFDG

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	Sage Road. Following project construction, the fill would be excavated and removed from the area. If necessary, the v-cut in the ditch adjacent to Fort Sage Road would be deepened (processes pending approval from Lassen County) to deter OHV recreationalists from using the two-track access roads to the ROW. To further discourage OHV use, during site reclamation efforts, PSREC would erect temporary orange plastic construction fencing across the three access routes near the existing county road to block access. PSREC would maintain this fencing and subsequently remove it once native vegetation becomes established along these three access roads. • PSREC and the CDFG would communicate and coordinate on these measures to ensure an acceptable success rate at a reasonable cost and effort. Before initiating these measures, PSREC and the CDFG would define the reclamation targets and goals, as described above, with remedial options available in case planting success is not achieved in the pre-determined time frame. Examples of applicable remedial measures may include on-site watering of seedlings during periods of insufficient precipitation on the Doyle SWA parcel, additional plantings of bitterbrush at a density or cost not to exceed that expended by PSREC for the initial plantings, etc., with measures determined by ongoing dialog between PSREC and the CDFG.			

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Doyle SWA-3	Off-site enhancement measures applicable to Option B on the Doyle SWA to mitigate the 0.5-mile ROW crossing would include the following: • The CDFG would identify an off-site 1-acre parcel where habitat enhancement of the existing antelope bitterbrush community would benefit area mule deer in the long term. • PSREC would identify a qualified contractor that would be responsible for seeding the off-site parcel in accordance with this enhancement plan. • PSREC would fence the 1-acre parcel with materials approved by the CDFG. These materials may include: o Wooden posts 10 feet above ground surface level used for "H" braces. o 10-foot steel "T" posts used in-line for fence support, not to exceed 20-foot spacing. o Mesh wire at a gauge and mesh size specified by the CDFG up to 6 feet agl. o Two to three strands of smooth wire above mesh wire. • Prior to fencing, PSREC and the seeding contractor would determine if equipment use within the 1-acre parcel would allow adequate coverage. • Antelope bitterbrush would be seeded at approximately 6 pounds per acre. • The CDFG would provide the bitterbrush seeds to PSREC for this seeding. • The contractor would use a rangeland drill for bitterbrush seeding. • Recommended seeding methods are presented in Clements and Young (2005). • Seeding would be completed during the fall, with October being optimal.	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA under Construction Option B	During and after construction	CDFG

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	• PSREC would monitor the 1-acre parcel annually to determine the relative success rate of the seeding and fencing program. Success is defined as sufficient survival of bitterbrush seedlings at the end of the 5-year monitoring period so that, upon maturity, bitterbrush cover at the enhancement site would be equal to or greater than the density of bitterbrush in the vicinity (as determined by the botanical surveys described above). • Before initiating the seeding program, PSREC would implement noxious weed control measures, if warranted, in accordance with methods mutually agreed upon by PSREC and the CDFG.			
Doyle SWA-4	Under the Option B standard construction scenario, PSREC and the CDFG would communicate and coordinate on these measures to ensure an acceptable success rate at a reasonable cost and effort. Before initiating these measures, PSREC and the CDFG would define the reclamation targets and goals, with remedial options available in case planting success is not achieved in the pre-determined time frame. Remedial measures may include additional plantings of bitterbrush at a density or cost not to exceed that expended by PSREC for the initial plantings. As stated above, these reclamation goals would be based on findings by a qualified botanist and/or reclamation specialist retained by PSREC.	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA under Construction Option B	Before, during, and after construction	CDFG
Doyle SWA-5	Under both construction options A and B and to prevent hunter conflicts, PSREC would cease construction activities along the project ROW during the period immediately before and during the CDFG's M3 Doyle Muzzleloading Rifle Buck Hunt. Specifically, construction activities would not occur from the second Saturday in November (1 week prior to the start of this hunt), through the end of the 9-day hunt. Construction would be allowed to continue at the	Minimize impacts to hunters	During construction	CDFG

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	Herlong and Fort Sage substations during this 16-day period.			
Doyle SWA-6	Under both construction options A and B, the BLM's California Native Seed Policy would not apply to the portion of the Doyle SWA crossed by the Proposed Action. The Doyle SWA land would be reseeded with a native seed mix to be determined by the CDFG for the transmission line ROW and along the reclaimed access routes.	Enhance revegetation and reclamation efforts per the CDFG's direction	After construction	CDFG
Doyle SWA-7	Under both construction options A and B, PSREC has committed to avoiding bitterbrush vegetation during pole placement on the 0.5-mile segment of the Doyle SWA. This approach will be feasible, based on line design and a manual siting approach.	Avoid bitterbrush disturbance on Doyle SWA from structure placement	During construction	CDFG
Aesthetics / Visual				
Visual-1	Standard structure design would be modified to correspond with spacing of existing transmission line structures, where feasible, to reduce visual contrast or potential operational conflicts.	Minimize visual impacts to aesthetics	Prior to construction and project operation	RUS
BLM ROW Grant and State of California Lands				
The following measures were developed for BLM lands and the associated BLM ROW Grant. Where applicable, these measures also would apply to lands owned by the California State Lands Commission. PSREC would coordinate with the applicable land management agency or state landowner, as warranted.				
BLM ROW Grant				
ROW Grant-1 PSREC BMP	PSREC would submit a Plan (or Plans) of Development (POD) to BLM that describe in detail the construction, operation, maintenance, and termination of the Proposed Action's ROW and its associated improvements and facilities. The degree and scope of these plans would vary depending on 1) the complexity of the ROW or its associated improvements and facilities, 2) the anticipated conflicts requiring mitigation, and 3) additional technical information required by the authorizing officer. The approved POD would become part of the ROW Grant.	Adhere to BLM ROW Grant application process	Prior to construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-2 PSREC BMP	PSREC would construct, operate, and maintain the facilities, improvements, and structures within the BLM ROW Grant in strict conformity with the Plan (or Plans) of Development (POD) as approved and made part of the ROW Grant. Any relocation, additional construction, or use not in accord with the approved POD would not be initiated without the prior written approval of the BLM authorized officer. A copy of the complete ROW Grant, including all stipulations and approved POD, would kept on site during construction, operation, and termination and would be provided to the authorized officer upon request. Noncompliance with the above would be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.	Adhere to BLM ROW Grant and project POD	During construction	BLM
ROW Grant-3 PSREC BMP	On BLM land, PSREC would place slope stakes, culvert location and grade stakes, and other construction control stakes, as deemed necessary by the BLM authorized officer, to ensure construction is completed in accordance with the POD. If stakes are disturbed, they would be replaced before proceeding with construction.	Adhere to BLM project POD	During construction	BLM
ROW Grant-4 PSREC BMP	Specific sites identified by the BLM or state authorized officer where construction equipment and vehicles are not allowed (e.g., archaeological sites), would be clearly marked by PSREC before any construction or surface-disturbing activities begin. PSREC would be responsible for assuring that construction personnel are trained to recognize these markers and understand the equipment-movement restrictions involved.	Protect sensitive resources along ROW	During construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-5 PSREC BMP	PSREC would contact the BLM's authorized officer at least 10 days before the anticipated start of construction or any surface-disturbing activities. The authorized officer may require, schedule, and attend a preconstruction conference with PSREC within the 10-day period before construction or surface-disturbing activities begin on the ROW. PSREC, PSREC's contractor(s), or agents involved with the construction and surface-disturbing activities on the ROW would attend this conference to review stipulations of the grant, including the POD.	Adhere to BLM project POD	Prior to and during construction	BLM
ROW Grant-6 PSREC BMP	PSREC would designate a representative(s) who would have the authority to implement instructions from the BLM or state authorized officer within a reasonable timeframe when construction or other surface-disturbing activities are underway.	Adhere to BLM project POD and state lands lease	During construction	BLM/CSLC
ROW Grant-7 PSREC BMP	PSREC would not initiate any construction or other surface-disturbing activities on the ROW without prior written authorization of the BLM or state authorized officer. Such authorization would be a written Notice to Proceed issued by the authorized officer. Any Notice to Proceed would authorize construction or use only as expressly stated therein and only for the particular location or use described therein.	Adhere to BLM project POD and ROW Grant process and state lands lease	Prior to construction	BLM/CSLC
ROW Grant-8 PSREC BMP	The BLM or state authorized officer may suspend or terminate (in whole or in part) any issued Notice to Proceed when, in his/her judgment, conditions arise that result in the approved terms and conditions being inadequate to protect the public health and safety or the environment.	In adherence to BLM POD and ROW Grant and state lands lease	During construction	BLM/CSLC
ROW Grant-9	The holder of the BLM ROW Grant or the holder's successor in interest would comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of Interior issued pursuant hereto.	In adherence to BLM ROW Grant	During and after construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-10 PSREC BMP	PSREC would conduct all activities associated with the construction, operation, and termination of the ROW within the authorized limits of the ROW.	In adherence to BLM ROW Grant and state lands lease	During construction	BLM/CSLC
ROW Grant-11 PSREC BMP	PSREC would permit free and unrestricted public access to and upon the ROW on lands administered by the BLM for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock, or facilities constructed within the ROW.	Prevent impacts to public use	During construction	BLM
ROW Grant-12 PSREC BMP	PSREC would plan for safe and accessible conditions at all roadway crossings and access points during construction and restoration on BLM and state lands.	Ensure public safety and minimize impacts to transportation	During construction	BLM/CSLC
ROW Grant-13 PSREC BMP	Existing roads and trails on public lands that are blocked as the result of the construction project would be rerouted or rebuilt, as deemed reasonable by PSREC and the BLM's authorized officer.	Ensure public access	During and after construction	BLM
ROW Grant-14 PSREC BMP	Construction-related traffic on BLM or state lands would be restricted to routes approved by the BLM or state authorized officer. New access roads or cross-country vehicle travel would not be permitted unless prior written approval is obtained from the authorized officer. Authorized roads used by PSREC would be rehabilitated or maintained when construction activities are complete, as approved by the authorized officer.	Minimize new surface disturbance	During and after construction	BLM/CSLC

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-15 PSREC BMP	If cross-country access is necessary on BLM land, PSREC would contact the BLM authorized officer for review and authorization. Clearing vegetation or grading a roadbed would be avoided whenever practicable. All construction and vehicular traffic would be confined to the ROW or designated access routes, roads, or trails unless otherwise authorized in writing by the authorized officer. All temporary roads used for construction would be rehabilitated after construction is completed. Only one road or access route would be permitted to each site requiring access.	Minimize new surface disturbance and ensure future public access on federal lands	During and after construction	BLM
ROW Grant-16 PSREC BMP	As directed by the BLM authorizing officer, new road segments on BLM land would be winterized by providing a well-drained roadway by constructing water bars, maintaining drainage, and implementing any additional reasonable measures necessary to minimize erosion and other damage to the roadway or the surrounding public lands.	Minimize erosion on public land access roads	During construction	BLM
ROW Grant-17 PSREC BMP	Excavation and embankment quantities would be balanced as nearly as design and construction considerations allow. Any waste or borrow needs would be specifically identified by PSREC.	Minimize surface disturbance	During construction	BLM/CSLC
ROW Grant-18 PSREC BMP	Excess excavated, unsuitable, or slide materials would be disposed of as directed by the authorized officer.	Follows agency-approved disposal plan	During construction	BLM/CSLC
ROW Grant-19 PSREC BMP	PSREC would construct water bars on all disturbed areas on BLM land to the spacing and cross sections specified by the BLM authorized officer. Water bars would be constructed to: 1) simulate the imaginary contour lines of the slope, ideally with a 1% or 2% grade; 2) drain away from the disturbed area; and 3) begin and end in vegetation or rock, whenever possible.	Minimize erosion on public land access roads	During construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-20 PSREC BMP	Clearing and grubbing debris would not be placed or allowed to remain in or under any embankment sections. Clearing and grubbing debris may be placed under waste material with a minimum of 3 inches of cover, as directed by the authorizing officer.	Follows agency-approved disposal plan	During construction	BLM/CSLC
ROW Grant-21 PSREC BMP	Use of pesticides would comply with the applicable federal and state laws. Pesticides would be used in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to using pesticides, the holder would obtain from the authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage, disposal of containers, and any other information deemed necessary by the authorized officer. Emergency use of pesticides would be approved in writing by the authorized officer prior to such use. PSREC would coordinate with the agency, and applications may be made by a Pesticide Certified Applicator (PCA) if warranted.	Follows safe practices and minimizes exposure to humans and animals	During and after construction	BLM/CSLC
ROW Grant-22 PSREC BMP	PSREC would be responsible for weed control on disturbed areas within the limits of the ROW. PSREC would be responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations). Before preconstruction activities commence, PSREC would provide a list to BLM of all noxious weeds present on the BLM land included in the ROW Grant. The authorized officer would determine if any noxious weeds require flagging for treatment.	Minimize spreading of noxious weeds or other invasive species	Prior to and during construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-23 PSREC BMP	If applicable, cattle guards on BLM land would be 5 feet by 16 feet and, at a minimum, would meet the requirements of BLM Manual Section 9113.25. Cattle guards would be set on timber, pre-cast concrete, or cast-in-place concrete bases at right angles to the roadway. Backfill around cattle guards would be thoroughly compacted. A bypass gate would be built adjacent to each cattle guard. Gate materials, dimensions, and construction would conform to the requirements as specified by the BLM authorized officer.	Minimize impacts to livestock and grazing leases	During construction	BLM
ROW Grant-24 PSREC BMP	Fences, gates, and brace panels on BLM land would be reconstructed to BLM standards and specifications, as determined by the authorized officer.	Minimize impacts to livestock and grazing leases	During construction	BLM
ROW Grant-25 PSREC BMP	PSREC would furnish and install culverts of the gauge, materials, diameter, and length indicated and approved by the BLM authorized officer. The minimum diameter for culverts would be specified by a registered engineer. Culverts would be free of corrosion, dents, or other deleterious conditions. Culverts would be placed in channel bottoms on firm, uniform beds that have been shaped to accept them and aligned to minimize erosion. Backfill would be thoroughly compacted. No equipment would be routed over a culvert until backfill depth is adequate to protect the culverts.	Ensure compliance with SWPPP	During construction	BLM
ROW Grant-26 PSREC BMP	As directed by the BLM authorized officer, construction stakes would be set for each culvert to show location, inlet and outlet elevations, diameter, and length.	Ensure compliance with SWPPP	During construction	BLM
ROW Grant-27 PSREC BMP	As directed by the BLM authorized officer, PSREC would submit a complete culvert list to reflect the drainage plan for the associated road. The list would include, but would not be limited to, size, length, and location of each culvert.	Ensure compliance with SWPPP	During construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-28 PSREC BMP	All roads and parking areas would be constructed to provide drainage and minimize erosion. If necessary, culverts would be installed to maintain drainage. All areas used for roads and parking would be surfaced with gravel.	Ensure compliance with SWPPP and minimize soil erosion	During construction	BLM/CSLC
ROW Grant-29 PSREC BMP	PSREC would inform the BLM authorized officer within 48 hours of an accident on federal lands that necessitates reporting to the Department of Transportation, as required by 49 CFR Part 195.	In adherence to BLM POD and ROW Grant	During construction	BLM
ROW Grant-30 PSREC BMP	Construction is not expected to occur from July 1 to Sept. 15; however, if any activities do occur during this time, vehicles, gas-powered equipment and flues would be equipped with spark arresters approved by the BLM authorized officer.	Minimize wild fire danger	During construction	BLM/CSLC
ROW Grant-31 PSREC BMP	During construction, PSREC would maintain a fire watch with fire-fighting equipment at locations and times designated by the BLM authorized officer. PSREC would prepare and implement a Fire Prevention and Management Plan for federal and state lands. The plan would be approved by the BLM's and state's authorized officers, respectively, prior to the issuance of the notice to proceed.	Minimize wild fire danger	During construction	BLM/CSLC
ROW Grant-32 PSREC BMP	When requested by the BLM authorized officer, PSREC would make on-site equipment temporarily available for fighting nearby wildfires. Payment for such services would be made at rates determined by the BLM authorized officer.	Minimize wild fire danger	During construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-33 PSREC BMP	PSREC would be liable for damage or injury to the U.S. to the extent provided by Code of Federal Regulation 43 CFR Section 2803.1-4. PSREC would be held to a standard of strict liability for damage or injury to the U.S. resulting from fire or soil movement (including landslides and slumps, as well as wind- and water-caused movement of particles) caused or substantially aggravated by any of the following within the ROW or permit area: • Activities of PSREC including, but not limited to, construction, operation, maintenance, and termination of the facility. • Activities of other parties including, but not limited to: o Land clearing and logging o Earth-disturbing and earth-moving work o Vandalism and sabotage	In adherence to BLM POD and ROW Grant	During and after construction and during project operation	BLM
ROW Grant-34 PSREC BMP	The maximum limitation for such strict liability damages for any one event and any liability in excess of such amount would be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred. This section would not impose strict liability for damage or injury resulting primarily from the negligent acts or omissions of the U.S.	In adherence to BLM POD and ROW Grant	During and after construction and during project operation	BLM
ROW Grant-35 PSREC BMP	PSREC would be responsible for repairing or replacing any resources lost by BLM grazing permittees or the U.S. as a result of the project. Resources may include, but not be limited to, stock water pipelines, livestock, forage for livestock grazing, spring (water) production, and the ability to graze livestock. Any lost resources would be repaired or replaced in kind or by mutually agreed upon compensation.	Minimize damages to lands, infrastructure, and grazing leases	During construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-36 PSREC BMP	A bond, acceptable to the BLM authorized officer, would be furnished by PSREC before the issuance of a Notice to Proceed or at such earlier date as specified by the authorized officer. The amount of this bond would be determined by the authorized officer. This bond must be maintained in effect until removal of improvements and restoration of the ROW has been accepted by the authorized officer.	Minimize damages to lands and infrastructure and in adherence to BLM ROW Grant	Prior to and during construction	BLM
ROW Grant-37 PSREC BMP	Should the bond delivered under this grant become unsatisfactory to the authorized officer, PSREC would furnish a new bond within 30 days of demand.	In adherence to BLM ROW Grant	During construction	BLM
ROW Grant-38 PSREC BMP	If snow removal from a road on BLM or state lands is undertaken, equipment used for snow removal operations would be equipped with shoes to keep the blade 2 inches off the road surface. PSREC would take special precautions where the ground is uneven and at drainage crossings to ensure the blades do not destroy vegetation.	Minimize impacts to vegetation and soils	During construction	BLM/CSLC
ROW Grant-39 PSREC BMP	PSREC would maintain the ROW in a safe, usable condition, as directed by the BLM authorized officer. A regular maintenance program would include, but would not be limited to, blading, ditching, culvert installation, and surfacing.	In adherence to project POD and BLM ROW Grant	During construction	BLM
ROW Grant-40 PSREC BMP	PSREC would not use the ROW as a road for purposes other than routine maintenance, as deemed necessary by the authorized officer in consultation with PSREC.	In adherence to BLM ROW Grant and state lands lease	During construction	BLM/CSLC
ROW Grant-41 PSREC BMP	On BLM lands, for the purpose of determining joint maintenance responsibilities, PSREC would make road use plans known to all other authorized users of the road. Within 30 days of the date of the ROW Grant, PSREC would provide the authorized officer with the names and addresses of all parties notified, dates of notification, and method of notification. Failure of PSREC to share proportionate maintenance costs on the common use	In adherence to BLM ROW Grant	After construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	access road in dollars, equipment, materials, or manpower with other authorized users may be adequate grounds to terminate the ROW Grant. The BLM authorized officer would determine whether this has occurred and whether to terminate the grant. Upon request, the authorized officer would be provided with copies of any maintenance agreement.			
ROW Grant-42 PSREC BMP	Ninety days prior to termination of the BLM ROW Grant, PSREC would contact the BLM authorized officer to arrange a joint inspection of the ROW. This inspection would be held to agree to an acceptable termination and rehabilitation plan. This plan would include, but would not be limited to, removal of facilities, drainage structures, or surface material; re-contouring; applying topsoil; and reseeding. The authorized officer must approve the plan in writing before PSREC begins any termination activities.	In adherence to BLM ROW Grant	Project operation	BLM
ROW Grant-43 PSREC BMP	PSREC would set up a construction environmental monitoring inspection program for BLM lands that includes: • Ensuring compliance with the requirements of the EA, the environmental conditions of the ROW Grant authorization, the mitigation measures proposed by PSREC (as approved and/or modified by the ROW Grant), and other environmental permits and approvals. • Identifying, documenting, and overseeing corrective actions, as necessary, to bring an activity back into compliance. • Verifying that the limits of all authorized construction work areas and locations of access roads are properly marked before clearing. • Verifying the location of signs and highly visible flagging that mark the boundaries of sensitive resource areas, drainages, water bodies, or areas with special requirements along the construction	In adherence to project POD and BLM ROW Grant	During and after construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	work area. • Identifying erosion/sediment control and soil stabilization needs in all areas. • Ensuring that subsoil and topsoil are tested to measure compaction and determine the need for corrective action. • Advising the construction contractor when conditions (such as wet weather) make it advisable to restrict construction activities to avoid excessive rutting. • Ensuring restoration of contours and replacement of topsoil. • Verifying that any soils or materials imported for use have been certified free of noxious weeds. • Determining the need for erosion control measures and ensuring that these measures are properly installed, as necessary, to prevent sediment flow into drainages, water bodies, and sensitive areas and on to roads. • Inspecting and ensuring the maintenance of temporary erosion control measures at least: (a) on a daily basis in areas of active construction or equipment operation; (b) on a weekly basis in areas with no construction or equipment operation; and (c) within 24 hours of each 0.5-inch rainfall. • Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification. • Keeping records of compliance with the environmental conditions of the ROW Grant, and the mitigation measures proposed by PSREC in the application submitted to the BLM. Identifying areas that should be given special attention to ensure			

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
	stabilization and restoration after the construction phase.			
ROW Grant-44 PSREC BMP	PSREC would submit its contingency plan to the BLM or state authorized officer before project initiation on BLM-administered or state lands, respectively. This plan would contain: • Spill control provisions for oil and other pollutants. • The agencies responsible for contingency plans in Lassen County, California or Washoe County, Nevada, which would be among the first to be notified in the event of any transformer failure resulting in a spill of oil or other pollutant. • Provisions to restore of the affected resource. • Provisions that the BLM authorized officer would approve any materials or devices used for oil spill control and any disposal sites or techniques selected to handle oil, matter, or other pollutants. • Separate and specific techniques and schedule outlines for cleanup of spilled oil or other pollutants on land or in water.	Ensure compliance with SWPPP and minimize impacts and minimize or prevent impacts from hazardous materials	Prior to and during construction	BLM/CSLC

APPENDIX B2
CALIFORNIA DEPARTMENT OF FISH AND GAME LETTER

The following letter from the CDFG regarding the Doyle SWA Mitigation Plan would apply under the Proposed Action Construction Option B.

State of California – The Resources Agency
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
NORTHERN REGION
601 Locust Street
Redding, CA 96001
(530) 225-2300

ARNOLD SCHWARZENEGGER, Governor

February 17, 2009

Ms. Laura Valoppi, Chief
Wildlife and Sport Fish Restoration Program
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-1729
Sacramento, CA 95825

Dear Ms. Valoppi:

Fort Sage to Herlong 120 kV Transmission Line and Substation Project

The Plumas-Sierra Rural Electric Cooperative (PSREC) has requested a utility easement across a portion of the Doyle Wildlife Area (Doyle WA) near Herlong, California. The purpose of this letter is to document the Department of Fish and Game's (Department's) support of this easement and to respond to correspondence received from your office on June 9, 2008.

PSREC is proposing to construct a 120 kilovolt (kV) transmission line and substation to improve the reliability of the existing electric system and to access renewable energy resources. The *Fort Sage to Herlong 120 kV Transmission Line and Substation Project* (Fort Sage Project) is approximately 14 miles long, extending from the Fort Sage Substation in Nevada to the new Herlong Substation. Through the Wildlife Conservation Board (WCB), the Department intends to grant a right-of-way (ROW) easement for two 0.5-mile transmission line segments on the Doyle WA. These segments are located in T26N, R17E, SW¼ S8 (Section 8) and in T26N, R16E, NW¼ S22 (Section 22).

In 1949, the Doyle WA was purchased as wintering range for mule deer, using federal Wildlife Restoration Act funds. Per federal regulations, the property must be held and maintained in perpetuity for the purpose for which it was acquired. In keeping with the primary purpose of the grant to conserve mule deer winter range habitat, the Department has worked with PSREC to develop the attached *Doyle WA Mitigation Plan* for the Fort Sage Project. The intent of this plan is, in part, to avoid adverse impacts to mule deer as well as ancillary species identified under the original grant.

Conserving California's Wildlife Since 1870

Ms. Laura Valoppi, Chief
February 17, 2009
Page Two

The attached Mitigation Plan outlines the proposed project, the anticipated short- and long-term impacts to mule deer from implementation of this project, and additional mitigation measures developed to offset these impacts. These measures include both on-site and off-site habitat enhancement to facilitate regeneration of native vegetation, including a focus on restoring antelope bitterbrush (*Purshia tridentata*) in select areas to benefit mule deer. PSREC will be responsible for monitoring, scheduling, and implementing, per the Plan's outlined protection measures. The WCB is prepared to coordinate directly with the U.S. Fish and Wildlife Service's Wildlife and Sport Fish Restoration Program personnel on the associated ROW easement.

PSREC has committed to the stated environmental protection measures as part of the Proposed Action and will work with the Department to implement the *Doyle WA Mitigation Plan* (Plan). Implementation of this Plan would support the purpose for which the Doyle SWA was acquired and "make the project whole," per the requirements under land purchases using Wildlife Restoration Act funds. The Department is satisfied with the Mitigation Plan and its associated measures.

In summary, the Department believes a sufficient mitigation strategy has been developed to mitigate the construction, operation, and maintenance of the Fort Sage Project across two segments of the Doyle WA and the property's purpose for wildlife will remain as initially designated. The formal land appraisals and draft easement language is forthcoming from the WCB. In the interim, we would like to request your concurrence with granting the ROW easement in accordance with the federal regulation sections 43 CFR 12.71, 43 CFR 12.932, and 50 CFR 80.14.

If you have any questions regarding the proposed easement at the Doyle WA for the Fort Sage Project or require additional information, please contact Senior Environmental Scientist Richard Callas at (530) 340-5077.

Sincerely,

GARY B. STACEY
Regional Manager

cc: See Page Three

Ms. Laura Valoppi, Chief
February 17, 2009
Page Three

cc: Mr. William Gallup
Wildlife Conservation Board
1807 13th Street, Suite 103
Sacramento, CA 95811

Ms. Karen Kovacs
Department of Fish and Game
601 Locust Street
Redding, CA 96001

Ms. Lori Nielson
EDM International, Inc.
4001 Automation Way
Fort Collins, CO 80525

ec: Messrs. Richard Callas, Eric Haney, Scott Hill, and Brian Ehler
Department of Fish and Game
rcallas@dfg.ca.gov, ehaney@dfg.ca.gov, shill@dfg.ca.gov, behler@dfg.ca.gov

APPENDIX B3
DOYLE SWA MITIGATION PLAN

The initial Doyle SWA Mitigation Plan was finalized January 16, 2009 and an Addendum was issued May 5, 2009. The basic Mitigation Plan and Addendum remains as agreed to among the CDFG, USFWS, and PSREC. The following changes in the Doyle SWA Mitigation Plan reflect incorporating the May 2009 Addendum into the Mitigation Plan, applicable project updates, removal of Section 22 along Garnier Road, use of helicopters to minimize environmental disturbance, and introduction of both Construction Options A and B. The Doyle SWA Mitigation Plan would apply only to Construction Option B.

Document changes in the Doyle SWA Mitigation Plan have been tracked and provided in a separate document to the CDFG and PSREC to facilitate agency review. The complete Mitigation Plan is provided as part of this appendix. Upon review and authorization by CDFG and PSREC, these changes will be adopted into the Mitigation Plan as presented in this appendix.

EDM International, Inc.
Doyle SWA Mitigation Plan
Fort Sage to Herlong 120kV Transmission Line Interconnect Project
Plumas Sierra Rural Electric Cooperative
January 16, 2009 updated June 2011

Proposed Project

Plumas-Sierra Rural Electric Cooperative, Inc. (PSREC) is proposing to construct a 120 kilovolt (kV) transmission line to address regional limitations of current power capacity, stabilize voltage service levels, meet expected demand, and satisfy regulatory requirement. Specifically, the project's construction and operation would: a) provide a second source of power into PSREC's system, increasing the reliability of power delivery to the area and stabilizing the PSREC electric system and b) meet the area's traditional growth.

The proposed Fort Sage to Herlong 120kV Transmission Line Project (Fort Sage 120kV Project) is 13.67 miles long, extending from the Fort Sage Substation in Nevada (T26N, R18E, S33) to the Herlong Substation at the intersection of Highway 395 and Garnier Road (T26N, R16E, S22) (see Map B3-1). The Federal USDA, Rural Utilities Service (RUS) is the federal lead agency and the Bureau of Land Management (BLM) is the federal cooperating agency in accordance with the National Environmental Policy Act (NEPA).

Under NEPA, an Environmental Assessment (EA) has been developed to analyze the potential impacts from the proposed project. The following sections contain excerpts from the EA analysis outlining the overall project and specifically reference the 0.5 mile of the Doyle State Wildlife Area (SWA) owned and operated by the California Department of Fish and Game (CDFG) in T26N, R17E, SW¼, Section 8 (Section 8) (see Map B3-1). The proposed project right-of-way (ROW) crosses an additional parcel owned by the CDFG in T26N, R16E, NW¼, Section 22 (Section 22) along Garnier Road and immediate north of the Herlong Substation. However, the ROW located in Section 22 is within county road ROW and does not apply to the Doyle SWA Mitigation Plan, which focuses on the CDFG parcel in Section 8. Standard reclamation practices would still apply to the CDFG parcel in Section 22, as outlined in the EA.

Since the Final Doyle SWA Mitigation Plan was submitted for agency review, the Proposed Action has been refined to minimize potential impacts to mule deer wintering range habitat on Doyle SWA. The revised Proposed Action includes two construction options: Option A and Option B.

- Construction Option A – Helicopter Construction: Temporary impacts would be avoided on the 0.5 mile of Doyle SWA, assuming hand drilling (i.e., augering) for structure holes would be feasible and enabling use of a helicopter for pole

placement. Option A would eliminate the need for temporary access roads to poles 52, 53, and 54, and also the need for temporary work areas surrounding these poles. A helicopter would be used for line stringing under both options.

- Construction Option B - Standard Construction: In the event structure holes cannot be hand augered, temporary access roads and work areas would be necessary and heavy equipment would be used to erect structures within Doyle SWA. A helicopter would be used for line stringing under both options.

Right-of-Way: Overall land ownership along the 13.67-mile ROW would include:

- 4.24 miles of BLM lands
- 3.683.52 miles of CSLC lands
- 4.19 3.36 miles of private lands
- 1.01 0.51 mile of CDFG (Doyle SWA)
- 0.052.04 miles of Other (Lassen County, Caltrans, UPRR)

Photo B3-1 and Photo B3-2 are representative of the native habitat types occurring in and near the proposed ROW alignment within Section 8 of Doyle SWA, primarily encompassing a sagebrush and bitterbrush shrub component.

Photo B3-1 Representative Native Habitats along 0.5-Mile Right-of-Way in Section 8 on CDFG Lands

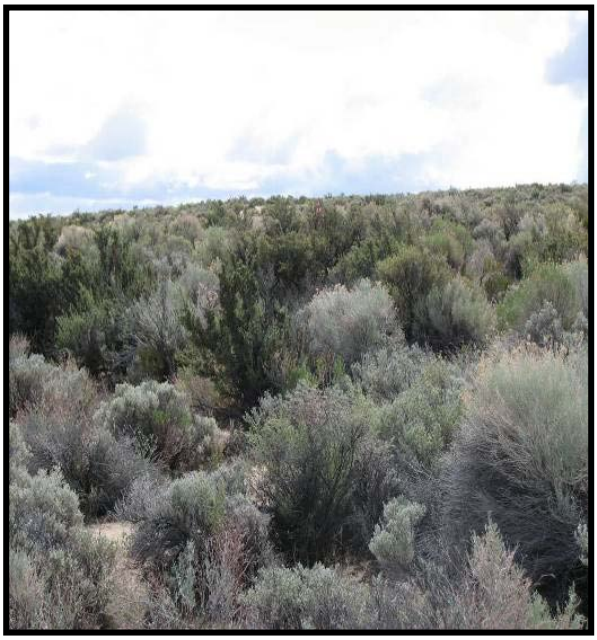


Photo B3-2 Representative Habitats in Section 8 in Doyle SWA

Figure B3-1 depicts the 0.5-mile crossing of the Doyle SWA in Section 8, with structures #52 through #54 sited on the SWA lands.

- Pole # 51 is located in T26N, R17E, S8, immediately east of the Doyle SWA's east property line and is not on CDFG property.
- Pole # 52 is located in T26N, R17E, S8, approximately 350 feet north of Fort Sage Road.
- Pole # 53 is located in T26N, R17E, S8, approximately 250 feet north of Fort Sage Road.
- Pole # 54 is located in T26N, R17E, S8, approximately 90 feet north of Fort Sage Road and approximately 300 feet east of the SWA's west property line.

Option A would entail no new temporary access routes on the Doyle SWA parcel, hand augering the structure pole holes on site, and using a helicopter to install the poles. Option B was developed in the event the structure holes cannot be hand augered and equipment would be necessary to drill these pole sites. Under Option B, temporary access routes would be required to access the three pole sites on the 0.5-mile ROW segment on Doyle SWA.

In Section 8 on Doyle SWA, vegetation shall not be removed within the ROW without prior approval by the CDFG, except as agreed and mitigated during construction. Rights-of-way will not be chemically treated unless requested by the CDFG for Doyle SWA crossed by the project. Temporary use areas will be specifically designated on a site-specific basis.

Access Roads: For the overall project, existing access roads and overland construction will be utilized, where possible. Specific to Section 8 on Doyle SWA, under Alternative A (helicopter use) no temporary access routes would be constructed on Doyle SWA. Under Alternative B (standard construction) temporary access routes to each of the three structures from the existing public Fort Sage Road would be used. If these individual access routes in Section 8 were required under Option B, PSREC proposes to temporarily fill the ditch on the north side of the road. PSREC would use clean drain rock with a culvert, and following construction, the fill would be excavated, removed from the area, and if necessary, the v-cut deepened (processes pending approval from Lassen County). An increase in the v-cut would deter OHV recreationalists from utilizing the perpendicular two-track access roads to these three pole structures. Additionally, following line construction and during site reclamation efforts, temporary construction fencing (i.e., orange plastic) would be used to bisect the access route near the existing county road to further discourage OHV use. Access route information by project construction option is presented in Table B3-1 of this Mitigation Plan.

Line Design: Proposed line design for the line crossing the Doyle SWA in Section 8 includes a three-phase circuit (i.e., three conductors) and two static wires on double pole, wood "H" frame structures (see Figure B3-2). Proposed design specifications for poles located in Section 8 of the Doyle SWA are listed in Table B3-1.

Construction activities would include digging holes, assembling and erecting structures, wire stringing, cleanup, and site reclamation, if necessary. To avoid bitterbrush shrubs (i.e., mule deer habitat) along the 0.5 mile of ROW on the Doyle SWA, it is feasible for PSREC to selectively site the three structures on this parcel to avoid direct impacts to bitterbrush vegetation. Assuming hand augering is feasible at these three structure locations, the holes would be dug using hand tools, and a helicopter would be used for placing the poles and erecting the structures. Therefore, no long-term loss of bitterbrush vegetation would occur on Doyle SWA from structure siting under Construction Option A of the Proposed Action.

Under Construction Option B and standard line construction, work areas would be needed at each structure site to facilitate safe equipment operation. Temporary work areas would be cleared at each structure site for equipment access.

Table B3-2 lists estimated temporary and permanent surface disturbance by project component on Doyle SWA for both Construction Option A and Option B. The expected number of workers and type of equipment to be used to construct the proposed transmission line are provided in Table B3-2.

Foundation Installation: Under Option A (helicopter construction), excavations for structures 52-54 would be made by hand augering, and poles would be erected using a helicopter. Under Option B (standard construction), excavations for poles would be made with power equipment; typically a vehicle-mounted power auger or backhoe. After the hole is augured (manually or with equipment), poles would be set, backfilled, and tamped using existing spoils unless soil conditions dictate otherwise. Remaining spoils material would be spread on the ground.

Structure Assembly: Under Option A, poles 52-54 and associated hardware would be assembled off site, then transported to the site by helicopter and aerially installed. Under Option B, poles and associated hardware would be shipped to each structure site by truck. Structure assembly and mounting of associated line hardware would occur at each site. The assembled structure would then be raised and placed in the pre-dug holes by standard construction equipment.

For public protection during wire installation, guard structures are erected over obstacles such as railroads, existing power lines, and structures to prevent the groundwire, conductors, or other equipment from falling on an obstacle. However, no guard structures would be required on the Doyle SWA.

Under both Construction Options A and B, a pilot line (i.e., sockline) would be pulled from structure to structure (or strung) by a helicopter and threaded through the stringing sheaves at each tower. A larger diameter, stronger line (the pulling line) would be attached to the pilot line and strung, using equipment at the tensioning sites. Sites for tensioning equipment or pulling equipment would be located approximately 10,000 feet apart or from angle pole to angle pole; none would be needed on the Doyle SWA.

Helicopter Operations: As discussed above, helicopters would be used to facilitate construction and minimize ground disturbance along the ROW and on the Doyle SWA. A light duty helicopter would be used to pull the sockline and ferry personnel during line pulling. Estimated helicopter use would be 2 to 3 hours per day for 3 days. An additional 5 hours is estimated to ferry 3 personnel to construction sites, totaling 10 to 15 hours for a light duty helicopter. A helicopter would be used to set the three two-pole structures on the Doyle SWA. It is estimated these pole structures could be set in 1 hour using a helicopter.

Helicopter operations would be conducted from the existing Herlong Airport, Herlong Transfer Station, and construction Yard #1 site adjacent to Pole 4 near the Fort Sage Substation. When ferrying construction personnel, the helicopter would land on an existing road as the helicopter skid width is 10 feet. Support fueling for the light duty helicopter would likely consist of a pickup truck with an approved fuel tank mounted in the back. The fuel truck for a medium lift helicopter would likely be a medium-duty, two-axle truck with a tank approved for fueling. Helicopter operations would use one fueling and staging area at a time to limit the extent of dust abatement measures and personnel movement.

In summary, standard construction procedures for these activities typically would require an estimated 10 to 15 days for line stringing. Helicopter use would reduce that time to approximately 10 to 15 hours. Therefore, this approach would reduce the; 1) degree of ground disturbance to vegetation and soils, 2) construction traffic, 3) dust, 4) air emissions, 5) human presence, and 6) potential disturbance to wildlife and livestock.

Cleanup: Construction sites, material storage yards, and access roads would be kept in an orderly condition throughout the construction period. Refuse and trash, including stakes and flags, would be removed from the sites and disposed of in an approved manner. No construction equipment oil or fuel would be drained on the ground. Oils or chemicals would be hauled to an approved site for disposal. No open burning of construction trash would occur on the Doyle SWA.

Reclamation: Following construction and cleanup, reclamation would be completed on disturbed surface areas. Under Option A, no reclamation would be warranted on Doyle SWA. Under Option B, disturbed surfaces would be restored to the original contour of the land surface to the extent possible and where recontouring would facilitate reclamation. Table B3-4 summarizes the environmental protection measures committed to by PSREC as part of the proposed Fort Sage 120kV Project and presented in the EA.

Operation and Maintenance: Ground maintenance patrols would review the line periodically to examine for potential problems. Typically, these patrols are conducted twice per year (spring and fall) and during specific weather events (e.g., icing). Along the Section 8 parcel, patrols would be conducted via the existing access road to the south of the ROW. If closer inspection were required, patrols and inspections would occur on foot along the ROW on CDFG lands. No vehicle access to the project ROW

located in Section 8 on Doyle SWA would be conducted unless under an emergency conditions. Routine maintenance would include replacing damaged insulators and tightening nuts and bolts, as needed, and would be coordinated with CDFG, if warranted.

Doyle SWA and Mule Deer Use

The terrestrial wildlife analysis presented in the Fort Sage 120kV Project EA examines a variety of resources and assesses potential impacts from project construction, operation, and maintenance activities. Pertaining to terrestrial wildlife resources, these discussions encompass short- and long-term effects to native habitats, big game species, avian species, and other resident and migratory species that may occur in or near the proposed project area. However, the following summary discussions focus on wintering mule deer common to Doyle SWA in and near the Section 8 parcel, given this species' importance to this region and the need to adhere to the original purpose established in 1949 for the Doyle SWA as wintering range for mule deer, using federal Wildlife Restoration Act funds. Per federal regulation sections 43 CFR 12.71 and 50 CFR 80.14, "the property must be held and maintained for the purpose for which it was acquired in perpetuity." The CDFG and the Wildlife and Sport Fish Restoration Program of the U.S. Fish and Wildlife Service (USFWS) have reviewed this Mitigation Plan for the Doyle SWA, in accordance with the applicable federal guidelines of the Wildlife Restoration Act.

120kV Project ROW alignment proposed to cross 0.5 mile of the SWA in T26N, R17E, SW¼ S8 (see Map B3-1). The Doyle SWA is managed by the CDFG primarily for wintering mule deer. The area contains "critical mule deer winter range" where the native range is generally important for wintering deer from mid-November to March (Callas 2008, pers. comm.; Ehler 2008, pers. comm.). This mule deer population declined significantly since the mid-1950s and currently is stable to slightly declining (Ehler 2008, pers. comm.; Stowers 2008, pers. comm.), but the habitats that occur in and near the Doyle SWA, particularly the antelope bitterbrush shrub community, provide high-quality foraging habitat and thermal cover for the deer herd. Bitterbrush is an important browse species for deer in the late summer, fall, and winter (BLM 2007; Ehler 2008, pers. comm.; Stowers 2008, pers. comm.). Some of the contributing factors to this herd's slight downward trend include: 1) lack of bitterbrush seedling regeneration and establishment, 2) regional development and residential encroachment, 3) winter range availability, 4) cheatgrass and juniper encroachment into the bitterbrush community, and 5) wildfire effects to native habitats (Callas 2008, pers. comm.; Ehler 2008, pers. comm.; Stowers 2008, pers. comm.).

Hunting on the Doyle SWA includes archery, rifle, and muzzle loading for premium deer hunts (Ehler 2008, pers. comm.). The BLM North Fort Sage Allotment is located east of the Doyle SWA on BLM-administered lands (see Map 3-4 of the EA). Livestock grazing on Doyle SWA is managed under CDFG jurisdiction and management.

Proposed Protection Measures

Table B3-3 summarizes the environmental protection measures committed to by PSREC as part of the proposed Fort Sage 120kV Project and presented in the EA. These measures would be incorporated into project construction, operation, and maintenance activities, thereby minimizing short- and long-term impacts to applicable resources. The following impact discussion specific to mule deer and the Doyle SWA assumes these measures would be implemented and are referenced, as warranted.

Mule Deer and Doyle SWA Impact Assessment

The impact assessment specifically for mule deer and the Doyle SWA outlines the potential impacts from proposed Fort Sage 120kV Project construction, operation, and maintenance. Potential direct, and indirect short-term and long-term impacts to wildlife species are generally proportional to the size and duration of the project, construction work force, land use, recreational demands (e.g., hunting or OHV use), existing habitat values, and other regional activities.

Factors such as the small project size, short-term construction period, paralleling existing power line corridors and roads along portions of the proposed route, and implementation of PSREC's committed environmental protection measures would limit adverse effects to wildlife resources. Specific to larger animals in the project region, the impact analysis focused on wintering mule deer, specifically the animals occurring on and near the Doyle SWA.

As discussed above, the antelope bitterbrush shrub community provides high quality foraging habitat and thermal cover for mule deer. Two of the CDFG's primary concerns with critical mule deer winter range in this region encompass bitterbrush seedling regeneration and encroachment of other species (e.g., cheatgrass, juniper) into the bitterbrush community. Although the regional bitterbrush community is considered to be valuable for area mule deer, bitterbrush vegetation within other shrub communities occurs along less than 4% of the project ROW (see Table 4-8 of the EA).

The proposed ROW in Section 8 of the Doyle SWA is located near an existing gravel road with moderate traffic use from regional activities. As typical for most roads, habitat values for terrestrial wildlife and associated species carrying capacities within these habitats adjacent to an existing road are reduced along the road easement than the habitat values and use located farther away from the roadway. This reduced habitat value along roads is based on several factors, including 1) increased human presence and activity, 2) vehicle collision risk, 3) varying vegetative components along road ROWs (e.g., weeds), and 4) increased dust deposition on plant species (e.g., shrubs for deer browsing). Based on these factors, it is assumed the habitat values and use by wintering deer along this existing gravel road is less than that exhibited farther from the road edge. Therefore, locating the proposed 120kV transmission line along the existing road in Section 8 (100 to 375 feet between the two ROWs) would aid in concentrating

human influences in one area as opposed to locating the line in less disturbed habitats (i.e., cross country ROW placement).

Construction Option A

Under Construction Option A, no impacts to bitterbrush or other native shrubs on Doyle SWA would occur, as discussed above for Line Construction. Some general displacement of individual deer from the project ROW during project construction may occur from increased human presence and increased noise levels associated with the 4-month construction period. However, a number of factors would minimize these potential effects.

PSREC has committed to a number of environmental protection measures as part of the Proposed Action (see Table B3-4). Specific to minimizing potential short- and long-term impacts to mule deer, PSREC would implement construction and reclamation measures to prevent or minimize: 1) surface impacts to native vegetation, 2) noxious weed invasion, 3) potential injury to animals from open construction areas, 4) potential impacts to riparian areas, and 5) disturbance to hunters during the CDFG's M3 Doyle Muzzleloader Rifle Buck Hunt. Additionally, the Proposed Action's Construction Option A was developed to specifically minimize surface and habitat effects to the Doyle SWA.

Specific to the 0.5-mile segment on Doyle SWA, the ROW easement would encompass 6.1 acres of native habitats. However, the short- and long-term surface disturbance to Doyle SWA would be far less. As shown in Table B3-1 and Table 4-8 of the EA, the Option A construction scenario would prevent temporary or short-term impacts to vegetation and wildlife habitat along this line segment. Option A assumes hand augering would be feasible to drill the structure holes, followed by use of a helicopter to place and erect the poles on the Doyle SWA parcel.

Assuming the use of double-pole H-frame transmission line structures, three structures would be placed within Section 8 of the Doyle SWA. Long-term impacts would be limited to the small, incremental loss of surface area from the three structure locations (150 square feet) (see Table B3-1). However, Measure Doyle SWA-7 in Table B3-3 states PSREC would be able to site the three structures on the Doyle SWA parcel to avoid direct impacts to bitterbrush vegetation. Therefore, despite the long-term loss of 150 square feet of surface area from structure placement, no long-term loss of bitterbrush vegetation would occur on Doyle SWA from project operation under Construction Option A of the Proposed Action.

Construction Option B

Under Construction Option B, hand drilling the structure holes in Section 8 of the Doyle SWA would not be feasible and additional temporary access and equipment use on this portion of Doyle SWA would be required. If standard construction methods were used on Doyle SWA, an additional 0.69 acre of the desert peach/sagebrush/bitterbrush

community would be impacted in the short term from the work areas surrounding the three structures (i.e., 0.23 acre/structure). Three temporary access routes would travel from the existing county road on the south side of the Section 8 parcel to each H-frame structure (i.e., no surface disturbance between poles). These perpendicular access routes would disturb an estimated 0.24 acre of native habitats in the short term. Therefore, the short-term surface disturbance on the Doyle SWA would total 0.93 acre (see Table 4-8 of the EA).

Under Construction Option B, the anticipated effects from project operation would be the same as those discussed for Construction Option A; an estimated 150 square feet of surface area would be lost in the long term. No permanent access routes would be maintained during project operation on Section 8 of the Doyle SWA.

If Construction Option B were implemented, PSREC and the CDFG have mutually agreed on a habitat enhancement program to mitigate the transmission line crossing 0.5 mile of the Doyle SWA in Section 8. This mitigation plan details these specific on site and offsite measures.

In summary, potential impacts to wintering mule deer would be minimized and long-term operational effects would be small and incremental, mitigated by PSREC's proposed reclamation plan and associated mitigation program.

Plan Finalization

The CDFG and PSREC have finalized this Mitigation Plan for the Construction Option B on the Doyle SWA and have outlined future procedures for Plan communications and implementation. CDFG would proceed with issuing a Right of Entry to PSREC, in accordance with the State's policy and regulations. The CDFG's Wildlife Conservation Board would coordinate directly with the Wildlife and Sport Fish Restoration Program of the USFWS for issuing a ROW easement to PSREC, in accordance with the applicable federal guidelines of the Wildlife Restoration Act. In the event Construction Option B was required, PSREC would coordinate directly with the CDFG in implementing this plan, accordingly.

References

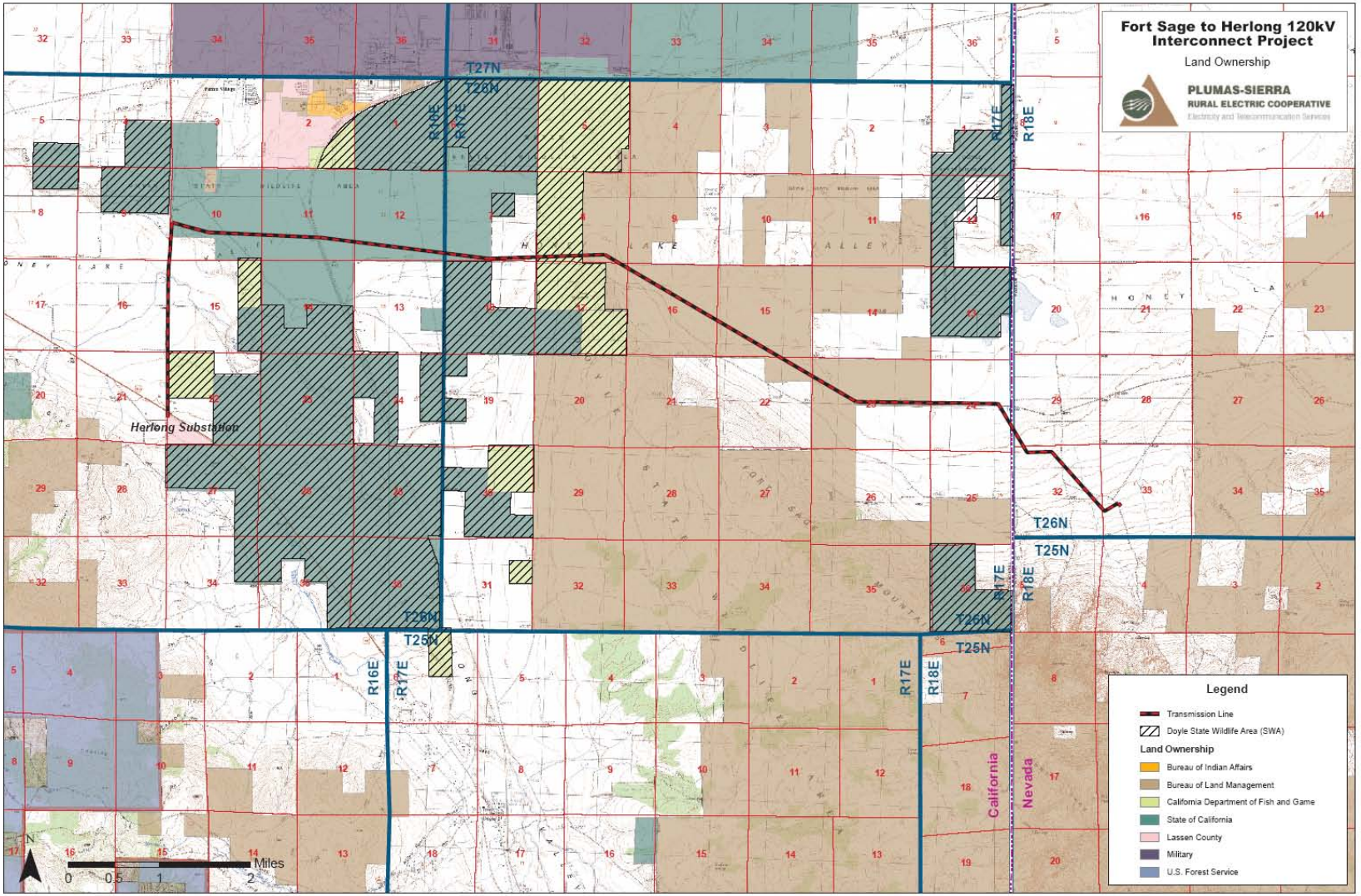
Bureau of Land Management (BLM). 2007. Proposed Resource Management Plan and Final Environmental Impact Statement. Eagle Lake Field Office, Susanville, California. May 2007.

Callas, R. 2008. Senior ES Supervisor, California Department of Fish and Game. Personal communication with L. Nielsen, EDM International, Inc. August 11, 2008.

Clements, C. D. and J. A. Young. 2005. Restoring Antelope Bitterbrush Communities. USDA Agricultural Research Service, Reno, Nevada. Habitat Symposium, 6th Deer and Elk Workshop.

Ehler, B. 2008. Environmental Scientist, California Department of Fish and Game. Personal communication with L. Nielsen, EDM International, Inc. July 3 and 9, 2008.

Stowers, C. 2008. Deer Program Coordinator, California Department of Fish and Game. Personal communication with L. Nielsen, EDM International, Inc. August 8, 2008.



Map B3-1 Fort Sage to Herlong 120kV Interconnect Project

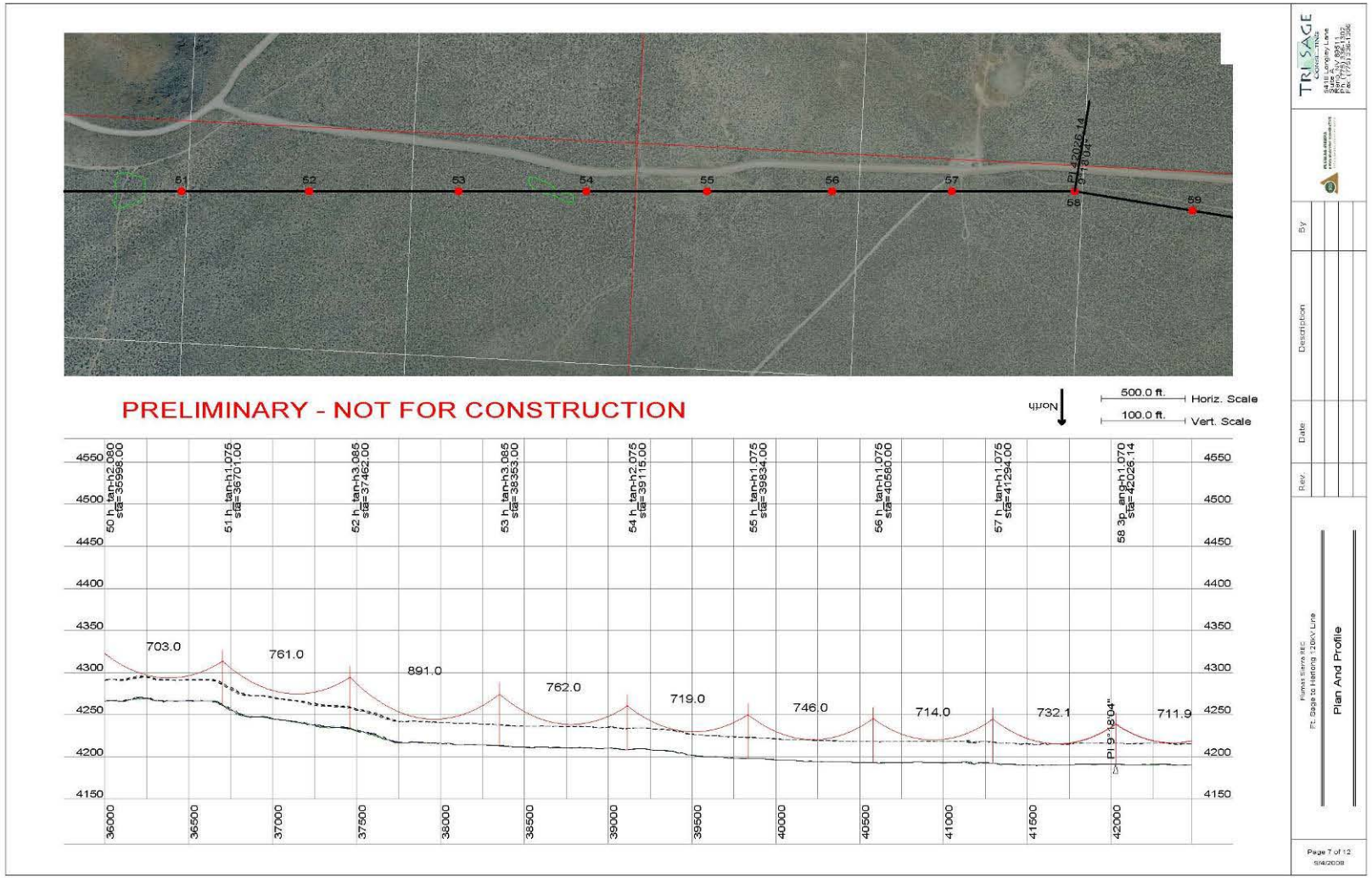


Figure B3-1 Structure Locations #52 through #54 on Doyle SWA

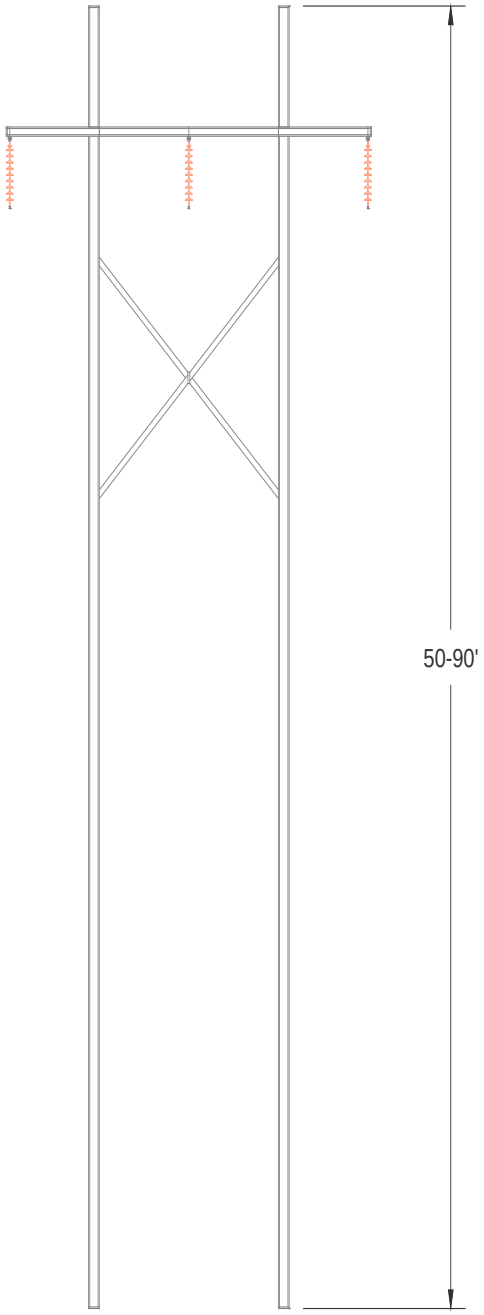


Figure B3-2 Typical H-Frame Tangent Structure

Table B3-1 Project Design Standards Specific to Section 8 on Doyle SWA

Project Component	Design Characteristics
Total Line Length	13.67 miles
Voltage	120kV transmission
Circuit Configuration	Single-circuit 120kV
Line length across Doyle SWA	0.5 mile
Structure Type (wood)	Double pole, wood "H" frame
Structure Height	65 to 70 feet above ground level (agl)
Span Length	700 to 900 feet
Number of Structures on Doyle SWA	3 structures (poles #52 - #54)
ROW easement width	100 feet
Pole Foundation Depth	7 to 14 feet
Raptor Protection	The line design would comply with raptor-friendly construction standards that require 72 inches between energized surfaces and grounded structures for 120kV voltage.
Temporary Land Disturbed	
Structures - Option A (helicopter use)	Temporary impacts would be avoided on the 0.5 mile of Doyle SWA, assuming hand drilling (i.e., augering) of the poles would be feasible (enabling use of a helicopter for pole placement Poles 52-54). No temporary disturbance.
- Option B (standard construction)	Temporary equipment workspace (for maneuvering construction equipment) would include a 100-foot x 100-foot area around each structure; on Doyle SWA structure sites would result in **0.69 acre** of short-term impacts (if standard construction methods are required).
Access Routes - Option A (helicopter use)	No additional disturbance
- Option B (standard construction)	Standard construction methods would require three temporary access routes to each structure from the existing access road, temporarily impacting an additional 10,500 square feet (**0.24 acre**). No permanent access roads.

Table B3-1 Project Design Standards Specific to Section 8 on Doyle SWA, continued

Project Component	Design Characteristics
Total Temporary Disturbance	
Option A (helicopter use on Doyle SWA for pole placement)	**0.00 acres** temporary disturbance
Option B (standard construction on Doyle SWA)	**0.93 acre** temporary disturbance
Permanent Land Disturbed	
Structures - Both Option A and Option B	Approximately 25 square feet per pole; three two-pole structures (**150 square feet**) of permanent disturbance.
Access	No new permanent access roads would be required.
Total Permanent Disturbance	
Option A (helicopter use)	**150 square feet** permanent disturbance
Option B (standard construction)	**150 square feet** permanent disturbance

Table B3-2 Estimated Personnel and Equipment Required

Project Activity	Number of Personnel	Equipment
Survey	3	2 pickup trucks
Hole Digging	2	1 hole digger 1 pickup truck
Pole Haul	2	1 pole haul truck 1 helicopter (Doyle SWA, Option A)
Structure Erection	4	1 line truck/crane 1 pickup truck 1 helicopter (Doyle SWA, Option A)
Conductoring	12	1 drum puller 1 splicing truck 1 double-wheeled tensioner 1 wire reel trailer 1 line truck 1 sagging equipment 2 pickup trucks 1 helicopter
Cleanup	4	2 pickup trucks
Reclamation/Rehabilitation	2	1 pickup truck
Total Personnel	**31**[1]	

[1]More personnel may be used to meet project construction schedule.

Table B3-3 Environmental Committed Protection Measures by Category

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Right-of-Way Construction				
ROW-1 PSREC BMP	All design; material; and construction, operation, maintenance, and termination practices would be in accordance with safe and proven engineering practices.	Follow safe construction procedures	During construction	RUS/BLM/CSLC
ROW-2 PSREC BMP	PSREC would survey and clearly mark the centerline and/or exterior limits of the ROW, where applicable. On state- or federally administered lands, this may be determined by the respective authorized officer.	Adhere to ROW boundaries by construction equipment	During construction	BLM/CSLC
ROW-3	Access routes would be flagged with a highly visible marker. The route must be approved by the landowner or authorized officer in advance of use. Reference Table 2-4 in the EA for specific details. All construction vehicle movement outside of the ROW would be restricted to pre-designated access routes, contractor-acquired access routes, or public roads.	Adhere to ROW boundaries by construction equipment	During construction	BLM/CSLC
ROW-4 PSREC BMP	The limits of construction activities would be pre-determined, with activity restricted to those limits. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate survey or construction activity limits. The access route would be flagged to avoid environmentally sensitive areas.	Adhere to ROW boundaries by construction equipment	During construction	BLM/CSLC
ROW-5 PSREC BMP	PSREC would limit excavation to the areas of construction. No borrow areas for fill material would be excavated on the ROW. Waste material resulting from construction, operation, or maintenance would be removed from the site.	Minimize surface disturbance and refuse	During construction	BLM/CSLC
ROW-6 PSREC BMP	Waste rock from structure foundation construction would be used on site.	Minimize offsite transport of materials	During construction	BLM/CSLC
ROW-7 PSREC BMP	PSREC would ensure the safety of the public entering the ROW. This would include, but would not be limited to, barricades for open trenches, flagmen with communication systems for single-lane roads without visible turnouts, and attended gates for blasting operations, as appropriate.	Follow safe construction procedures	During construction	BLM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW-8 PSREC BMP	PSREC would protect all survey monuments found within the ROW. Survey monuments include, but are not limited to, General Land Office and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coast and Geodetic Survey benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of disturbance or destruction of any of the features summarized above, PSREC would report the incident, in writing, to the federal or state authorized officer and the respective installing authority, if known. If General Land Office or BLM ROW monuments or references were damaged during operations, PSREC would secure the services of a registered land surveyor or a BLM cadastral surveyor to restore the disturbed monuments and references using surveying procedures from the *Manual of Surveying Instructions for the Survey of the Public Lands of the United States*, latest edition. PSREC would record such survey in the appropriate county and forward a copy to the BLM authorized officer, if on BLM lands. If the BLM cadastral surveyors or other federal surveyors were used to restore a disturbed survey monument, PSREC would be responsible for the survey cost.	Minimize surface disturbance and associated features	During construction	BLM/CSLC
ROW-9	Prior to construction, all construction personnel would be instructed on protection of cultural and ecological resources. To assist in this effort, the construction contract would address (a) federal and state laws on antiquities, fossils, plants, and wildlife, including collection and removal and (b) the importance of these resources and the need to protect them.	Minimize or prevent impacts to cultural and ecological resources	Prior to and during construction	RUS/BLM/CSLC
ROW-10	Where warranted, modified structure design would be utilized to minimize ground disturbance, operational conflicts, visual contrast, or avian conflicts.	Minimize potential project impacts to biological and human resources	During construction and operation	RUS/BLM/CSLC
ROW-11	In designated areas, structures would be placed to avoid sensitive features such as riparian areas, water courses, and cultural sites, or to allow conductors to clearly span the features, within limits of standard tower design. Structure placement would minimize the amount of disturbance to sensitive features.	Minimize potential project impacts to biological and human resources	During construction and operation	BLM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW-12	During transmission line construction, operation, or maintenance, the ROW would be maintained free of construction-related, non-biodegradable debris generated by PSREC-related activities.	Ensure refuse is collected and transported off site	During construction and operation	BLM/CSLC
ROW-13	All existing roads would be left in a condition equal to, or better than, their condition before construction of the transmission line.	Ensure roads and transportation are not impacted	During operation	BLM/CSLC
ROW-14	Fences and gates, if damaged or destroyed by construction activities, would be repaired or replaced to their original pre-disturbed condition, as required by the landowner or land management agency. Temporary gates would be installed only with permission of the landowner or the land management agency.	Ensure no damage to fences and gates	During construction	BLM/CSLC
ROW-15	Existing roads and trails on federal or state lands that would be blocked as a result of construction would be rerouted as directed by the applicable authorizing officer.	Ensure roads and transportation are not impacted	During construction	BLM/CSLC
ROW-16	The agency's authorized officer or the landowner would be consulted from construction through rehabilitation and reclamation.	Facilitate reclamation and revegetation	During and after construction	BLM/ CSLC/CDFG
ROW-17	PSREC would apply necessary mitigation to minimize problems of induced currents and voltages to conductive objects sharing the ROW.	Minimize potential for impacts to people or animals from induced currents	After construction	RUS
Reclamation				
Reclamation-1 PSREC BMP	In construction areas where re-contouring is not required and as requested by the landowner, vegetation would be left in place wherever possible to avoid excessive root damage and allow for re-sprouting.	Minimize surface disturbance and impacts to vegetation	During construction	BLM/CSLC/ CDFG
Reclamation-2 PSREC BMP	In construction areas where ground disturbance requires more extensive re-contouring and surface restoration, PSREC would communicate with the landowner or land management agency on the techniques to be used before ground-disturbance activities begin. The method of restoration typically consists of returning disturbed areas to their natural contour (to the extent practical), installing cross drains for erosion control, placing water bars in the road, and filling ditches.	Minimize surface disturbance and facilitate reclamation and revegetation	Before and during construction	BLM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Reclamation-3 PSREC BMP	At pole locations, disturbed areas to be reclaimed would be stabilized by redistribution of topsoil, reseeding, and placement of a chopped, certified weed-free straw, reinforced with paper or synthetic netting to hold the matting in place.	Minimize surface disturbance and facilitate reclamation and revegetation	During construction	BLM/CSLC
Reclamation-4 PSREC BMP	A silt fence would be installed along the perimeter of temporary topsoil stockpile areas where runoff from a storm would be filtered for sediment prior to its release into a natural drainage. It is anticipated that no material would be spoiled or hauled off site. Excavated materials would be re-graded to maintain the general drainage profile.	Minimize surface disturbance and ensure no off-site transport of soils	During construction	BLM/CSLC
Reclamation-5 PSREC BMP	Following construction, PSREC would minimize residual rubble or debris that could provide microhabitats for small and medium-sized mammals. This measure would limit the potential increase in the site's prey base that may attract raptors or other predators.	Minimize future predation on small mammals by aerial predators	After construction	BLM/CSLC
Reclamation-6 PSREC BMP	PSREC would uniformly spread topsoil over disturbed areas for site reclamation. Spreading would not be done when the ground or topsoil is frozen or wet.	Facilitate reclamation and revegetation	During construction	BLM/CSLC
Reclamation-7 PSREC BMP	As part of PSREC's project reclamation plan, local native seed would be used to the extent possible, in accordance with the California Native Seed Policy, focusing on using native plant species common to the project area for surface reclamation following construction activities (including *Eriogonum* sp.). However, this seed mixture would not apply to Section 8 of the Doyle SWA parcel crossed by the Proposed Action, as discussed below. The Doyle SWA Mitigation Plan is presented in detail in Appendix B3, specific to construction Option B. In areas disturbed by either Option A (helicopter use) or Option B (standard construction) on Doyle SWA, the seed mixture(s) would be planted in the amounts specified in pounds of pure live seed per acre. There would be no primary or secondary noxious weed seed allowed in the seed mixture. Seed would be tested and the viability testing of seed would be done in accordance with state law(s) and no more than 6 months prior to purchase. Commercial seed would be either certified or registered seed. The seed mixture container would be tagged in accordance with state law(s) and available for inspection by the federal and state authorized officers.	Facilitate reclamation and revegetation	During construction	BLM/CSLC/ CDFG

Table B3-3 Environmental Committed Protection Measures by Category

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Reclamation-8 PSREC BMP	Seed would be planted in an economic and efficient manner, using techniques such as hydroseeding, broadcasting, or pre-planted seed mats. The seed mixture would be evenly and uniformly distributed over the disturbed area. When broadcasting, the pounds per acre noted below would be doubled. On federal and state lands, the seeding would be repeated for a maximum of 2 years, if necessary. Evaluation of growth would not be made before completion of the second season after seeding. On federal and state lands, the authorized officer would be notified at least 14 days prior to seeding.	Facilitate reclamation and revegetation	During and after construction	BLM/CSLC
Reclamation-9	PSREC would develop a construction environmental monitoring program per communications with the applicable landowner or land management agency that includes: • Ensuring compliance with the requirements of the project EA, the mitigation measures and BMPs proposed by PSREC, and other environmental permits and approvals. • Identifying, documenting, and overseeing corrective actions, as necessary, to bring an activity back into compliance. • Verifying that the limits of all authorized construction work areas and locations of access roads are properly marked before clearing. • Verifying the location of signs and highly visible flagging that mark the boundaries of sensitive resource areas, drainages, water bodies, or areas with special requirements along the construction work area. • Identifying erosion/sediment control and soil stabilization needs in all areas. • Ensuring that subsoil and topsoil are tested to measure compaction and determine the need for corrective action. • Advising the construction contractor when conditions (such as wet weather) make it advisable to restrict construction activities to avoid excessive vehicle rutting. • Ensuring restoration of contours, replacement of topsoil, and monitoring of revegetation efforts. • Verifying that any soils or materials imported for use have been certified free of noxious weeds.	Minimize potential soil erosion and facilitate reclamation and revegetation	Prior to, during, and after construction	BLM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Reclamation-9, continued	• Determining the need for erosion control measures and ensuring that these measures are properly installed, as necessary, to prevent sediment flow into drainages, water bodies, and sensitive areas and on to roads. • Inspecting and ensuring the maintenance of temporary erosion control measures at least: · on a daily basis in areas of active construction or equipment operation; · on a weekly basis in areas with no construction or equipment operation; and · within 24 hours of each 0.5-inch rainfall. • Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase.	Minimize potential soil erosion and facilitate reclamation and revegetation	Prior to, during, and after construction	BLM/CSLC
Air Quality				
Air Quality-1	All requirements of the Lassen County Air Pollution Control District (LCAPCD) in California, and the Washoe County District Health Department, Air Quality Division, in Nevada, as applicable, would be followed and any necessary permits for construction activities would be obtained. Consultation with LCAPCD in June 2009 indicated no air quality permits would be required. A permit is required to operate a portable engine in excess of 50 horsepower; however, PSREC typically would obtain a statewide permit to do so.	Minimize exhaust emissions	Prior to and during construction	BLM/CSLC/ Lassen County/ Washoe County
Air Quality-2 PSREC BMP	PSREC would furnish and apply water on construction areas for dust control.	Minimize fugitive dust	During construction	BLM/CSLC
Air Quality-3 PSREC BMP	PSREC would be responsible for controlling dust by reducing travel speed and/or applying dust suppressants (e.g., magnesium chloride or other materials approved by the landowners or land managers). Dust would be considered a nuisance or hazard when a visible dust plume extends more than 300 feet from the source and has an	Minimize fugitive dust	During construction	BLM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Air Quality-3 PSREC BMP, continued	estimated opacity exceeding 20% (objects are partially obscured). Additional methods of dust control that may be used by PSREC include, but are not limited to: • Application of water or magnesium chloride to access roads or sections of the ROW. • Application of water to specific activities on the ROW that generate dust plumes (i.e., trenching or blasting). • Curtailing of dust-generating activities during high winds. • Implementation of speed limits on vehicles using access roads or traveling the ROW. Limitation of number of vehicles allowed on the ROW	Minimize fugitive dust	During construction	BLM/CSLC
Air Quality-4	All requirements of those entities having jurisdiction over air quality matters would be followed and any necessary permits for construction activities would be obtained. Open burning of construction debris (cleared brush, etc.) would not be allowed.	Minimize effects to air quality	Prior to and during construction	BLM/CSLC/ Lassen County/ Washoe County
Air Quality-5 LCAPCD BMP	Reasonable precautions would be taken to prevent PM from becoming airborne including, but not limited to, the following provisions: • Covering open-bodied trucks when used for transporting materials likely to cause airborne dust. • Installation and use of hoods, fans, and other fabric filters to enclose and vent the handling of dusty materials. Containment methods may be employed during sandblasting and other similar operations. • The application of asphalt, oil, water, or suitable chemicals to dirt roads, material stockpiles, land-clearing activities, excavation, grading, or other surfaces that can give rise to airborne dusts. • The prompt removal of earth or other material from paved streets that have been deposited by earth-moving equipment, water, or other means.	Minimize exhaust emissions	During construction	BLM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Cultural Resources				
Cultural-1	An intensive cultural resources inventory survey has been conducted. In addition, supplemental surveys of the access routes have been undertaken, as needed. A Memorandum of Agreement (MOA) was developed by the federal agencies, RUS and BLM, to comply with section 106 of the National Historic Preservation Act (see Appendix B4).	Ensure that cultural resources are protected and properly managed	Prior to construction	RUS/BLM
Cultural-2	A MOA identifies the protocol and treatment of inadvertent discoveries of cultural and historic properties.	Ensure that cultural resources are protected and properly managed	Prior to and during construction	RUS/BLM
Cultural-3 PSREC BMP	If an area proposed to be disturbed (e.g., off-site reclamation parcel), has not been surveyed for cultural artifacts, a cultural resources inventory survey would be conducted before reclamation or construction activities begin, in accordance with the MOA developed for this project.	Ensure that cultural resources are protected and properly managed	During construction	RUS/BLM/CSLC
Cultural-4 PSREC BMP	Any cultural resources inadvertently discovered during construction by PSREC or any person working on PSREC's behalf on private, state, or federal land would be reported immediately to the authorized officer and environmental monitor. If human remains are discovered, PSREC would suspend construction, notify the county coroner, notify the applicable landowner or land management agency, and follow the applicable California/Nevada state law. If Native American remains are suspected, the Native American Heritage Commission also would be notified and PSREC would suspend operations in the area until an evaluation is completed.	Ensure that cultural resources are protected and properly managed	During construction	RUS/BLM/CSLC
Cultural-5 PSREC BMP	No surface disturbance or construction activity would be allowed within 100 feet of any eligible cultural sites, as specified by the federal or state authorized officer. Any deviation from this requirement would be negotiated with the authorized officer under the terms and conditions of the MOA.	Ensure that cultural resources are protected and properly managed	During construction	RUS/BLM

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Soils				
Soils-1 PSREC BMP	Temporary erosion and sediment control devices for the new Herlong Substation, including sediment barriers, would be installed promptly after soil disturbance, in accordance with the NPDES requirements. These devices would be inspected on a daily basis in areas of active construction; on a weekly basis in areas with no active construction; and within 24 hours of each 0.5-inch or greater rainfall. PSREC would install temporary sediment barriers (e.g., staked straw bales) on either side of a water body channel, across the width of the substation construction site, and around spoil and topsoil stockpiles. Sediment barriers would be maintained, as necessary, to ensure effectiveness during construction. In steep terrain, temporary sediment barriers would be installed during clearing to prevent the movement of disturbed soil off the substation construction site. Temporary slope breakers consisting of wattles or compacted soil would be installed across the substation construction site, as necessary.	Minimize soil erosion	During construction	BUM/CSLC
Soils-2	Following structure placement, PSREC would place fill around each pole, using the soil excavated from the pole holes. PSREC would tamp the soil into place and mound the soil around each pole base. Approximately 1 cubic yard of excavated soil would be placed around each pole, resulting in an estimated 247 cubic yards of soil excavated for the project. Most of the soil would be used as fill and mounding around the poles; the remaining amount, no more than 0.5 cubic yard per pole, would be spread in the ROW so as to not destroy any existing vegetation.	Minimize effects to soils and vegetation	During construction	BUM/CSLC
Soils-3	In site-specific areas where soils are sensitive to disturbance, no widening or upgrading of existing access roads would occur during project construction or operation, except for repairs necessary to make roads passable.	Minimize effects to soils	During construction	BUM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Soils-4 PSREC BMP	No construction activities would be performed when the soil is too wet to adequately support construction equipment. If equipment creates ruts more than 6 inches deep, the soil would be deemed too wet and construction would cease in that area.	Prevent soil compaction	During construction	BUM/CSLC
Soils-5 PSREC BMP	No soil removal is anticipated. If soil removal is deemed necessary, however, before soils are removed, PSREC would ensure soil storage sites are located within the appropriate areas along the ROW to prevent impacts to cultural and biological resources.	Minimize effects to cultural and biological resources	Prior to and during construction	BUM/CSLC
Water Resources				
Water-1	If damaged or destroyed by construction activities, water sources or facilities (e.g., tanks, developed springs, water lines, wells) would be repaired or replaced to their pre-disturbed condition, as required by the landowner or land management agency.	Protect water features	During construction	BUM/CSLC
Water-2	All construction and maintenance activities would be conducted to minimize disturbance to vegetation, drainage channels, and intermittent and perennial stream banks.	Minimize impacts to vegetation and natural water sources	During construction	BUM/CSLC
Water-3 PSREC BMP	Surface water quality would be protected from construction impacts by use of sediment barriers that would be maintained until satisfactory reclamation is established.	Protect water quality	During construction	BUM/CSLC
Water-4 PSREC BMP	PSREC would not refuel equipment within 500 feet of any live water source.	Prevent water contamination	During construction	BUM/CSLC
Noise				
Noise-1	The proposed hardware and conductor would limit the audible noise (AN), radio interference, and television interference due to corona. Tension would be maintained on all insulator assemblies to assure positive contact between insulators, thereby avoiding sparking. Caution would be used during construction to avoid scratching or nicking the conductor surface, which may provide points for corona to occur.	Minimize operational noise near sensitive receptors	During and after construction and during operation	RUS

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Noise-2	If interference occurs, PSREC would respond to any complaints of line-generated radio or television interference by investigating the complaints and implementing appropriate mitigation measures. The transmission line would be patrolled on a regular basis to repair or replace damaged insulators or other line materials that could cause interference.	Minimize operational noise near sensitive receptors	During operation	RUS
Noise-3 PSREC BMP	Construction activities would occur during daylight hours, or from 7 a.m. to 7 p.m.	Reduce impacts to sensitive residential receptors by ensuring compliance with local noise ordinances	During construction	BUM/CSLC
Noise-4	Residents located along the project ROW would be notified 5 days prior to construction occurring within 500 feet of their residence.	Reduce impacts to sensitive residential receptors by ensuring compliance with local noise ordinances	During construction	BUM/CSLC
Hazardous Materials and Waste				
Hazardous Materials-1 PSREC BMP	Construction sites would be maintained in a sanitary condition at all times; waste materials generated by construction at those sites would be disposed of promptly at an appropriate waste disposal site (e.g., Herlong Transfer Station, Lassen County Bass Hill Landfill). 'Waste' means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.	Ensure refuse is collected and transported off site	During construction and operation	BUM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Hazardous Materials-2	Totally enclosed containment would be provided for all trash and hazardous materials (if needed). All construction waste including trash, litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials would be removed to either the Herlong Transfer Station or Lassen County Bass Hill Landfill.	Ensure refuse is collected and transported off site	During construction and operation	BUM/CSLC
Hazardous Materials-3 PSREC BMP	PSREC would comply with all applicable federal, state, and local laws and regulations, existing or hereafter enacted or promulgated, with regard to any hazardous materials, as defined in this paragraph, that would be used, produced, transported or stored on or within the ROW or any of the ROW facilities or used in the construction, operation, maintenance, or termination of the ROW or any of its facilities. "Hazardous material" means any substance, pollutant, or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste," as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, in the U.S. Code 42 U.S.C. 6901 et seq. and its regulations. The term "hazardous material" also includes any nuclear material or byproduct as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.	Reduces potential for unauthorized or accidental release or contact with hazards	Prior to and during construction	BUM/CSLC
Hazardous Materials-4 PSREC BMP	PSREC, as cited by BLM ROW Grant No. CA 350-2008-27, application CACA48916, agrees to indemnify the U.S. against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined by CERCLA or RCRA) on the ROW unless the release or threatened release is wholly unrelated to PSREC's activity on the ROW. This agreement applies without regard to whether a release is caused by PSREC, its agent, or third parties.	Removes liability for unauthorized or accidental release or contact with hazards	Prior to and during construction	BLM

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Vegetation				
Vegetation-1 PSREC BMP	PSREC would ensure the appropriate biological resource surveys have been conducted before construction begins, per coordination with the federal and state agencies.	Identify sensitive plant resources	Prior to construction	RUS/BLM/CSLC/ CDFG
Vegetation-2	Where possible, PSREC would trim (rather than cut) brush, and would cut (rather than blade) brush. Blading would be allowed only if terrain and brush present a clear hazard to personnel and equipment.	Minimize vegetation removal and disturbance	During construction	BLM/CSLC
Vegetation-3	To minimize the potential to spread invasive weeds, PSREC would clean off-road equipment (power or high-pressure cleaning) of all mud, dirt, and plant parts before moving equipment onto the project lands.	Minimize spreading of noxious weeds or other invasive species	During construction	BLM/CSLC
Vegetation-4	In site-specific areas where vegetation is sensitive to disturbance (and has been identified as such by the landowner or land manager, prior to construction), no widening or upgrading of existing access roads would occur during project construction, except for repairs necessary to make roads passable.	Minimize vegetation removal and disturbance	Prior to and during construction	BLM/CSLC
Vegetation-5	The BLM's Eagle Lake Field Office pamphlet on noxious weeds (BLM 2000) would be provided to all contractors and PSREC personnel. The terms and conditions of the CSLC lease also would be met relative to minimizing the potential spread of invasive plant species.	Minimize spreading of noxious weeds or other invasive species	During construction	BLM/CSLC
Vegetation-6	Prior to construction activities, PSREC would identify and provide a list of any noxious weeds present.	Minimize spreading of noxious weeds or other invasive species	Prior to and during construction	BLM/CSLC
Livestock Grazing				
Livestock-1 PSREC BMP	Construction excavations left open overnight would be covered to prevent injury to livestock. Covers would be secured in place and would be strong enough to prevent livestock from falling through the opening.	Prevent injury to livestock	During construction	BLM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Recreation				
Recreation-1	PSREC would restrict construction activities in the Fort Sage OHV SRMA during the biannual spring motorcycle races to prevent potential impacts to race participants on BLM-administered lands.	No impacts to OHV race event	During construction	BLM
Recreation-2	PSREC would coordinate with the BLM after project construction to verify actual structure and guy wire placement would not conflict with established trails and to mitigate any safety hazards to OHV users on designated trails. Potential mitigation could include minor trail route changes by the BLM.	Minimize safety issues for OHV users	After construction	BLM
Wildlife				
Wildlife-1 PSREC BMP	PSREC would ensure the appropriate biological resource surveys have been conducted prior to the initiation of construction, per coordination with the federal and state agencies.	Identify sensitive wildlife resources	Prior to construction	RUS/BLM/CSLC/ CDFG
Wildlife-2	Structures would be constructed to conform to RUS raptor-friendly specifications. Additional resources used in design would be Avian Power Line Interaction Committee's (APLIC) *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* and *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994*, scheduled to be updated in 2011.	Minimize impacts to resident and migratory birds	Prior to construction	RUS/BLM/CSLC/ CDFG
Wildlife-3 PSREC BMP	Construction excavations left open overnight would be covered to prevent injury to wildlife. Covers would be secured in place and would be strong enough to prevent wildlife from falling through the openings.	Prevent injury to wildlife	During construction	BLM/CSLC/ CDFG

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Wildlife-4	With the exception of emergency repair situations, ROW construction, restoration, and termination activities in designated areas would be modified or discontinued during sensitive periods (e.g., nesting and breeding periods) for target animal species. Species would be identified during the preconstruction surveys (e.g., raptor nest clearance survey, bank swallow breeding survey), and potential restricted areas would be species dependent and approved in advance by the authorized officer of the BLM and CDFG, as noted in the MMRP. This measure would apply to target bird species either documented in the project area or potentially occurring. As assessed in Section 4.17, Special Status Wildlife Species, these species could encompass any of the following: golden eagle, red-tailed hawk, Swainson's hawk, prairie falcon, American kestrel, Cooper's hawk, sharp-shinned hawk, northern harrier, great horned owl, long-eared owl, burrowing owl and bank swallows along Long Valley Creek.	Protect special status wildlife species, where applicable	Prior to and during construction	BLM/CSLC/ CDFG

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Wildlife-5	If project construction activities were to occur during the raptor breeding season (February 1 - August 31), raptor nest clearance surveys would be conducted in proximity to the project (e.g., transmission line ROW, access roads) by a qualified biologist. If active raptor nests (i.e., containing eggs or young) are documented, PSREC would coordinate with the BLM wildlife biologist and CDFG environmental scientist to determine if construction activities should be restricted near active raptor nests for a specified distance (e.g., 0.25 or 0.5 mile) and for a specified period. The potential construction buffer and extent of the seasonal restriction would be determined on a case-by-case and species-specific basis in conjunction with the BLM's established buffer zones and seasonal restrictions for raptor species outlined in Table 4-9 and the Eagle Lake Field Office RMP and ROD (BLM 2007, 2008). On state lands, PSREC would coordinate with the designated CDFG biologist to assess and protect nesting raptors within 0.5 mile of the project ROW on a site-specific basis. Some raptor species are more tolerant of human presence and disturbance than other species and whether a nest is within line-of-sight of the construction activities is integral to determining whether protection measures would be warranted. The applicable buffers and seasonal restrictions can vary and should take into account the species affected, topography, habitat suitability, degree of existing disturbance, associated prey base, breeding phenology, and degree or extent of proposed disturbance. Protection of active raptor nests would apply during project construction and the breeding season period until the young had fledged or if the nesting attempt fails.	Identify active nest sites and protect nesting raptors, eggs, and young in compliance with the (Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA)	Prior to and during construction	BLM/CDFG/ CSLC
Wildlife-6	PSREC would design site lighting at the substations to minimize bird attraction or nocturnal insect attraction and swarming. At a minimum, lights would be down shielded to minimize attracting birds or insects. This measure would minimize the potential for nocturnal bird foraging (e.g., nighthawks).	Minimize potential impacts to birds at substation sites	Project operation	BLM/CDFG/ CSLC

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Wildlife-7	In conjunction with the pre-construction raptor nest clearance surveys (see *Measure Wildlife-5*), PSREC would contract with qualified wildlife biologists to conduct ground surveys for American badger dens and burrowing owl nest burrows to identify the location of active den or burrow sites for both species, parallel to survey methodology used in 2010. Active burrows within construction areas or access routes would be flagged and avoided during project construction by both pole placement and equipment use to prevent crushing of active den sites. Additionally, a 0.25-mile buffer would be developed around active burrowing owl nests until the young had left the nest burrow.	Prevent impacts to active American badger dens or burrowing owl nest sites.	Before and during project construction	BLM/CDFG/ CSLC
Wildlife-8	In conjunction with the pre-construction raptor nest clearance surveys (see *Measure Wildlife-5*), PSREC would contract with a qualified wildlife biologist to conduct additional nest surveys for active loggerhead shrike nest sites prior to construction initiation. If active nest sites are documented within 200 feet of the ROW, PSREC would coordinate with the BLM wildlife biologist or CDFG environmental scientist to determine if construction activities should be restricted near these nest sites and, if so, determine the applicable buffer area.	Minimize impacts to active loggerhead shrike nest sites.	Before and during project construction	BLM/CDFG/ CSLC
Doyle SWA				
Doyle SWA-1	Assuming traditional construction methods (no helicopter use, Option B), a mitigation plan was developed by PSREC, CDFG, California Wildlife Conservation Board (WCB), and the Wildlife and Sport Fish Restoration Program of the U.S. Fish and Wildlife (USFWS) for the ROW easement crossing the Doyle SWA in Section 8 to further support the maintenance and enhancement of wintering mule deer. Detailed measures are outlined in the Final Mitigation Plan (see Appendix B3). Measures unique to Option B construction scenario on the Doyle SWA are reiterated in this corresponding tabular summary and listed below:	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA	During and after construction	CDFG

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Doyle SWA-2	• On-site reclamation measures applicable to Option B on Doyle SWA would include the following: • Plant antelope bitterbrush seedlings with Vexar tubing protection, with the planting density goal to reflect existing bitterbrush cover upon final reclamation. Before planting, PSREC would coordinate with the CDFG to determine the plant density goal. This determination would be based on findings by a qualified botanist and/or reclamation specialist retained by PSREC and approved by the CDFG. • The optimal planting period for bitterbrush is when soil moisture is the highest, which typically occurs during the spring. PSREC would coordinate with the CDFG on this planting period. • During project construction under Option B, three temporary perpendicular access routes would be constructed to the ROW and each of the three structures along this 0.5 mile segment of Doyle SWA, using a culvert and clean drain rock to fill the ditch level at the access road intersections with Fort Sage Road. Following project construction, the fill would be excavated and removed from the area. If necessary, the v-cut in the ditch adjacent to Fort Sage Road would be deepened (processes pending approval from Lassen County) to deter OHV recreationalists from using the two-track access roads to the	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA under Construction Option B	During and after construction	CFDG

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Doyle SWA-2, continued	ROW. To further discourage OHV use, during site reclamation efforts, PSREC would erect temporary orange plastic construction fencing across the three access routes near the existing county road to block access. PSREC would maintain this fencing and subsequently remove it once native vegetation becomes established along these three access roads. • PSREC and the CDFG would communicate and coordinate on these measures to ensure an acceptable success rate at a reasonable cost and effort. Before initiating these measures, PSREC and the CDFG would define the reclamation targets and goals, as described above, with remedial options available in case planting success is not achieved in the pre-determined time frame. Examples of applicable remedial measures may include on-site watering of seedlings during periods of insufficient precipitation on the Doyle SWA parcel, additional plantings of bitterbrush at a density or cost not to exceed that expended by PSREC for the initial plantings, etc., with measures determined by ongoing dialog between PSREC and the CDFG.	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA under Construction Option B	During and after construction	CFDG

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Doyle SWA-3	Off-site enhancement measures applicable to Option B on the Doyle SWA to mitigate the 0.5-mile ROW crossing would include the following: • The CDFG would identify an off-site 1-acre parcel where habitat enhancement of the existing antelope bitterbrush community would benefit area mule deer in the long term. • PSREC would identify a qualified contractor that would be responsible for seeding the off-site parcel in accordance with this enhancement plan. • PSREC would fence the 1-acre parcel with materials approved by the CDFG. These materials may include: o Wooden posts 10 feet above ground surface level used for "H" braces. o 10-foot steel "T" posts used in-line for fence support, not to exceed 20-foot spacing. o Mesh wire at a gauge and mesh size specified by the CDFG up to 6 feet agl. o Two to three strands of smooth wire above mesh wire. • Prior to fencing, PSREC and the seeding contractor would determine if equipment use within the 1-acre parcel would allow adequate coverage. • Antelope bitterbrush would be seeded at approximately 6 pounds per acre. • The CDFG would provide the bitterbrush seeds to PSREC for this seeding. • The contractor would use a rangeland drill for bitterbrush seeding. • Recommended seeding methods are presented in Clements and Young (2005). • Seeding would be completed during the fall, with October being optimal.	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA under Construction Option B	During and after construction	CDFG

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Doyle SWA-3, continued	• PSREC would monitor the 1-acre parcel annually to determine the relative success rate of the seeding and fencing program. Success is defined as sufficient survival of bitterbrush seedlings at the end of the 5-year monitoring period so that, upon maturity, bitterbrush cover at the enhancement site would be equal to or greater than the density of bitterbrush in the vicinity (as determined by the botanical surveys described above). Before initiating the seeding program, PSREC would implement noxious weed control measures, if warranted, in accordance with methods mutually agreed upon by PSREC and the CDFG.	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA under Construction Option B	During and after construction	CDFG
Doyle SWA-4	Under the Option B standard construction scenario, PSREC and the CDFG would communicate and coordinate on these measures to ensure an acceptable success rate at a reasonable cost and effort. Before initiating these measures, PSREC and the CDFG would define the reclamation targets and goals, with remedial options available in case planting success is not achieved in the pre-determined time frame. Remedial measures may include additional plantings of bitterbrush at a density or cost not to exceed that expended by PSREC for the initial plantings. As stated above, these reclamation goals would be based on findings by a qualified botanist and/or reclamation specialist retained by PSREC.	Minimize vegetation disturbance and impacts to mule deer winter range on Doyle SWA under Construction Option B	Before, during, and after construction	CDFG
Doyle SWA-5	Under both construction options A and B and to prevent hunter conflicts, PSREC would cease construction activities along the project ROW during the period immediately before and during the CDFG's M3 Doyle Muzzleloading Rifle Buck Hunt. Specifically, construction activities would not occur from the second Saturday in November (1 week prior to the start of this hunt), through the end of the 9-day hunt. Construction would be allowed to continue at the Herlong and Fort Sage substations during this 16-day period.	Minimize impacts to hunters	During construction	CDFG
Doyle SWA-6	Under both construction options A and B, the BLM's California Native Seed Policy would not apply to the portion of the Doyle SWA crossed by the Proposed Action. The Doyle SWA land would be reseeded with a native seed mix to be determined by the CDFG for the transmission line ROW and along the reclaimed access routes.	Enhance revegetation and reclamation efforts per the CDFG's direction	After construction	CDFG

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
Doyle SWA-7	Under both construction options A and B, PSREC has committed to avoiding bitterbrush vegetation during pole placement on the 0.5-mile segment of the Doyle SWA. This approach will be feasible, based on line design and a manual siting approach.	Avoid bitterbrush disturbance on Doyle SWA from structure placement	During construction	CDFG
Aesthetics / Visual				
Visual-1	Standard structure design would be modified to correspond with spacing of existing transmission line structures, where feasible, to reduce visual contrast or potential operational conflicts.	Minimize visual impacts to aesthetics	Prior to construction and project operation	RUS
BLM ROW Grant and State of California Lands				
The following measures were developed for BLM lands and the associated BLM ROW Grant. Where applicable, these measures also would apply to lands owned by the California State Lands Commission. PSREC would coordinate with the applicable land management agency or state landowner, as warranted.				
BLM ROW Grant				
ROW Grant-1 PSREC BMP	PSREC would submit a Plan (or Plans) of Development (POD) to BLM that describe in detail the construction, operation, maintenance, and termination of the Proposed Action's ROW and its associated improvements and facilities. The degree and scope of these plans would vary depending on 1) the complexity of the ROW or its associated improvements and facilities, 2) the anticipated conflicts requiring mitigation, and 3) additional technical information required by the authorizing officer. The approved POD would become part of the ROW Grant.	Adhere to BLM ROW Grant application process	Prior to construction	BLM

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-2 PSREC BMP	PSREC would construct, operate, and maintain the facilities, improvements, and structures within the BLM ROW Grant in strict conformity with the Plan (or Plans) of Development (POD) as approved and made part of the ROW Grant. Any relocation, additional construction, or use not in accord with the approved POD would not be initiated without the prior written approval of the BLM authorized officer. A copy of the complete ROW Grant, including all stipulations and approved POD, would kept on site during construction, operation, and termination and would be provided to the authorized officer upon request. Noncompliance with the above would be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.	Adhere to BLM ROW Grant and project POD	During construction	BLM
ROW Grant-3 PSREC BMP	On BLM land, PSREC would place slope stakes, culvert location and grade stakes, and other construction control stakes, as deemed necessary by the BLM authorized officer, to ensure construction is completed in accordance with the POD. If stakes are disturbed, they would be replaced before proceeding with construction.	Adhere to BLM project POD	During construction	BLM
ROW Grant-4 PSREC BMP	Specific sites identified by the BLM or state authorized officer where construction equipment and vehicles are not allowed (e.g., archaeological sites), would be clearly marked by PSREC before any construction or surface-disturbing activities begin. PSREC would be responsible for assuring that construction personnel are trained to recognize these markers and understand the equipment-movement restrictions involved.	Protect sensitive resources along ROW	During construction	BLM/CSLC
ROW Grant-5 PSREC BMP	PSREC would contact the BLM's authorized officer at least 10 days before the anticipated start of construction or any surface-disturbing activities. The authorized officer may require, schedule, and attend a preconstruction conference with PSREC within the 10-day period before construction or surface-disturbing activities begin on the ROW. PSREC, PSREC's contractor(s), or agents involved with the construction and surface-disturbing activities on the ROW would attend this conference to review stipulations of the grant, including the POD.	Adhere to BLM project POD	Prior to and during construction	BLM

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-6 PSREC BMP	PSREC would designate a representative(s) who would have the authority to implement instructions from the BLM or state authorized officer within a reasonable timeframe when construction or other surface-disturbing activities are underway.	Adhere to BLM project POD and state lands lease	During construction	BLM/CSLC
ROW Grant-7 PSREC BMP	PSREC would not initiate any construction or other surface-disturbing activities on the ROW without prior written authorization of the BLM or state authorized officer. Such authorization would be a written Notice to Proceed issued by the authorized officer. Any Notice to Proceed would authorize construction or use only as expressly stated therein and only for the particular location or use described therein.	Adhere to BLM project POD and ROW Grant process and state lands lease	Prior to construction	BLM/CSLC
ROW Grant-8 PSREC BMP	The BLM or state authorized officer may suspend or terminate (in whole or in part) any issued Notice to Proceed when, in his/her judgment, conditions arise that result in the approved terms and conditions being inadequate to protect the public health and safety or the environment.	In adherence to BLM POD and ROW Grant and state lands lease	During construction	BLM/CSLC
ROW Grant-9	The holder of the BLM ROW Grant or the holder's successor in interest would comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of Interior issued pursuant hereto.	In adherence to BLM ROW Grant	During and after construction	BLM
ROW Grant-10 PSREC BMP	PSREC would conduct all activities associated with the construction, operation, and termination of the ROW within the authorized limits of the ROW.	In adherence to BLM ROW Grant and state lands lease	During construction	BLM/CSLC
ROW Grant-11 PSREC BMP	PSREC would permit free and unrestricted public access to and upon the ROW on lands administered by the BLM for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock, or facilities constructed within the ROW.	Prevent impacts to public use	During construction	BLM
ROW Grant-12 PSREC BMP	PSREC would plan for safe and accessible conditions at all roadway crossings and access points during construction and restoration on BLM and state lands.	Ensure public safety and minimize impacts to transportation	During construction	BLM/CSLC
ROW Grant-13 PSREC BMP	Existing roads and trails on public lands that are blocked as the result of the construction project would be rerouted or rebuilt, as deemed reasonable by PSREC and the BLM's authorized officer.	Ensure public access	During and after construction	BLM

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-14 PSREC BMP	Construction-related traffic on BLM or state lands would be restricted to routes approved by the BLM or state authorized officer. New access roads or cross-country vehicle travel would not be permitted unless prior written approval is obtained from the authorized officer. Authorized roads used by PSREC would be rehabilitated or maintained when construction activities are complete, as approved by the authorized officer.	Minimize new surface disturbance	During and after construction	BLM/CSLC
ROW Grant-15 PSREC BMP	If cross-country access is necessary on BLM land, PSREC would contact the BLM authorized officer for review and authorization. Clearing vegetation or grading a roadbed would be avoided whenever practicable. All construction and vehicular traffic would be confined to the ROW or designated access routes, roads, or trails unless otherwise authorized in writing by the authorized officer. All temporary roads used for construction would be rehabilitated after construction is completed. Only one road or access route would be permitted to each site requiring access.	Minimize new surface disturbance and ensure future public access on federal lands	During and after construction	BLM
ROW Grant-16 PSREC BMP	As directed by the BLM authorizing officer, new road segments on BLM land would be winterized by providing a well-drained roadway by constructing water bars, maintaining drainage, and implementing any additional reasonable measures necessary to minimize erosion and other damage to the roadway or the surrounding public lands.	Minimize erosion on public land access roads	During construction	BLM
ROW Grant-17 PSREC BMP	Excavation and embankment quantities would be balanced as nearly as design and construction considerations allow. Any waste or borrow needs would be specifically identified by PSREC.	Minimize surface disturbance	During construction	BLM/CSLC
ROW Grant-18 PSREC BMP	Excess excavated, unsuitable, or slide materials would be disposed of as directed by the authorized officer.	Follows agency-approved disposal plan	During construction	BLM/CSLC
ROW Grant-19 PSREC BMP	PSREC would construct water bars on all disturbed areas on BLM land to the spacing and cross sections specified by the BLM authorized officer. Water bars would be constructed to: 1) simulate the imaginary contour lines of the slope, ideally with a 1% or 2% grade; 2) drain away from the disturbed area; and 3) begin and end in vegetation or rock, whenever possible.	Minimize erosion on public land access roads	During construction	BLM

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-20 PSREC BMP	Clearing and grubbing debris would not be placed or allowed to remain in or under any embankment sections. Clearing and grubbing debris may be placed under waste material with a minimum of 3 inches of cover, as directed by the authorizing officer.	Follows agency-approved disposal plan	During construction	BLM/CSLC
ROW Grant-21 PSREC BMP	Use of pesticides would comply with the applicable federal and state laws. Pesticides would be used in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to using pesticides, the holder would obtain from the authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage, disposal of containers, and any other information deemed necessary by the authorized officer. Emergency use of pesticides would be approved in writing by the authorized officer prior to such use. PSREC would coordinate with the agency, and applications may be made by a Pesticide Certified Applicator (PCA) if warranted.	Follows safe practices and minimizes exposure to humans and animals	During and after construction	BLM/CSLC
ROW Grant-22 PSREC BMP	PSREC would be responsible for weed control on disturbed areas within the limits of the ROW. PSREC would be responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations). Before preconstruction activities commence, PSREC would provide a list to BLM of all noxious weeds present on the BLM land included in the ROW Grant. The authorized officer would determine if any noxious weeds require flagging for treatment.	Minimize spreading of noxious weeds or other invasive species	Prior to and during construction	BLM
ROW Grant-23 PSREC BMP	If applicable, cattle guards on BLM land would be 5 feet by 16 feet and, at a minimum, would meet the requirements of BLM Manual Section 9113.25. Cattle guards would be set on timber, pre-cast concrete, or cast-in-place concrete bases at right angles to the roadway. Backfill around cattle guards would be thoroughly compacted. A bypass gate would be built adjacent to each cattle guard. Gate materials, dimensions, and construction would conform to the requirements as specified by the BLM authorized officer.	Minimize impacts to livestock and grazing leases	During construction	BLM
ROW Grant-24 PSREC BMP	Fences, gates, and brace panels on BLM land would be reconstructed to BLM standards and specifications, as determined by the authorized officer.	Minimize impacts to livestock and grazing leases	During construction	BLM

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-25 PSREC BMP	PSREC would furnish and install culverts of the gauge, materials, diameter, and length indicated and approved by the BLM authorized officer. The minimum diameter for culverts would be specified by a registered engineer. Culverts would be free of corrosion, dents, or other deleterious conditions. Culverts would be placed in channel bottoms on firm, uniform beds that have been shaped to accept them and aligned to minimize erosion. Backfill would be thoroughly compacted. No equipment would be routed over a culvert until backfill depth is adequate to protect the culverts.	Ensure compliance with SWPPP	During construction	BLM
ROW Grant-26 PSREC BMP	As directed by the BLM authorized officer, construction stakes would be set for each culvert to show location, inlet and outlet elevations, diameter, and length.	Ensure compliance with SWPPP	During construction	BLM
ROW Grant-27 PSREC BMP	As directed by the BLM authorized officer, PSREC would submit a complete culvert list to reflect the drainage plan for the associated road. The list would include, but would not be limited to, size, length, and location of each culvert.	Ensure compliance with SWPPP	During construction	BLM
ROW Grant-28 PSREC BMP	All roads and parking areas would be constructed to provide drainage and minimize erosion. If necessary, culverts would be installed to maintain drainage. All areas used for roads and parking would be surfaced with gravel.	Ensure compliance with SWPPP and minimize soil erosion	During construction	BLM/CSLC
ROW Grant-29 PSREC BMP	PSREC would inform the BLM authorized officer within 48 hours of an accident on federal lands that necessitates reporting to the Department of Transportation, as required by 49 CFR Part 195.	In adherence to BLM POD and ROW Grant	During construction	BLM
ROW Grant-30 PSREC BMP	Construction is not expected to occur from July 1 to Sept. 15; however, if any activities do occur during this time, vehicles, gas-powered equipment and flues would be equipped with spark arresters approved by the BLM authorized officer.	Minimize wild fire danger	During construction	BLM/CSLC
ROW Grant-31 PSREC BMP	During construction, PSREC would maintain a fire watch with fire-fighting equipment at locations and times designated by the BLM authorized officer. PSREC would prepare and implement a Fire Prevention and Management Plan for federal and state lands. The plan would be approved by the BLM's and state's authorized officers, respectively, prior to the issuance of the notice to proceed.	Minimize wild fire danger	During construction	BLM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-32 PSREC BMP	When requested by the BLM authorized officer, PSREC would make on-site equipment temporarily available for fighting nearby wildfires. Payment for such services would be made at rates determined by the BLM authorized officer.	Minimize wild fire danger	During construction	BLM
ROW Grant-33 PSREC BMP	PSREC would be liable for damage or injury to the U.S. to the extent provided by Code of Federal Regulation 43 CFR Section 2803.1-4. PSREC would be held to a standard of strict liability for damage or injury to the U.S. resulting from fire or soil movement (including landslides and slumps, as well as wind- and water-caused movement of particles) caused or substantially aggravated by any of the following within the ROW or permit area: • Activities of PSREC including, but not limited to, construction, operation, maintenance, and termination of the facility. • Activities of other parties including, but not limited to: o Land clearing and logging o Earth-disturbing and earth-moving work o Vandalism and sabotage	In adherence to BLM POD and ROW Grant	During and after construction and during project operation	BLM
ROW Grant-34 PSREC BMP	The maximum limitation for such strict liability damages for any one event and any liability in excess of such amount would be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred. This section would not impose strict liability for damage or injury resulting primarily from the negligent acts or omissions of the U.S.	In adherence to BLM POD and ROW Grant	During and after construction and during project operation	BLM
ROW Grant-35 PSREC BMP	PSREC would be responsible for repairing or replacing any resources lost by BLM grazing permittees or the U.S. as a result of the project. Resources may include, but not be limited to, stock water pipelines, livestock, forage for livestock grazing, spring (water) production, and the ability to graze livestock. Any lost resources would be repaired or replaced in kind or by mutually agreed upon compensation.	Minimize damages to lands, infrastructure, and grazing leases	During construction	BLM

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-36 PSREC BMP	A bond, acceptable to the BLM authorized officer, would be furnished by PSREC before the issuance of a Notice to Proceed or at such earlier date as specified by the authorized officer. The amount of this bond would be determined by the authorized officer. This bond must be maintained in effect until removal of improvements and restoration of the ROW has been accepted by the authorized officer.	Minimize damages to lands and infrastructure and in adherence to BLM ROW Grant	Prior to and during construction	BLM
ROW Grant-37 PSREC BMP	Should the bond delivered under this grant become unsatisfactory to the authorized officer, PSREC would furnish a new bond within 30 days of demand.	In adherence to BLM ROW Grant	During construction	BLM
ROW Grant-38 PSREC BMP	If snow removal from a road on BLM or state lands is undertaken, equipment used for snow removal operations would be equipped with shoes to keep the blade 2 inches off the road surface. PSREC would take special precautions where the ground is uneven and at drainage crossings to ensure the blades do not destroy vegetation.	Minimize impacts to vegetation and soils	During construction	BLM/CSLC
ROW Grant-39 PSREC BMP	PSREC would maintain the ROW in a safe, usable condition, as directed by the BLM authorized officer. A regular maintenance program would include, but would not be limited to, blading, ditching, culvert installation, and surfacing.	In adherence to project POD and BLM ROW Grant	During construction	BLM
ROW Grant-40 PSREC BMP	PSREC would not use the ROW as a road for purposes other than routine maintenance, as deemed necessary by the authorized officer in consultation with PSREC.	In adherence to BLM ROW Grant and state lands lease	During construction	BLM/CSLC

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-41 PSREC BMP	On BLM lands, for the purpose of determining joint maintenance responsibilities, PSREC would make road use plans known to all other authorized users of the road. Within 30 days of the date of the ROW Grant, PSREC would provide the authorized officer with the names and addresses of all parties notified, dates of notification, and method of notification. Failure of PSREC to share proportionate maintenance costs on the common use access road in dollars, equipment, materials, or manpower with other authorized users may be adequate grounds to terminate the ROW Grant. The BLM authorized officer would determine whether this has occurred and whether to terminate the grant. Upon request, the authorized officer would be provided with copies of any maintenance agreement.	In adherence to BLM ROW Grant	After construction	BLM
ROW Grant-42 PSREC BMP	Ninety days prior to termination of the BLM ROW Grant, PSREC would contact the BLM authorized officer to arrange a joint inspection of the ROW. This inspection would be held to agree to an acceptable termination and rehabilitation plan. This plan would include, but would not be limited to, removal of facilities, drainage structures, or surface material; re-contouring; applying topsoil; and reseeding. The authorized officer must approve the plan in writing before PSREC begins any termination activities.	In adherence to BLM ROW Grant	Project operation	BLM

Table B3-3 Environmental Committed Protection Measures by Category, continued

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-43 PSREC BMP	PSREC would set up a construction environmental monitoring inspection program for BLM lands that includes: • Ensuring compliance with the requirements of the EA, the environmental conditions of the ROW Grant authorization, the mitigation measures proposed by PSREC (as approved and/or modified by the ROW Grant), and other environmental permits and approvals. • Identifying, documenting, and overseeing corrective actions, as necessary, to bring an activity back into compliance. • Verifying that the limits of all authorized construction work areas and locations of access roads are properly marked before clearing. • Verifying the location of signs and highly visible flagging that mark the boundaries of sensitive resource areas, drainages, water bodies, or areas with special requirements along the construction work area. • Identifying erosion/sediment control and soil stabilization needs in all areas. • Ensuring that subsoil and topsoil are tested to measure compaction and determine the need for corrective action. • Advising the construction contractor when conditions (such as wet weather) make it advisable to restrict construction activities to avoid excessive rutting. • Ensuring restoration of contours and replacement of topsoil. • Verifying that any soils or materials imported for use have been certified free of noxious weeds. • Determining the need for erosion control measures and ensuring that these measures are properly installed, as necessary, to prevent sediment flow into drainages, water bodies, and sensitive areas and on to roads. • Inspecting and ensuring the maintenance of temporary erosion control measures at least: (a) on a daily basis in areas of active construction or equipment operation;	In adherence to project POD and BLM ROW Grant	During and after construction	BLM

Category	Committed Protection Measure	Effectiveness Criteria	Timing	Responsible Agency
ROW Grant-43 PSREC BMP, continued	(b) on a weekly basis in areas with no construction or equipment operation; and (c) within 24 hours of each 0.5-inch rainfall. • Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification. • Keeping records of compliance with the environmental conditions of the ROW Grant, and the mitigation measures proposed by PSREC in the application submitted to the BLM. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase.	In adherence to project POD and BLM ROW Grant	During and after construction	BLM
ROW Grant-44 PSREC BMP	PSREC would submit its contingency plan to the BLM or state authorized officer before project initiation on BLM-administered or state lands, respectively. This plan would contain: • Spill control provisions for oil and other pollutants. • The agencies responsible for contingency plans in Lassen County, California or Washoe County, Nevada, which would be among the first to be notified in the event of any transformer failure resulting in a spill of oil or other pollutant. • Provisions to restore of the affected resource. • Provisions that the BLM authorized officer would approve any materials or devices used for oil spill control and any disposal sites or techniques selected to handle oil, matter, or other pollutants. • Separate and specific techniques and schedule outlines for cleanup of spilled oil or other pollutants on land or in water.	Ensure compliance with SWPPP and minimize impacts and minimize or prevent impacts from hazardous materials	Prior to and during construction	BLM/CSLC

Table B3-6-1 Habitat Types Affected by the Proposed Action

	Habitat Type[1]									Totals
	BBR/DP	**DIST**	**DP/sgb/bbr**	**IND**	**PGS**	**SGB**	**SGB/DP**	**SGB/sb**	**Spanning MRI**	
ROW Length (miles)	0.54	1.25	1.60	0.07	2.62	3.08	4.24	0.15	0.11	13.67
200-foot Construction ROW (acres)	13.1	30.3	38.9	1.8	63.6	74.6	101.5	3.7	2.6[2]	331.40[3]
Short Term										
Structure Work Areas (acres)	0.78	1.80	2.30	0.11	3.76	4.41	5.98	0.22	0.15	19.51
Angle Poles (acres)	--	0.20	--	--	1.50	1.00	1.45	0.80	0.05	5.0
ROW Access (acres)[4]	--	--	--	--	2.86	2.86	2.86	--	--	8.58[4]
Wire Pull / Splice (acres)	--	--	--	0.24	0.62	0.24	0.37	--	--	1.47
Construction Yard #1 (acres)	--	--	--	--	0.92	--	--	--	--	0.92
TOTALS (Opt A) (acres)	**0.78**	**2.00**	**2.30**	**0.35**	**9.66**	**8.51**	**10.66**	**1.82**	**0.20**	**35.48[5]**
Doyle SWA Work Areas Opt B (acres)	--	--	0.69	--	--	--	--	--	--	0.69
Doyle SWA Access Opt B (acres)	--	--	0.24	--	--	--	--	--	--	0.24
TOTALS (Opt B) (acres)	**0.00**	**0.00**	**0.93**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**36.41**
Long-term										
Herlong Sub (acres)	--	3.75	--	--	--	--	--	--	--	3.75
Pole Placement (acres)[6]	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.01	--	0.13[6]
TOTALS (Opt B) (acres)	**0.01**	**3.77**	**0.01**	**0.02**	**0.02**	**0.02**	**0.02**	**0.01**	**0.00**	**3.88**

[1]BBR/DP = Bitterbrush and Desert Peach co-dominant
DIST = disturbed surface area
DP/sg/bbr = Desert Peach dominant with big sagebrush and bitterbrush
IND = Industrial site
PGS = Perennial Grassland with Saltbush and Sagebrush
SGB = Big Sagebrush
SGB/DP = Big Sagebrush and Desert Peach co-dominant
SGB/sb = Big Sagebrush with saltbush and grasses

[2]Spanning MRI = Montane riparian habitat at Long Valley Creek would be spanned by the proposed power line; therefore, acreage estimates are not included in calculated surface disturbance areas by project component.

[3]The acreage totals by habitat type are slightly lower than the acreages for the entire line length, due to rounding differences.

[4]Habitat types along temporary access routes encompass three primary vegetation types; therefore, the total acreage of 8.58 acres disturbed in the short term was divided among these three types.

[5]The acreage totals by habitat type are slightly higher than the acreage calculated for all temporary disturbances, due to rounding differences.

[6]Because exact structure locations are not known relative to habitat types, the total acreage lost in the long term of 0.13 acre was divided among eight of the nine habitat types that occur along the route. No poles would be placed within the MRI of Long Valley Creek.

APPENDIX B4

DRAFT MEMORANDUM OF AGREEMENT
PLUMAS-SIERRA FORT SAGE TO HERLONG 120kV PROJECT

DRAFT
MEMORANDUM OF AGREEMENT
AMONG
USDA, RURAL UTILITIES SERVICE,
BUREAU OF LAND MANAGEMENT,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICE, AND
THE NEVADA STATE HISTORIC PRESERVATION OFFICE
REGARDING
THE PLUMAS-SIERRA FORT SAGE TO HERLONG 120kV
INTERCONNECTION and SUBSTATION PROJECT

WHEREAS, the Rural Utilities Service (RUS), an agency that delivers the U.S. Department of Agriculture's Rural Development Utilities Programs, is authorized to provide financial assistance in the development of infrastructure in rural America; and,

WHEREAS, the RUS has received an application for financial assistance from the Plumas-Sierra Rural Electrical Cooperative (PSREC) for construction of a 120kV transmission line and two new substations from the Fort Sage substation in Washoe County, Nevada to the proposed Herlong substation in the Honey Lake Valley in Lassen County, California, (Project); and

WHEREAS, the RUS may elect to provide financial assistance under the Rural Electrification Act of 1936, thereby making the Project an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800); and

WHEREAS, the Bureau of Land Management (BLM) may elect to grant a Right-of-Way Easement, pursuant to Public Law 96-487, "Transportation and Utility Systems and Facilities on Federal Lands," thereby making the Project an undertaking subject to review under Section 106 of the NHPA and 36 CFR Part 800; and

WHEREAS, pursuant to the Memorandum of Understanding executed on between RUS and BLM on March 11, 2008, RUS will act as the lead federal agency for purposes of compliance with 36 CFR Part 800; and

WHEREAS, the definitions provided at 36 CFR § 800.16 are applicable throughout this Memorandum of Agreement (MOA); and

WHEREAS, RUS has determined that the undertaking's area of potential effects (APE) is comprised of:

a) The transmission line corridor as defined by its boundaries;
b) Access road rights-of-way to the transmission line corridor;

c) Lay down and construction staging areas; and
d) Substations' footprints.

WHEREAS, pursuant to 36 CFR § 800.4(b)(1), the RUS has made a reasonable and good faith effort to identify historic properties in the APE and to avoid adverse effects to them by changing the Project alignment or construction method; and

WHEREAS, RUS, in consultation with the California and Nevada State Historic Preservation Offices (SHPOs), developed this MOA to establish procedures to resolve adverse effects to previously unidentified historic properties or unanticipated effects discovered during Project construction in accordance with 36 CFR § 800.13(a)(2); and

WHEREAS, RUS has notified the Advisory Council on Historic Preservation (ACHP), in accordance with 36 CFR § 800.6(a)(1)(C), providing the specified documentation; and

WHEREAS, the ACHP has chosen to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii);

WHEREAS, PSREC, which will construct and manage the Project, has participated in consultation and has been invited by RUS to become an invited signatory pursuant to 36 CFR § 800.6(c)(2); and

WHEREAS, the California State Department of Fish and Game has participated in consultation and has been invited by RUS to become an invited signatory pursuant to 36 CFR § 800.6(c)(2); and

WHEREAS, RUS invited the Washoe Tribe of Nevada and California, the Susanville Indian Rancheria, the Greenville Indian Rancheria and the Reno-Sparks Indian Colony to participate in consultation because these Indian tribes may attach religious and cultural significance to historic properties in the APE; and

WHEREAS, the Washoe Tribe of Nevada and California, the Susanville Indian Rancheria, the Greenville Indian Rancheria and the Reno-Sparks Indian Colony have participated in consultation and have been invited by RUS to become concurring parties to this MOA pursuant to 36 CF R § 800.6(c)(3); and

WHEREAS, RUS has sought and considered the views of the public in accordance with 36 CFR § 800.2(d);

NOW, THEREFORE, RUS, BLM, the ACHP, and the California and Nevada SHPOs agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties, and that, in accordance with Section 110(l) of NHPA, these stipulations shall govern the undertaking and all of its parts.

STIPULATIONS

RUS shall ensure that the following measures are implemented:

I. Professional Qualifications.

A. RUS shall ensure that all activities regarding treatment of historic properties carried out pursuant to this MOA are carried out by or under the direct supervision of a person or persons meeting, at a minimum, the *Secretary of the Interior's Professional Qualifications Standards for Archeology* (48 FR 44739). In addition, the professional archeologist will hold appropriate federal and state permits.

B. The RUS, or any agent or contractor of RUS may utilize the services of employees and volunteers who do not meet the above standards as long as they are supervised by a professional.

II. Inventory and Review

A. Prior to initiating any construction activities, the PSREC will prepare an inventory report describing the archeological sites which have been identified in the APE. The inventory report will include the following:

1. Recommendations regarding which archeological sites may or may not qualify for listing on the National Register of Historic Places (NRHP) and a justification for this recommendation.

2. A description of the project alignment changes made by PSREC in order to avoid impacts to those archeological sites which might be eligible for listing in the NRHP

3. Maps showing the location of all identified archeological sites, the project alignment and pole location.

B. The PSREC shall submit this report to RUS for its review and approval. The PSREC will submit the approved report to the BLM, and the other consulting parties for review. These parties shall provide written comments to RUS within thirty (30) calendar days of receipt of the approved report. The RUS may elect not to consider comments submitted after the close of the thirty (30) day comment period.

C. Prior to initiation of construction activities, the RUS will ensure that the PSREC prepares a final inventory report that takes into account all of the timely comments submitted. The PSREC shall submit this final report to RUS for its review and approval. The RUS will provide a copy of the final approved inventory report to the BLM, and the consulting parties.

III. Consultation:

A. Prior to and during project construction, the RUS and PSREC will consult with the Washoe Tribe of Nevada and California, the Susanville Indian Rancheria, the Greenville Indian Rancheria and the Reno-Sparks Indian Colony to ensure that the project avoids effects to historic properties of religious or cultural significance to Indian tribes within the APE.

B. The Tribes identified in Stipulation III.A will be afforded the opportunity to provide a monitor during project construction. A single monitor will be designated by the Tribes and will work with the professional archeological monitor and a monitor from PSREC.

IV. Unanticipated Discoveries

A. If previously unidentified historic properties or unanticipated effects to them are discovered during Project construction, the construction contractor shall immediately halt all activity within a one hundred (100) foot radius of the discovery, notify PSREC of the discovery and implement interim measures to protect the discovery from looting and vandalism.

B. Within two (2) working days upon receipt of the notification required in Stipulation IV.A. PSREC shall

1. Engage a professional meeting the standard set forth in Stipulation I to inspect the construction site to determine the extent of the discovery

2. Clearly mark the discovery

3. Verify that construction activities have been halted

4. Implement additional measures, as appropriate, to protect the discovery from looting and vandalism; and

5. Notify the RUS, the SHPOs and other consulting parties of the discovery.

C. For the purposes of Section 106, the RUS may assume the discovery to be eligible for the National Register of Historic Places (NRHP) in accordance with 36 CFR § 800.13(b)(3). The RUS will notify BLM, the SHPOs and other consulting parties as to those actions it proposes to take to resolve the adverse effect. The notification will include an assessment of the NRHP eligibility of the discovery and a description of the proposed actions. The SHPO and other consulting parties shall have forty-eight (48) hours for review. RUS shall take into account any and all timely recommendations submitted in determining the action to take to resolve the adverse effect. Upon completion of the action taken to resolve the adverse effect, construction in the area of the discovery may proceed.

D. For discoveries in Nevada, PSREC will also comply with the requirements of the Nevada Revised Statutes § 381.219.

E. In the event that human remains or funerary objects are discovered on federal land, the construction contractor shall immediately cease work in the area of the discovery, take steps necessary to protect the discovery and notify PSREC and BLM by telephone within 24 hours of the discovery. PSREC will follow with written confirmation to BLM, RUS, and the consulting parties.

1. If BLM determines that the human remains or funerary objects are of Native American origin, BLM shall comply with the Native American Graves Protection and Repatriation Act (NAGPRA).

2. If BLM determines that the human remains are not Native American, BLM will consult to identify an appropriate treatment and disposition. BLM will notify consulting parties of its proposed treatment and, as appropriate, disposition. The SHPO and other consulting parties shall have forty-eight (48) hours for review of the proposed treatment. BLM shall take into account any and all timely recommendations submitted as well as the ACHP's *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects* (February 23, 2007) in determining the appropriate treatment. Upon completion of the treatment, construction in the area of the discovery may proceed.

F. In the event that human remains are discovered on non-federal land lands during the Project construction, the construction contractor shall immediately cease work in the area of the discovery, take steps necessary to protect the discovery, and notify PSREC and RUS by telephone within 24 hours of the discovery. PSREC will follow with written confirmation to BLM, RUS, and the consulting parties. [It appears that the applicable state statutes are Nevada Revised codes.]

G. RUS shall ensure that PSREC incorporates the requirements of Stipulations IV.A, IV.E and IV.F in all construction contracts.

VI. Curation

A. PSREC shall return all artifacts recovered from private lands within the APE to the landowner. Artifacts to be returned to private landowners will be curated temporarily by PSREC consistent with 36 CFR Part 79 until their analysis, including photographic documentation, is complete.

B. PSREC shall return all artifacts removed from state lands within the APE to the state agency for curation.

C. PSREC shall return all artifacts removed for federal land to BLM for curation in accordance with 36 CFR Part 79.

D. In no case will PSREC remove artifacts from state or federal land prior to having a signed curation agreement with a museum or curation facility that has been reviewed by the respective SHPO, and approved by the appropriate state or federal agency.

E. The PSREC will ensure that RUS, BLM and the California and Nevada SHPO have copies of all materials and records resulting from the archeological fieldwork. The RUS and BLM will archive these materials and records in accordance with federal archival standards.

VII. Amendment

A. Any signatory may request modification or amendment of this MOA by notifying all the other signatories in writing. The request must specify why the proposed modification or amendment is deemed appropriate. Within thirty (30) days of the date of the notification, the RUS shall consult with the signatories in an effort to resolve the request.

B. This MOA will be amended when such an amendment is agreed to in writing by all of the signatories. The amendment will be effective on the date it is executed by all of the signatories and filed with the ACHP. Email and all other electronic (including voice) communications shall not constitute "written agreement" for purposes of this MOA.

If agreement cannot be reached, any signatory may terminate the MOA in accordance with Stipulation IX.

VIII. Dispute Resolution

A. Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, RUS shall consult with such party to resolve the objection. If RUS determines that such objection cannot be resolved, RUS will take the following actions:

1. Forward all documentation relevant to the dispute, including the RUS's proposed resolution, to the ACHP. The ACHP shall provide RUS with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, RUS shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The RUS then will proceed according to its final decision.

2. If the ACHP does not provide its advice regarding the dispute within thirty (30) day time period, RUS may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the RUS shall prepare a written response that takes into account any timely comments regarding the dispute received from the signatories and concurring parties, and provide them and the ACHP with a copy of such written responses.

B. The RUS's responsibility to carry out all actions required under the terms of this MOA that are not the subject of the dispute remain unchanged.

IX. Termination

A. If any signatory to this MOA determines that its terms cannot or will not be carried out, that signatory party shall consult with the other parties to amend this MOA in accordance with Stipulation VII. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories. The notification shall explain the reasons for termination.

B. Within the thirty (30) days following the date of notification, the RUS shall consult with the signatories seeking alternatives to termination. At the end of thirty (30) days if an agreement to avoid termination cannot be reached, the signatory may terminate this agreement by so notifying all parties in writing.

C. Once the MOA is terminated, and prior to work continuing on the undertaking, the RUS shall either consult in accordance with 36 CFR §800.6 (b) (2) to develop a new MOA; or request, take into account, and respond to the comments of the ACHP pursuant to 36 CFR §800.7(a) (1). The RUS shall notify the signatories in writing as to the course of action that it will pursue.

X. Duration

A. If the terms of this MOA have not been implemented by July 1, 2011, this MOA shall be considered null and void. At such time, and prior to work continuing on the undertaking, the RUS shall either execute an MOA in accordance with 36 CFR §800.6; or request, take into account, and respond to the comments of the ACHP pursuant to 36 CFR §800.7(a)(1).

B. Prior to the expiration, the RUS may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation VII. The RUS shall notify the signatories as to the course of action it will pursue.

EXECUTION of this MOA, its subsequent filing with the ACHP in accordance with 36 CFR § 800.6(b)(1)(iv), and implementation of its terms, evidences that the RUS and BLM have taken into account the effects of the undertaking on historic properties and afforded the ACHP an opportunity to comment, thereby satisfying the requirements of Section 106 of the NHMOA and its implementing regulations (36 CFR Part 800).

SIGNATORIES

RURAL UTILITIES SERVICE

By:_____ Date:_____

Title: _____

BUREAU OF LAND MANAGEMENT

By:_____ Date:_____

Title _____

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

By:_____ Date:_____

NEVADA STATE HISTORIC PRESERVATION OFFICER

By:_____ Date:_____

INVITED SIGNATORIES

PLUMAS-SIERRA RURAL ELECTRIC COOPERATIVE

By:_____ Date:_____

Title_____

CONCURRING PARTIES

WASHOE TRIBE OF NEVADA AND CALIFORNIA

By:_____ Date:_____

Title_____

SUSANVILLE INDIAN RANCHERIA

By:_____ Date:_____

Title_____

GREENVILLE INDIAN RACHERIA

By:_____ Date:_____

Title_____

RENO-SPARKS INDIAN COLONY

By:_____ Date:_____

Title_____

PYRAMID LAKE PAIUTE TRIBE

By:_____ Date:_____

Title_____

APPENDIX C
VISUAL ANALYSIS SUMMARY

APPENDIX C1
VISUAL ANALYSIS SUMMARY

Fort Sage to Herlong Interconnection
120kV Transmission Line and Substation

Prepared by **DENISE JACKSON-FORD,**
LANDSCAPE ARCHITECT, State of Idaho, No. 228

December 2007

Revised June 2009 to include visual analysis of proposed project elements. Revised November 2010 with edits.

C1-1 PROJECT BACKGROUND

The Fort Sage to Herlong Interconnect project proposed by Plumas-Sierra Rural Electric Cooperative (PSREC) is intended to connect the existing Fort Sage, Nevada substation to the existing Herlong, California substation by installing a 120kV power transmission line (Proposed Action). The proposed transmission line would be 13.67 miles long and would cross both public and private lands, including 4.24 miles of land administered by the Bureau of Land Management (BLM).

C1-2 VISUAL RESOURCE IDENTIFICATION

The sections of the project route that lie within BLM-administered lands are subject to its Visual Resource Management (VRM) classes and visual management objectives, as inventoried in the BLM's Resource Management Plan (RMP) for the area. The RMP establishes how the public lands will be used and allocated for different purposes, and it is developed through public participation and collaboration. It is through the resource management planning process that the value of the scenic or visible landscape is classified because it is considered another land-based public resource. The BLM visual resource classification and management system places emphasis on evaluating scenic or visual resources within public lands as they are seen from heavily used travel routes. U.S. 395 is the most heavily used travel route in the project area and it is identified as a scenic highway corridor.

As visual resources were identified on these BLM lands, they were mapped by area and assigned a visual resource class that reflects their potential value to future viewers. The visual resource class is an indicator of how important it may be to maintain a particular view of a particular type of landscape for the enjoyment of those who will pass through the landscape and view its characteristic features. The visual resource classes are coupled with a set of established visual management objectives that are designed to assist public land stewards in maintaining the visible natural character of the landscape at the desirable level as indicated by each area's assigned resource class.

C1-3 VISUAL RESOURCE CLASSES AND MANAGEMENT OBJECTIVES

The BLM has previously assigned visual resource Classes II and IV to public lands that would be directly affected by the Proposed Action.

- A segment of the proposed right-of-way (ROW) may parallel the boundary of BLM-administered lands that have been assigned a visual resource Class II. The visual management objective of Class II is to retain the existing character of the landscape:

  > *"The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not*

> *attract the attention of the casual observer. Any changes must repeat the basic elements form, line, color, and texture found in the predominant natural features of the characteristic landscape."*

The level of change to the characteristic landscape should be low.

- Another segment of the proposed alignment would parallel the boundary of BLM-administered lands that has been assigned a visual resource Class IV. The visual management objective of Class IV is to provide for major modification of the existing character of the landscape:

> *"The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements."* [Note that the elements are form, line, color and texture found in the predominant natural features of the characteristic landscape.]

The level of change to the characteristic landscape can be high.

C1-4 KEY OBSERVATION POINTS

Because the Proposed Action traverses BLM-administered lands that are remote (no closer than 4 miles to U.S. 395) and undeveloped (accessed only by secondary gravel and dirt roads), the following factors for selecting Key Observation Points (KOPs) were NOT used:

- **Angle of Observation:** The predominant horizontal observation angle is perpendicular to the heavily used travel route and, therefore, would not likely to be seen within a driver's peripheral view. Because the affected BLM-administered lands also are located no closer than 4 miles to U.S. 395, it would be viewed from vehicular seat level with no change in the vertical observation angle.

- **Length of Time the Proposed Action is in View:** Because the Proposed Action could only be seen from a short section of U.S. 395 before it is screened from view by topography, the high speed of travel coupled with topographical obstruction would severely limit the time the Proposed Action is viewed, eliminating potential KOPs if this factor were to be used.

- **Relative Proposed Action Size:** Although proposed structures would protrude above the vertical plain of the landscape, they would be viewed from U.S. 395 at a distance of approximately 4 miles and the observers typically would be traveling at a high rate of speed. Binoculars would be required to see the vertical structures

but, even then, the transmission line support structures would not break the horizon, as they would be seen against a backdrop of the Fort Sage Mountains. Because viewing distance and topography would absorb vertical features, the size of the structures would not be the best indicator for this visual analysis.

- **Season of Use:** The project area would be viewed in the distant background from U.S. 395 throughout the year. Seasonal variation in the use of this transportation corridor is not substantial enough to provide a distinctive factor in considering the visual impact of the Proposed Action in different seasons. For example there is no ski resort that would draw a significant increase in travelers in the winter months when project structures are typically more visible.

- **Light Conditions:** The structures proposed on BLM-administered lands are located 4 miles from U.S. 395. At this distance, which typically requires binoculars for viewing, lighting is unlikely to create a visible glare or reflection off the structures. Light is not a consistent factor or indicator that would improve or detract from views at such great distances.

Applicable factors used in selecting the project KOP included:

- **Number of Viewers:** Because U.S. 395 is the most heavily used travel route in the area, it provides the primary source and number of viewers. Additionally, the KOP along U.S. 395 where the proposed transmission line would be seen across public lands is located near the intersection of U.S. 395 and Garnier Road. Garnier Road is a notable secondary travel corridor because it is paved and runs along the section lines. The number of viewers to pass by this KOP was a substantive factor in selecting this point.

- **Special Project and Landscape Feature:** There is no special project identified as a distinctive component along the proposed route. However, Turtle Mountain is a prominent landscape feature in the Fort Sage Mountain Range located south of the proposed ROW along the eastern portion of the project area. Most of the proposed transmission line route crossing public lands would not be visible from U.S. 395 because the Fort Sage Mountain Range would obscure that view. Specifically, Turtle Mountain would obscure views of the proposed transmission line route through a 1.25-mile segment of VRM Class II. Therefore, the Turtle Mountain landscape feature was an important factor in establishing a viable KOP.

- **Critical Viewpoint:** There are no elevated or overlook points along U.S. 395 in the project area. However, there is a short and critical stretch along U.S. 395 from which the project area might be viewed around the northern tip of Turtle Mountain.

The KOP selected for the Proposed Action is located at the intersection of U.S. 395 and Garnier Road, adjacent to the Herlong Substation. This intersection is likely to be the point where the most viewers could see the proposed transmission line. It also is a point at which Turtle Mountain does not completely obstruct the view of the proposed route

where the interconnection transmission line structures would cross on to public lands. And finally, it is a critical viewpoint where the greatest number of viewers may be stopping long enough to look out toward a short portion of the route on public lands as it would travel behind the Fort Sage Mountains, just beyond the tip of Turtle Mountain.

C1-5 VISUAL SIMULATION

A visual simulation of the Proposed Action would not be a useful exercise for this visual analysis because the transmission line and support structures proposed on public lands would be located at least 4 miles from U.S. 395 and would not be visible with the unaided eye. A photo image taken from the KOP along U.S. 395 would have to be zoomed or enlarged for transmission line support structures to be visible. The enlargement would not represent what would be seen while traveling the highway corridor, but rather what would be seen through binoculars or other visual aids.

C1-6 CONTRAST RATING

A contrast rating is performed to analyze and determine the amount of contrast that introduced structures would have or create within a native landscape. Contrast ratings discuss the critical visual elements of form, line, color, and texture. A contrast rating is not a useful exercise when the proposed structures are located at a distance of no closer than 4 miles. The human eye cannot accurately detect distinctions in form, line, color, or texture at this distance without visual aids such as binoculars.

C1-7 VISUAL ANALYSIS CONCLUSIONS

The Proposed Action would occur on public lands for which the characteristic landscape needs to be retained along approximately 1.25 mile of the proposed route. For the remaining 2 miles of transmission line proposed on public lands, the visual management objective provides for major modifications to the characteristic landscape. However, because the structures associated with the Proposed Action would be located on public lands no closer than 4 miles to the nearest heavily used travel corridor, they would not be seen by the unaided eye. Additionally, most viewers will be traveling at high speeds and would likely not be looking nearly perpendicular to the highway, using binoculars to scan the horizon, which would be required to view proposed structures.

Even if viewed with some form of visual aid, the structures on public lands would be positioned far into the background in that they would not break the horizon line of the area's naturally mountainous landscape features. Further, the proposed route travels the northeast side of the Fort Sage Mountains and is almost entirely screen from view from U.S. 395. One or possibly two support structures proposed on public lands would be positioned beyond the toe of Turtle Mountain where the proposed line would cross initially into public lands from the west.

Because the proposed route has been shifted farther north of the line between Sections 17 and 8 in T26N, R17E, it crosses into public lands within visual resource Class IV

lands. The support structures that may be visible from U.S. 395 off the tip of Turtle Mountain would be located on BLM-administered lands where the visual management objective is Class IV, which allows modifications to the existing character of the landscape. Where the proposed transmission route would cross through Class II lands in Section 16, the characteristic landscape would not be retained with the introduction of support structures. Shifting this 1.25-mile section of line farther northeast in Section 16 in T26N, R17E into visual resource Class IV land would eliminate any remaining visual resource management concerns pertaining to the proposed route as seen from the secondary Fort Sage Road. However, visual resource management objectives primarily need to be maintained as seen from heavily used travel corridors. The section of the transmission route traveling through questionable Class II lands would be completely screened from the U.S. 395 view corridor by the Fort Sage Mountains.

Essentially, this project is proposed in an area of low visual sensitivity to primary view corridors and could not be seen from U.S. 395 with the unaided eye. The Proposed Action would be screened by the Fort Sage Mountains within visual resource Class II public lands and would cause no adverse impact to the visual resource as viewed from the heavily used travel route of U.S. 395.

APPENDIX C2
VISUAL RESOURCE ANALYSIS
FOR STATE, COUNTY, AND PRIVATE LANDS
VISUAL RESOURCE ANALYSIS REGARDING THE PROPOSED 120KV TRANSMISSION LINE AND SUBSTATION PROJECT

C2-1 PROJECT BACKGROUND AND GEOGRAPHIC ORIENTATION

The proposed 120kV transmission line is intended to connect the existing Fort Sage Substation to the proposed Herlong Substation. The Fort Sage Substation is located in Section 33 in T26N, R18E near the western border of the state of Nevada. The proposed Herlong Substation would be located in the southwest corner of Section 22 in T26N, R16E east of the existing Herlong Substation.

To connect the two substations, however, the 120kV transmission line is proposed to angle essentially northwest to avoid crossing mountainous terrain. The line would travel first through private lands, crossing Section 24 in T26N, R17E at the eastern California border with Nevada. This section of private lands is not in view of a primary travel corridor that would create a viewshed of concern, so this section of private land was not evaluated for transmission line effects to the visual resource.

Moving due west from private lands in Section 24, the right-of-way (ROW) would cross into Bureau of Land Management (BLM)-administered lands and then would travel northwest of the Fort Sage Mountains, along a route obscured from the trending of the Fort Sage Mountains. It is in this area that the transmission line would begin to cross state and private lands considered part of the landscape scenery in view of the Proposed Action's route.

The transmission line routing would travel essentially west for approximately 4.5 miles through state and private lands before reaching Garnier Road. At Garnier Road, the ROW would turn due south following the road for approximately 2 miles through state and private lands. The southwestern-most end of the line route crosses U.S. 395 where it intersects Garnier Road just before terminating at the proposed Herlong Substation adjacent to county land. This triangular piece of Plumas-Sierra Rural Electric Cooperative (PSREC) land is located in the southwest corner of T26N, R16E, Section 22.

The purpose of this portion of the visual analysis is to determine the effect of the transmission line to the scenic resources of approximately 6.5 miles of private, state, and county lands as viewed from area travel corridors that have been determined to offer a significant viewshed.

C2-2 VIEWSHEDS EVALUATED AND SELECTED

The Proposed Action crosses state, private, and county lands in two primary directions. The first direction of travel is essentially east/west, from the middle of Section 8 in T26N, R17E (located on California Department of Fish and Game's [CDFG's] Doyle State Wildlife Area [SWA]) to the western edge of Section 10 in T26N, R16E (located on California State Lands Commission [CSLC] land). This portion of line follows a utilitarian, two-track dirt road on CSLC property that intersects Garnier Road at its west end and also provides access to an existing Desert Tap distribution line. The second direction of travel is due north/south as the proposed ROW turns at Garnier Road and

continues south along Garnier Road until it crosses U.S. 395, traveling a short distance along the access road and terminating at the proposed Herlong Substation. The following descriptions summarize these line segments relative to the potential scenic importance.

- *Two-Track Dirt Road on CSLC Property:* This two-track dirt road contains illegal dump sites, as discussed in Section 3.11, Hazardous Materials. A representative dump site along this access road is shown on Map 2-1 Sheet 7, and in Photo 3-12 of the Environmental Assessment (EA). Because of the rural and undesignated status of this road, it likely does not receive the volume of users necessary to indicate a travel route with a substantive viewshed. Based on this two-track road's location and the condition of the foreground landscape in the dump areas, this service road does not merit consideration as a travel route offering a viewshed of primary scenic importance to the state or county.

- *Garnier Road:* This is an asphalt-paved section-line road serving as a secondary travel route and feeder road on to and off of U.S. 395 to the town of Herlong, Sierra Army Depot, and Federal Prison. The existing PSREC 69kV transmission line, with 68-foot-high poles, travels north/south along the west side of Garnier Road. At the southern terminus of Garnier Road where it intersects with U.S. 395, southbound travelers experience a direct, axial, and foreground view toward the existing substation from a position of complete 'stop' before entering the U.S. 395 travel corridor. Garnier Road was **not** determined to be a travel route offering a viewshed of primary scenic importance to the state or county. This determination was based on the existing 69kV transmission line along this road ROW and because the southern terminal view for Garnier Road is compromised by the existing Herlong Substation infrastructure and Lassen County gravel pit.

- *U.S. 395:* This highway serves as the primary travel route for county, state, and interstate travel through the project area, providing views to portions of the Doyle SWA to the north and west, Honey Lake Valley to the north and east, and the Bird Hills to the south of the highway. U.S. 395 is a heavily used travel route in the area and is estimated to service 4,925 vehicles traveling in either direction each day. Although U.S. 395 has not specifically been designated as a county or state Scenic Highway or federal National Scenic Byway, Lassen County's General Plan has identified areas of scenic importance along U.S. 395 and designated the highway's surrounding landscapes as "Scenic Corridors." Because U.S. 395 provides the primary source and number of diverse viewers and because the highway crosses a county-identified Scenic Corridor, U.S. 395 was determined to be a travel route offering a viewshed of primary scenic significance to both the state and county.

- *The Substation/Borrow Pit Access Road:* This road is currently used as a utilitarian access route to the existing Herlong Substation in Section 21, two residences in Section 21, the Lassen County borrow pit in Section 22, and another borrow pit to the southeast in Section 27 (see Map 2-1 Sheet 9 in the EA). Photo 3-13 in the EA shows the Lassen County borrow pit where equipment, haul vehicles, and dust are

periodically apparent. Because the road is primarily used for utilitarian access, and because there are few access points to a low volume of previously developed sites, the Substation/Borrow Pit Access Road was not determined to be a travel route offering a viewshed of primary scenic significance to the state or county.

Criteria used for analyzing how the visual resource may be affected by introducing the proposed 120kV transmission line into the viewshed of the U.S. 395 travel corridor include the following:

- ***Would Scenic Vistas Be Adversely Affected?***

East/West Transmission Line Segment: The segment of the 120kV transmission line proposed to travel east/west approximately 4 miles through state and private lands (see Map 1-1 in the EA) would include the following structure types, as depicted in Chapter 2 of the EA: 20 H-frame tangent poles (see Figure 2-1 in the EA), 2 three-pole angle structures (see Figure 2-2 in the EA), and 8 single-pole structures (see Figure 2-3 in the EA). Pole height would range from 64 to 68 feet above ground level (agl), depending on structure location and clearance required. Line spans for the H-frame structures would be approximately 700 to 900 feet. While the proposed structure heights are greater than the existing 34-foot-tall distribution poles for the Desert Tap corridor, the line spans would be greater, which would aid in minimizing the visual perception of a block of vertical features. Additionally, structures along this ROW segment are no closer than 2 miles (middle-ground viewing distance) from U.S. 395, with the closest three structures being a single-pole configuration. Further, the background scenery as viewed from U.S. 395 looking toward the east/west line segment, rises into foothills mottled with vegetation texture and contrasting colors.

Proposed poles standing an average of 34 feet higher than the existing 34-foot-high poles would still be absorbed into the background scenic terrain for the following reasons:

- The pole line position in the middle-ground relative to the U.S. 395 highway viewing perspective of 2 miles prevents even the proposed taller poles from breaking the horizon line between terrain and sky because the mountainous background scenery rises as a backdrop to the poles.

- The mottled colors and textures of the background landscape absorb the brown color and infrequent placements of the poles.

- The unaided eye typically cannot pick out distinctive vertical features at a 2-mile distance while traveling at high speeds with distractive 'Scenic Vistas' in the distant background.

The east/west segment of the proposed 120kV transmission line is not anticipated to adversely affect existing scenic vistas as currently seen from U.S. 395.

North/South Transmission Line Segment: The segment of 120kV transmission line proposed to run north/south through state and private lands and terminating at the proposed Herlong Substation is planned along the east side of Garnier Road paralleling the existing 69kV transmission line located on the west side of the road. The Proposed Action would utilize single-pole design along the roadway, ranging from 64 to 68 feet agl for structure height. The existing 69kV transmission line structures with a distribution underbuild are the same height (64 to 68 feet agl) along the west side of Garnier Road. This segment of line would extend approximately 2 miles, intersecting with U.S. 395. Poles positioned from 0.5 to 2 miles north of this intersection of Garnier Road and U.S. 395 would be considered to be in the middle-ground viewing zone for highway travelers. Within this viewing range and standing parallel to an existing line, new poles would not be distinctive landscape features and would be absorbed into the rising background terrain of foothills. The new poles are not anticipated to break the horizon between the background terrain and sky because the elevation drops approximately 150 feet along this 2-mile segment moving north and away from U.S. 395. The elevation on Lassen County land (the borrow pit) adjacent U.S. 395 at the south terminus of this line segment is 4,250 feet; the elevation 2 miles north of U.S. 395 where the line turns east from Garnier Road drops to 4,100 feet. The poles of greatest concern would be located in the foreground viewing zone within 0.5 mile north of U.S. 395.

The poles in the foreground viewing zone are not likely to substantively disrupt 'scenic vistas' for the following reasons:

- The poles would intersect U.S. 395 on a perpendicular, instead of running along the breadth of the scenic vista; this would reduce the duration of viewing structures to a few seconds as vehicles approach and pass the line.

- The poles would run parallel to an existing transmission line with pole structures of the same height that already has bisected the scenic vista, so by consolidating poles into the same bisection line, no further degradation of the scenic vista is introduced.
- The poles located south of U.S. 395 would be positioned against the backdrop of a foreground foothill and existing substation infrastructure on the opposite side of the highway from desirable views toward scenic vistas. The proposed 68-foot-tall poles positioned within the first 0.5 mile north of U.S. 395 would display the same dominant vertical features as the existing transmission line structures located along Garnier Road. The consolidation adjacent existing infrastructure repeats an existing vertical form and does not substantially change the existing bisection of area scenic vistas.

The north/south line segment is not anticipated to adversely affect the current condition of scenic vistas along Garnier Road as seen from U.S. 395.

- ***Would Scenic Resources Be Substantially Damaged?***

East/West Transmission Line Segment: The segment of transmission line proposed to run east/west through state and private lands would follow an existing two-track dirt access road. The proposed 68-foot 120kV transmission poles would parallel the existing 34-foot 7.2kV distribution poles along the entirety of CSLC-administered lands commencing in T26N, R17E, Section 7 to the west section line of T26N, R16E Section 10, where the proposed 120kV line would turn south on Garnier Road. The distribution poles end at this location and the distribution line transitions to underbuild on the 69kV transmission line pole. Visually significant land features such as large trees, rock outcroppings, wetlands, or historic structures have not been identified along this ROW segment. Damage to the sparse existing vegetation would be minimized by following and utilizing an existing two-track dirt access road, rather than introducing a new road alignment into the landscape. The east/west segment is also located no closer than 2 miles from U.S. 395 (the travel route of primary scenic significance) and is, therefore, positioned in the middle-ground for landscape viewing. Poles and vegetative disturbance at this distance are not readily apparent by viewers, particularly when moving along high-speed travel routes.

The east/west segment of the proposed 120kV transmission line is not expected to substantially damage the scenic resources as seen from U.S. 395.

North/South Transmission Line Segment: The segment of transmission line proposed to run north/south through state and private lands and terminating at the proposed Herlong Substation would follow the existing paved Garnier Road for approximately 2 miles before crossing U.S. 395 into T26N, R16E, Section 22. The 120kV transmission poles proposed along the east side of Garnier Road would parallel existing 69kV transmission poles running the west side of the road. Visually significant land features such as large trees, rock outcroppings, wetlands or historic buildings have not been identified along this segment of road. By utilizing the existing asphalt road for access to install and maintain the newly introduced 120kV transmission line, damage to existing vegetation would be minimized compared to building a new road. Because the Garnier Road segment approaches and intersects U.S. 395, the additional line of poles and any effects to roadside vegetation would come into view in the foreground viewing zone at 0.5 mile from the intersection of Garnier Road and U.S. 395. However, because the line is not buried, vegetative damage is likely to be limited to the pad for each pole. At high speeds of travel, viewing points of vegetative disturbance and parallel pole lines would be momentary in passing. Distant scenic vistas located in the same direction may also distract viewers from prolonged foreground viewing.

The north/south line segment is not expected to substantially damage scenic resources along Garnier Road as seen from U.S. 395.

- ***Would Existing Landscape Character/Quality Substantially Be Degraded?***

The east/west and north/south segments of the proposed 120kV transmission line were designed to follow existing road alignments along essentially flat terrain with gradual elevation changes. Because terrain features typically create landscape characteristics (e.g., distinctive geologic features, plains, mountain ranges), avoiding new access road construction would prevent scarring of terrain features. Additionally, vegetative patterns typically create landscape qualities such as texture, color, and form. Therefore, by minimizing and/or mitigating disturbance to vegetation, these landscape qualities would remain intact. The existing road alignments currently provide access to existing transmission and distribution lines.

Because vertical structures have already been introduced into the landscape along both segments of the route by the existing transmission and distribution lines, the proposed 120kV structures are not likely to be viewed as unfamiliar vertical forms in the landscape. The viewing distance from U.S. 395 is a minimum of 2 miles and therefore in the middle-ground viewing zone where pole structures are not readily apparent to the unaided eye and likely not visible at high speeds of travel.

The proposed 120kV transmission line is not anticipated to substantially degrade the landscape character or quality.

- ***Would Nighttime Viewing and Dark Sky Protection Be Deteriorated?***

Power poles supporting the proposed 120kV transmission line would stand a maximum of 68 feet agl and would not be tall enough to require lighting for air traffic, as determined by the Federal Aviation Administration (see letter in Appendix A, Agency and Public Comment Letters). No other lighting requirements have been identified. Because lighting is not planned on or around transmission line support poles, no adverse effects on nighttime or dark sky viewing are anticipated.

C2-3 CONCLUSION: VISUAL RESOURCE EFFECTS ANTICIPATED BY INTRODUCING THE 120KV TRANSMISSION LINE

The proposed 120kV transmission line with poles up to 68 feet agl along both the east/west and north/south segments is not anticipated to introduce a substantive adverse visual impact into the primary viewshed and county-designated Scenic Corridor of the U.S. 395 travel route. The visual resources would be minimally disrupted by these two line segments based on the following scenic-viewing conditions:

- Approximately 6 miles of the 6.5 miles of the proposed transmission line crossing state, private, and county lands would be located within the middle-ground viewing zone where vertical pole features are neither distinctive nor visible while traveling at highway speeds averaging 65 mph.

- The background landscape rises into foothills with mottled textures and earthen colors that would absorb the brown color and vertical form of the distantly-spaced pole structures.

- The 0.5 mile of proposed structures located in the foreground viewing zone is consolidated with, and running parallel to, existing infrastructure where a bisection of the primary scenic vista has already been established.

- The existing transmission line structures already dominate the foreground viewing zone to the north of this intersection, and both existing and proposed lines would intersect the primary travel route on a perpendicular, which would reduce the duration of viewing structures against a scenic backdrop to a few seconds in passing.

- Structures that would dominate the foreground viewing zone to the south of this intersection are set against a view-constricting foreground terrain feature and existing substation infrastructure on the opposite side of the primary travel route from desirable scenic vistas.

The speed of travel along U.S. 395 is posted at 65 mph with travelers commonly exceeding this speed. Even with the high volume of viewers, middle-ground pole structures would be absorbed by the background scenic vista. Additionally, foreground poles running perpendicular to the highway and vista would only be viewed for a few seconds.

Consolidating existing and proposed infrastructure along existing area roads would limit damage to area vegetation, protect the landscapes, textural and color qualities, and avoid the introduction of unnatural line features into the characteristic landscape form and terrain. This line installation strategy should minimize scarring to protect the landscape's textural and color qualities. Introducing unnatural line features into the characteristic landscape form and terrain is also avoided by using existing roads. If constructed as proposed, the 120kV transmission line crossing state, private, and county lands would not disrupt scenic vistas or degrade the overall character and quality of the visual resource within the county-identified Scenic Corridor of U.S. 395.

APPENDIX C3
VISUAL RESOURCE ANALYSIS
REGARDING THE PROPOSED HERLONG SUBSTATION

C3-1 PROJECT BACKGROUND AND GEOGRAPHIC ORIENTATION

The proposed Herlong Substation would be located in the southwest corner of T26N, R16E, Section 22. It is intended to accommodate the proposed 120kV transmission line to link additional and higher voltage transmission infrastructure between the existing Fort Sage Nevada and Herlong California substation sites. A substation exists at the Herlong site adjacent to the proposed Herlong Substation but is physically constrained and does not have the requisite space for the new equipment necessary for the 120kV transmission line. The existing substation is located on PSREC land on the west side of the access road intended for this substation and for the Lassen County borrow pit, farther to the south, that is also visible from U.S. 395. The proposed Herlong Substation would be located on 3.75 acres on the east side of the access road, adjacent to the county gravel pit.

The existing Herlong Substation is linked to an existing 69kV transmission line that crosses U.S. 395 traveling north along the west side of Garnier Road. The proposed Herlong Substation would be positioned on the east side of the access road allowing the 120kV transmission line to also travel Garnier Road but running along the east side and directly opposite the existing 69kV transmission line.

The proposed Herlong Substation would be located within the 3.75-acre building site with the facility abutting the existing roadway across from the existing Herlong Substation. Due south of the proposed substation facility in the southwest corner of T26N, R16E, Section 22 is an existing borrow pit on Lassen County land that has been used to mine gravel. The pit has recently been reopened to access rock and gravel as a source for construction material.

The purpose of this portion of the visual analysis is to determine the effect of the proposed Herlong Substation to the scenic resources of lands to the south and within the viewshed of the project site's adjacent travel corridor.

C3-2 VIEWSHEDS EVALUATED AND SELECTED

The Herlong Substation project site sits at the intersection of the road to the existing substation and county borrow pit and U.S. 395 directly across from Garnier Road.

- ***Garnier Road*** is an asphalt-paved section-line road serving as a secondary travel route and feeder road on to and off of U.S. 395 to the town of Herlong, Sierra Army Depot, and federal prison. The existing PSREC 69kV transmission line, with 68-foot-high poles, travels north/south along the west side of Garnier Road. At the southern terminus of Garnier Road where it intersects with U.S. 395, southbound travelers experience a direct, axial, and foreground view toward the existing substation from a position of complete 'stop' before entering the U.S. 395 travel corridor. Garnier Road was **not** determined to be a travel route offering a viewshed of primary scenic importance to the state or county. This determination was based on the existing 69kV transmission line along this road ROW and because the southern terminal

view for Garnier Road is compromised by the existing Herlong Substation infrastructure and Lassen County gravel pit.

- ***U.S. 395*** serves as the primary travel route for county, state, and interstate travel through the project area, providing views to portions of the Doyle State Wildlife Area to the north and west, Honey Lake Valley to the north and east, and the Bird Hills to the south of the highway. U.S. 395 is a heavily used travel route in the area and is estimated to service 4,925 vehicles traveling in either direction each day. Although U.S. 395 has not specifically been designated as a county or state Scenic Highway or federal National Scenic Byway, Lassen County's General Plan has identified areas of scenic importance along U.S. 395 and designated the highway's surrounding landscapes as "Scenic Corridors." Because U.S. 395 provides the primary source and number of diverse viewers, and because the highway crosses a county-identified Scenic Corridor, U.S. 395 was determined to be a travel route offering a viewshed of primary scenic significance to both the state and county.

- ***The Substation/Borrow Pit Access Road*** is currently used as a utilitarian access route to the existing Herlong Substation in Section 21, two residences in Section 21, the Lassen County borrow pit in Section 22, and another borrow pit to the southeast in Section 27 (see Map 2-1 Sheet 9 in the EA). Photo 3-13 in the EA shows the Lassen County borrow pit where equipment, haul vehicles, and dust are periodically apparent. Because the road is primarily used for utilitarian access, and because there are few access points to a low volume of previously developed sites, the Substation/Borrow Pit Access Road was not determined to be a travel route offering a viewshed of primary scenic significance to the state or county.

Criteria used for analyzing how the visual resource may be affected by introducing the proposed Herlong Substation into the viewshed of the U.S. 395 travel corridor:

- ***Would Scenic Vistas Be Adversely Affected?*** The facility would be located on the south side of U.S. 395, on the opposite side of the highway from the primary scenic vista. Most travelers are drawn to the open and mountainous scenery on the north side of the highway for landscape viewing at this point along the route. Conversely, the facility's proposed location on the south side of the highway offers travelers less desirable scenic viewing opportunities because the viewshed to the south is restricted by foothill terrain features that limit viewing to a foreground zone of less than 0.5 mile. Additionally, the proposed Herlong Substation site would be set adjacent to an existing access road and substation with associated 69kV transmission line infrastructure. Behind the proposed Herlong Substation site is a borrow pit on county land that has recently been reopened for mining materials. New activity at the borrow pit would introduce movement in the landscape to the south of the proposed Herlong Substation that may include occasional dust clouds, excavation equipment, and hauling trucks traveling in and out of the pit and access road. With primary viewing opportunities to the north and with the proposed substation site set to the south amongst pre-existing landscape disruptions, the

proposed Herlong Substation is not anticipated to further detract from or adversely affect scenic vistas to the north as seen from U.S. 395.

- ***Would Scenic Resources Substantially Be Damaged?*** The proposed Herlong Substation would be set atop a foreground slope of grasses and sparsely scattered shrubs. Rising steeply behind the slope at the proposed substation site is a long, linear foothill of densely mottled shrub vegetation interspersed with patches of grass and rocky dirt. Visually significant land features such as large trees, unique rock outcroppings, wetlands, or historic structures are not apparent in or around the proposed substation site. The existing substation, 69kV transmission line and borrow pit have already intruded on the scenic resources in the immediate vicinity. The proposed substation facility would be confined by the long, linear foothill to the south of the site, which would somewhat visually absorb against this landscape backdrop because of the upright form and mottled texture and colors of this terrain feature. Because of existing utilitarian damage to the area, a lack of significant scenic resources, and the presence of dominate foreground terrain features, the proposed Herlong Substation is not expected to substantially increase damage to the scenic resources at its proposed location.

- ***Would Existing Landscape Character/Quality Substantially Be Degraded?*** The proposed substation is planned to be set atop a foreground slope within a level pad that would accommodate proposed facilities, including fencing, as well as future structural expansions. To provide a level pad for immediate and expanded structures, the grasses, scattered shrubs and uniform cascade of the foreground slope would be disrupted and degraded by cut and fill excavation proposed to level the building pad. However, the existing landscape qualities of vegetative texture and color have already been degraded in the immediate area surrounding the proposed site by the presence of the existing substation and by the scarring of terrain within the nearby borrow pit. Rising abruptly and immediately behind the proposed substation site is a linear foothill shaped like a long, low moraine that creates a dominant, horizontal terrain feature also within the foreground viewing zone. The proposed substation site would be set back toward this foothill but would not cut into or scar its mottled surface. This terrain feature is sufficiently tall and close enough to the highway to obscure the lower portions of other mounded foothills rising to the south of U.S. 395 within the middle-ground and background viewing zones. Set against this terrain feature as a backdrop, the proposed Herlong Substation would appear visually subordinate relative to this dominant foreground land feature. The dark color tones and densely mottled, busy texture on the surface of this foothill might also aid in absorbing some of the visual degrading impact of vertical and linear shapes that would be presented by the proposed substation facility. Grading around the level pad would scar and degrade the landscape qualities of texture and color as well as the characteristic form of the landscape. Exposed fill slopes facing U.S. 395 should be shaped and tapered as much as possible to blend with the natural character of the terrain. Immediately following grading, raw slopes would be seeded with California Native Seed Mixture to promote the eventual reestablishment of shrubs and grasses atop disturbed

soils. Obvious landscape-degrading effects would result from the site grading and the facility location within the foreground view. However, because existing uses have already degraded the landscape character and quality, and because natural landscape terrain presents a visually dominant landscape feature in the foreground, the proposed Herlong Substation is not anticipated to substantially further degrade the site's landscape character and qualities. Grading slopes to mimic natural terrain and reseeding disturbed soils to supplement natural revegetation would begin to mitigate damage to the landscape that would result from constructing the proposed substation.

- ***Would Nighttime Viewing and Dark Sky Protection Be Deteriorated?*** The proposed substation would be located adjacent to an existing substation. Any lighting required at the new facility for safety or security purposes would adhere to county lighting standards enacted to protect dark skies, and would include low voltage LED-type motion sensing lighting that would be downcast and shielded. With lighting standards being met, nighttime and dark sky viewing would not be disrupted.

C3-3 CONCLUSION: VISUAL RESOURCE EFFECTS ANTICIPATED BY INTRODUCING THE PROPOSED HERLONG SUBSTATION

The proposed Herlong Substation, with associated fencing and transmission infrastructure, is not expected to introduce an adverse visual impact into the viewshed of primary scenic significance or county-identified Scenic Corridor of the U.S. 395 travel route. The visual resource would be minimally disrupted by the proposed substation because of the following project site characteristics:

- The substation would be located on the opposite side of the highway from the primary scenic vista.
- The facility setting is proposed at the base of landscape terrain where the viewshed is constricted to the south and limited to foreground views offering no distant vistas.
- The neighboring landscape has previously been affected by existing substation facilities and associated transmission lines crossing over U.S. 395.
- The project site is bordered by county borrow pit and utilitarian access road; both are within the U.S. 395 viewshed.

Parallel to that discussed for the north/south transmission line segment, the addition of the Herlong Substation southeast of the intersection of U.S. 395 and Garnier Road would add this facility to other infrastructure dominating the foreground viewing zone and set against a view-constricting foreground feature on the opposite side of the primary travel route from desirable scenic vistas. Additionally, the speed of travel along U.S. 395 would minimize the duration of viewing the new substation to viewing only for a few seconds in passing within an already disturbed landscape setting. In summary,

the proposed Herlong Substation would not disrupt scenic vistas or degrade the overall character or quality of the visual resource within the county-identified Scenic Corridor along U.S. 395.

APPENDIX D
BOTANICAL REPORT

D1.0 INTRODUCTION

Plumas-Sierra Rural Electric Cooperative (PSREC) proposes to construct a 13.67 mile, 120 kilovolt (kV) transmission line from the Fort Sage Substation to the proposed Herlong Substation. Botanical surveys were conducted in 2007, 2008, and 2010 for the proposed Fort Sage to Herlong 120kV Interconnect Project, per agency directives for special status plant species that may occur in the project area.

The proposed project originates at the existing Fort Sage Substation, located in T26N, R18E, Section 33 in Washoe County, Nevada, approximately 30 miles north of Reno, and extends to the Herlong Substation located in T26N, R16E, Section 22 in Lassen County, California, approximately 4 miles south of the town of Herlong (see Map 1-1 of the EA).

Initial routing alternatives examined for this project ranged from 11 to 15 miles between the two substations. Based on preliminary field review, environmental concerns (e.g., Doyle State Wildlife Area [SWA]), and human resource issues, the alignment was modified to reflect the currently proposed route alignment shown on Map 1-1 of the EA. This proposed route extends 13.67 miles between the two substations. The majority of the lands crossed by this route are administered by the Bureau of Land Management (BLM), with some private and State lands and 0.5 mile on the Doyle SWA.

D2.0 SPECIAL STATUS BOTANICAL SPECIES

D2.1 Federal and State Threatened and Endangered Species

Administered by the U. S. Fish and Wildlife Service (USFWS), the Endangered Species Act (16 U.S.C. 1531-1544) (ESA) provides protection for species of fish, wildlife and plants that are listed as threatened or endangered in the U.S. or elsewhere. Provisions are made for listing species, as well as for recovery plans and the designation of critical habitat for listed species. The purpose of the ESA is to conserve the ecosystems upon which endangered and threatened species depend and to conserve and recover listed species. Under the law, species may be listed as either "endangered", "threatened", or a "candidate" species. Endangered species are those in danger of extinction throughout all or a significant portion of its range. Threatened species are those likely to become endangered within the foreseeable future. Candidate species are likely to decline in numbers due to habitat loss and require additional data to warrant listing as an endangered or threatened species.

Plant occurrence data from the USFWS (2007), CDFG (2010), CNPS (2010), and NNHP (2010) were reviewed for potential habitat within the project area. No federally listed, federal candidate, or state-listed plant species occurs in the area for the proposed Fort Sage to Herlong 120kV Interconnect Project. The BLM sensitive and state special status species are discussed, accordingly.

D2.2 BLM-Sensitive Species

BLM Manual 6840 (BLM 2008) defines sensitive species as "…those species that are (1) under status review by the U.S. Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS); or (2) whose numbers are declining so rapidly that Federal listing may become necessary, or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats." Existing BLM policy concerning the designation of sensitive species identifies two conditions that must be met before a species may be considered as BLM sensitive: (1) a significant population of the species must occur on BLM-administered lands and (2) the potential must exist for improvement of the species' condition through BLM management. The "Sensitive Species" designation is not meant to include federally listed species, proposed species, candidate species, or state-listed species.

The Bureau of Land Management (BLM) maintains a list of sensitive species for BLM-administered lands. These species are designated by the BLM for special management consideration. Table D2-1 lists the BLM sensitive plant species that have been identified to potentially occur in the project area in Lassen County, California. Potential habitat does not exist for BLM sensitive species in the Nevada portion of proposed project (BLM 2003, 2007, 2010).

Table D2-1 BLM Sensitive Plants Potentially Occurring in the Project Area

Common Name	Scientific Name	Description and Habitat Type
Geyer's milkvetch	*Astragalus geyeri* var. *geyeri*	An annual that blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the Proposed Project as Lassen County represents the western most extension of this species.
Modoc bedstraw	*Galium glabrescens* ssp. *modocense*	A perennial that blooms from June to August and is typically found in gravelly, rocky, talus Great Basin scrub plant communities.
Sagebrush loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.

D2.3 State Special Status Species

The California Native Plant Society (CNPS) Program operates under a Memorandum of Understanding (MOU) with the CDFG which outlines broad cooperation in rare plant assessment and protection, and formalizes cooperative ventures such as data sharing and production of complementary information sources for rare plants. CNPS and the CDFG Natural Diversity Data Base (CNDDB) share all data files and rare plant information and work together on a daily basis to provide current, accurate information on the distribution, endangerment status, and ecology of California's rare flora.

Once a species has undergone the CNPS Review Process and has been added to a CNPS List, CNDDB uses the information gathered to map the rarest plant species to their precise locations. CNDDB makes this information available through RareFind or custom Geographic Information Systems (GIS) maps and digital information. While CNPS updates data more continuously, location information is reported more precisely by CNDDB.

The California State Lands Commission (CSLC) identified 12 species listed by the CNPS that may occur within the project area. Two of the CSLC identified species (Geyer's milkvetch and sagebrush loeflingia) were listed as two of the three BLM sensitive species (Table D2-1). Table D2-2 lists the status and habitats of these 12 California sensitive species that historically occur or could potentially occur within the project area (CNPS 2010). Two species, Bailey's ivesia (*Ivesia baileyi* var. *baileyi*) and western seablite (*Suaeda occidentalis*) may occur regionally, but are associated with habitats not present along the project area ROW alignment (see Table D2-2).

Therefore, these two plant species were not analyzed for the project, resulting in a total of 10 California special status plant species examined.

Table D2-2 California Sensitive Plants Potentially Occurring in the Project Area

Common Name	Scientific Name	Description and Habitat Type	CNPS Status
Geyer's milkvetch	*Astragalus geyeri* var. *g*eyeri	An annual that blooms from May to August and is typically found on sandy flats, depressions within stabilized or mobile dunes, margins of alkaline sandy playas, and in sandy bottomed gullies. It is common in the northwestern section of the Great Basin of Nevada and there is potential habitat within the Proposed Project as Lassen County represents the western most extension of this species.	2.2
Cruciform evening-primrose	*Camissonia claviformis* ssp. *cruciformis*	An annual that blooms from May to July and grows in sandy or rocky slopes or washes in the Modoc Plateau. Known sites are north of the Proposed Project.	2.3
Dugway wild buckwheat	*Eriogonum nutans* var. *n*utans	An annual that blooms from May to September and grows in sand or gravel flats and slopes. It is known to occur in the northeastern part of Lassen County.	2.3
Bailey's ivesia	*Ivesia baileyi* var. *baileyi*	A perennial that blooms from May to August and is found in volcanic crevices. There is no potential habitat for this species within the Proposed Project.	2.3
Sagebrush loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.	2.2
MacDougal's lomatium	*Lomatium foeniculaceum* var. *macdougalii*	A perennial that blooms from April to July and is found in rocky clayey soils in sagebrush communities typical of the Proposed Project.	2.2
Intermontane lupine	*Lupinus pusillus* var. *intermontanus*	An annual that blooms from May to June in open sandy areas.	2.3
Lance-leaved scurf-pea	*Psoralidium lanceolatum*	A perennial that blooms from April to August in sandy soils with a preference for disturbed soils.	2.3
Winged dock	*Rumex venosus*	A perennial that blooms in May and June in dry, sandy soils, preferably in disturbed areas. In California it is found only in the Honey Lake valley.	2.3
Currant-leaved desert mallow	*Sphaeralcea grossulariifolia* ssp. *grossularifolia*	A perennial found in dry alkaline or volcanic soils. Known populations are north and northeast of the project area.	2.2

Table D2-2 California Sensitive Plants Potentially Occurring in the Project Area, continued

Common Name	Scientific Name	Description and Habitat Type	CNPS Status
Western seablite	*Suaeda occidentalis*	An annual that blooms from July to September in dry, saline, or alkaline wetland soils. There is no potential habitat for this species in the project area.	2.3
Many-flowered thelypodium	*Thelypodium milleflorum*	A perennial that blooms April to June in sandy soils.	2.2

*CNPS Listing Definitions:
1A = Presumed extinct in California.
1B = Rare, threatened, or endangered in California and elsewhere.
2 = Rare in California but more common elsewhere.
2.1 = Seriously endangered in California
2.2 = Fairly endangered in California
2.3 = Not very endangered in California

D3.0 BOTANICAL SURVEYS PURPOSE AND SCOPE

The purpose of the 2010 botanical surveys was to establish a botanical baseline for the areas associated with the proposed transmission construction ROW and ancillary facilities. This information is in support of the environmental impact assessment of special status plant species from project construction and operation. The 2010 botanical surveys further support initial field results from botanical surveys conducted in 2007 and 2008 (Hafen Environmental 2007, 2008)

The specific objectives of this report are to: 1) characterize plant habitat located along the proposed transmission line route; 2) determine presence/absence of special status plant species within the project area; and 3) identify any key plant resource issues that may require further consideration.

D4.0 METHODS

D4.1 Review of Existing Data

Prior to conducting surveys along the project area alignment, the state and federal threatened, endangered, and candidate species lists for Washoe County, Nevada and Lassen County, California; the BLM sensitive species list; and the CNDDB database were queried to identify special status plant species potentially occurring in the project area. The result of this effort includes a list of 13 species identified to have potential for occurring with the project area based on habitats and species' distribution.

A training session was held prior to field surveys with botanists Jeanene Hafen, John Hafen, Nancy Harnach, and William Harnach to review plant identification materials from various online sources and plant taxonomy text books, including CNPS (2010), Calflora (2010), Cronquist et al. (1989, 1997), Hickman (1996), and Kartesz (1988). The team also revised survey protocols from the USFWS (1996), CDFG (2009), and the CNPS (2001) and collaborated on discussions with the BLM botanist in 2007, 2008, and 2010 (Gibbs 2007, 2008, 2010). The training session presented a review of targeted species plant taxonomy, habitat requirements, identification, and an assessment of associated species. Crew member qualifications were provided to the reviewing agencies and survey protocols are provided in Attachment D1.

As discussed above in Section 2.0, Special Status Botanical Species, the 2010 survey focused on the 11 species that may occur in the project area. These 11 species encompassed the 10 California special status species (habitats for 2 of the 12 original species identified by the CSLC do not apply to the project area) and 3 BLM sensitive species (2 of which coincide with 2 of the California special status species).

The 2010 field surveys corresponded to potentially suitable habitat for these 11 species along the proposed route. The field botanists monitored the phenology of the target plant species at regional reference sites prior to initiating project surveys to ensure the appropriate blooming period coincided with the survey efforts. Site trips to monitor plant blooming were made on April 19, April 26, May 13, and June 1, 2010. Ultimately all 11 species were recognizable in the field and the botanical surveys for the project were conducted on June 7, 8, and 9, 2010.

D4.2 Botanical Survey and Habitat Characterization

Botanical surveys conducted in 2007, 2008, and 2010 for the project area adhered to the rare plant survey protocols and standardized guidelines discussed above (USFWS 1996; CDFG 2009; CNPS 2001). Although general plant surveys were conducted in 2007 and 2008, the Geyer's milkvetch (*Astragalus geyeri* var *geyeri*) was the primary focus of these surveys on BLM-administered lands at the request of the BLM. As discussed, the 2010 survey focused on the 11 species that may occur in the project area.

Pedestrian surveys of the proposed transmission line route were conducted on June 7, 8, and 9, 2010 by the crew of four botanists, examining a 300-foot-wide survey corridor and the angle pole work areas, as delineated on Map 2-1 of the EA. Two field botanists conducted the surveys walking parallel transects 10 to 40 feet apart the entire length of the proposed transmission line route, focusing on a survey corridor width of 300 feet. Survey corridor width was expanded to 600 feet at pull-site locations (i.e., corner poles), as shown in Map 2-1 in the EA. Surveyors further characterized the general vegetation community, sensitive plant habitats, and noxious weeds extending beyond the survey corridor width along the project ROW and ancillary features. To maintain consistency with the 2010 wildlife baseline surveys, vegetation community types identified along the project area ROW and surrounding areas were recorded according to the California Wildlife-Habitat Relationships System (WHR) classification (Mayer and Laudenslayer 1988) and focused on dominant species by vegetation layer.

Precipitation levels influenced plant blooming in 2007, 2008, and 2010. In 2007, little precipitation resulted in few plants emerging. In 2008, precipitation was below normal, but May rain supported blooming for most of the desert plant species. Since the Geyer's milkvetch was the primary focus of the 2007 and 2008 surveys on BLM-administered lands, surveyors noted that none of the known populations in other areas containing Geyer's milkvetch emerged in 2007. This season also was considerably advanced over a year with "normal" precipitation. Near the end of May in both 2008 and 2010, the BLM botanist observed the Geyer's milkvetch offsite (Gibbs 2008, 2010), providing reference locations to the project field surveyors. Above average annual precipitation in early 2010 resulted in much greater level of vegetative blooming in the project area and a greater number of special status plants recorded within the project survey area.

D5.0 RESULTS

D5.1 BLM and California Sensitive Plant Species

None of the three BLM sensitive species were recorded during the 2007, 2008 or 2010 surveys. Four California special status species were documented within the project area as listed in Table D5-1. Specific locations of these species' populations within the 300-foot-wide survey corridor are shown on Map 2-1in the EA. The results of the 2007, 2008, and 2010 botanical surveys are summarized in Table D5-1. Descriptions and field photographs of the four California special status species documented in the project area are shown in Attachment D2.

Table D5-1 Sensitive Plant Species Survey Occurrence in the Project Area

Common Name	Scientific Name	Status	Occurrence	Location
Geyer's milkvetch	*Astragalus geyeri* var. *geyeri*	BLM-S-CA; CA-S	No	N/A
Cruciform evening-primrose	*Camissonia claviformis* ssp. *cruciformis*	CA-S	No	N/A
Dugway wild buckwheat	*Eriogonum nutans* var. *nutans*	CA-S	No	N/A
Modoc bedstraw	*Galium glabrescens* ssp. *modocense*	BLM-S-CA	No	N/A
Bailey's ivesia	*Ivesia baileyi* var. *baileyi*	CA-S	No	N/A
Sagebrush loeflingia	*Loeflingia squarrosa* var. *artemisiarum*	BLM-S-CA; CA-S	No	N/A
MacDougal's lomatium	*Lomatium foeniculaceum* var. *macdougalii*	CA-S	2010	Map Sheet 3
Intermontane lupine	*Lupinus pusillus* var. *intermontanus*	CA-S	No	N/A
Lance-leaved scurf-pea	*Psoralidium lanceolatum*	CA-S	2007, 2008, 2010	Map Sheets 4, 5, 6, 7
Winged dock	*Rumex venosus*	CA-S	2007, 2008, 2010	Map Sheets 1, 4, 5, 7
Currant-leaved desert mallow	*Sphaeralcea grossulariifolia* ssp. *grossularifolia*	CA-S	No	N/A
Western seablite	*Suaeda occidentalis*	CA-S	No	N/A
Many-flowered thelypodium	*Thelypodium milleflorum*	CA-S	2010	Map Sheet 4

MacDougal's Lomatium

Theobald (1966) describes the plants 7-40 centimeters high, villous. Leaves, broadly ovate to ovate-oblong in outline, the blades 2-15 centimeters long, the ultimate divisions linear to obovate; petioles 1-4.3 centimeters long, shorter than the blade, usually sheathing throughout, purplish. Flowers usually yellow, sometimes purple, or yellow with purplish tinge, or yellow and purple flowers combined in the same umbellet; petals glabrous. Fruit ovate-oblong to orbicular, the body and wings pubescent, the wings narrower than the body. Photographs of the plant are provided in Attachment D3.

In California the perennial MacDougal's lomatium blooms from April to July and is found in rocky clayey soils in sagebrush communities typical of the project area. During the 2010 surveys, one population containing over 100 plants was found in heavy alkaline clay soils within the project boundary and several plants extended beyond the construction ROW (see Map 2-1 Sheet 3 of the EA). The project ROW crosses a total of 2,880 linear feet of documented MacDougal's lomatium. The occurrence data were submitted to the CNDDB for their records.

Lance-leaved Scurf-pea

Cronquist et al. (1989) describes the lance-leaf scurf-pea as an erect to spreading, freely branched perennial from 10-60 centimeters high with varied herbage, which ranges from smooth and hairless to glandular or covered with appressed hairs all pointing the same direction. The stem leaves are compound ternate (3 leaflets), which are narrowly obovate to elliptic-oblanceolate in shape, each ranging from 2-3 centimeters long. The inflorescence is a closely flowered or compact raceme of 10-40 white to light blue flowers. Individual flowers range from 4-7 mm long with a bell-shaped calyx with short, ovate-triangular teeth which are equal in size.

The perennial lance-leaved scurf-pea blooms from April to August in sandy soils with a preference for disturbed soils. A small population was noted growing within disturbed areas along the ROW including two-track trails in 2007 and 2008. Large populations of lance-leaved scurf-pea were observed within and outside the project ROW during the 2010 field surveys, in disturbed areas and within and along road beds (see Map 2 1, Sheets 4, 5, 6, and 7 of the EA and representative photos in Attachment D2). The ROW crosses a total of 4,795 linear feet of document populations of lance-leaved scurf-pea. Field survey data were submitted to the CNDDB for their records.

Winged Dock

Welsh et al. (1993) describe winged dock as a large-valve dock, with perennial herbs emerging from creeping rhizomes and erect stems 10-50 centimeters long. Blades are ovate to elliptic, 2-14 centimeters long and 1-6 centimeters wide, with leathery texture. Flowers are numerous, in generally leafy bracteate panticles. Pedicels are jointed near the middle, perianth segments are 4-5 mm long, and valves are 15-35 mm long, usually suffused with red, orbital to subreniform, cordate basally, rounded apically, reticulate, and lacking tuberosities. The achenes are smooth, and 5-6 mm.

The perennial winged dock blooms in May and June and grows well in dry, sandy, disturbed soils. It was recorded during each of three surveys in 2007, 2008, and 2010. In 2010, thousands of plants were recorded along the ROW, and several more populations were observed along the roads both in and out of the project area. Three distinct populations were recorded as shown on Map 2-1, Sheets 1, 4, 5, and 7 of the EA and representative photos are provided in Attachment D2. The project ROW crosses a total of 8,793 linear feet of documented winged dock populations. The survey data were submitted to the CNDDB for their records.

Many-flowered Thelypodium

Welsh et al. (1993) describe the stems of this biennial as ranging from 40-120 centimeters tall, almost always hollow, and either simple or branched. Basal leaves are oblong to lanceolate or ovate, 6-15 centimeters long and 1-7 centimeters wide, and toothed or penatifid; cauline leaves are similar, but gradually reduced upwardly. The flower is petiolate, with curved ascending pedicels 2-6 mm long, creamy white glabrous sepals are 4-9 mm, and white petals are 8-15 mm long and 1-2 mm wide. The siliques are stipitate and 25-85 mm long, and the stipes are stout, and 1.5-5 mm long.

This biennial plant blooms from April to June in sandy soils. One population of over 100 plants was recorded within the project area, shown on Map 2-1 Sheet 4 of the EA and Attachment D2). The population occurred within a sagebrush community along the project ROW, with a substantially larger population located south of the proposed ROW along the north slope of Turtle Mountain. The project ROW crosses a total of 4,840 linear feet of documented many-flowered thelypodium. Field survey data from 2010 were submitted to the CNDDB for their records.

D5.2 Vegetation Communities

Native vegetation present in and near the project area is typical of the Great Basin desert community. Vegetation occurring along the ephemeral Long Valley Creek encompasses both native and introduced plant species common to the regional desert washes with sporadic flows.

Vegetation community types using the California WHR System Classification (Mayer and Laudenslayer 1988) focused on dominant species by vegetation layers. Communities within the project area include variations in dominant sagebrush, bitterbrush, desert peach, grassland, and montane riparian with agriculture, pasture, industrial, and residential uses present. Representative photos of these native plant communities are provided in Attachment D2.

Bitterbrush and sagebrush habitats were often co-dominant and frequently transitioned from one to the other along the proposed route. Plant cover within the sagebrush habitat type was dominated by big sagebrush (Artemisia tridentata) (Photo 6, Photo 7, and Photo 8, Attachment D2), while plant cover within the bitterbrush habitat type was dominated by antelope bitterbrush (Purshia tridentata) (Photo 9, Attachment D2). Both

sagebrush and bitterbrush habitats are generally diverse in plant species composition and often include rabbitbrush (*Chrysothamnus* spp.), desert peach (*Prunus andersonii*), and/or Mormon tea (*Ephedra viridis*). The sagebrush flats along Fort Sage Road (Sections 23, 24 and 29; see Map 2-1, Sheets 2 and 3 in the EA) also included substantial perennial grassland including Great Basin wild rye (*Elymus cinereus*) and four-wing saltbush (*Atriplex canescens*) (Photo 10, Attachment D2). The Long Valley Creek crosses the project area at the intersection of Sections 9 and 10 (Photo 11, Attachment D2; see Map 2-1 Sheet 3 in the EA). Vegetation community types are described below in Table D5-2 and delineated on Map 2-1 in the EA. A complete list of species identified during the surveys is located in Attachment D3.

Table D5-2 Vegetation Community Types Occurring within the Project Area

Vegetation Classification	Abbreviation	Description
Agriculture	AGR	Crops; irrigated pasture.
Bitterbrush	BBR	Antelope bitterbrush (*Purshia tridentata*) dominant with variations of sagebrush species (*Artemisia tridentata* and subspecies), desert peach (*Prunus andersonii*), rabbitbrush (*Chrysothamnus* spp.), and Mormon tea (*Ephedra viridis*) interspersed in the understory.
Bitterbrush and Desert Peach	BBR/DP	Antelope bitterbrush and desert peach co-dominants with sagebrush species, rabbitbrush, and Mormon tea interspersed in the understory.
Desert Peach with Big Sagebrush and Bitterbrush	DP/sgb/bbr	Desert peach dominant with big sagebrush and antelope bitterbrush understory.
Disturbed	DIST	Areas of existing surface disturbance with little vegetative cover or weedy plant species.
Industrial	IND	Industrial typically reflects surface disturbance with non-vegetated areas and some planted patches.
Montane Riparian	MRI	Willow (Salix spp.) dominant; limited to Long Valley Creek.
Perennial Grassland with Saltbush and Sagebrush	PGS	Great Basin wild rye (Elymus cinereus) dominant with scattered saltgrass (Distichlis spicata), four-wing saltbush (Atriplex canescens), and sagebrush species.
Residential	RES	Residential homes with planted vegetation and some surface disturbance.
Rock Outcrops	ROCK	Rocky outcrops occurring within 0.5 mile of project ROW alignment.
Big Sagebrush	SGB	Big sagebrush dominant with antelope bitterbrush, rabbitbrush, and Mormon tea interspersed in the understory.
Big Sagebrush and Desert Peach	SGB/DP	Big sagebrush and desert peach co-dominants with rabbitbrush and Mormon tea interspersed in the understory.

Table D5-2 Vegetation Community Types Occurring within the Project Area, continued

Vegetation Classification	Abbreviation	Description
Big Sagebrush with Saltbush	SGB/sb	Big sagebrush dominant with saltbush, sagebrush species, rabbitbrush, and Mormon tea interspersed in the understory.

D5-3 Invasive Species

Several invasive species were located during all three surveys conducted in 2007, 2008 and 2010 (as identified in Attachment D3). Noxious weeds are a subclass of invasive plants that are often not compatible with livestock grazing. Lassen County, California (2006), Washoe County, Nevada (2010), and BLM Eagle Lake Field Office (BLM 2010) noxious weed lists were reviewed prior to the field surveys. None of the noxious weeds listed were observed or recorded along the proposed ROW and buffer areas during the 2007 and 2008 surveys. However, an invasive species, puncturevine (*Tribulus terristis*), was observed in the agricultural corridor along Garnier Road during the 2010 survey.

D6.0 DISCUSSION AND CONCLUSIONS

Initial literature and database reviews were conducted to identify special status plant species, based on associated habitats that may occur in or near the project area. Established survey protocols and guidelines were reviewed and followed per agency directives for the 2010 field surveys. Field botanists held training sessions and monitored the phenology of target plant species at regional reference sites prior to initiating project surveys to ensure the appropriate blooming period coincided with the survey efforts. Ultimately all 11 species were recognizable in the field. Pedestrian botanical surveys were conducted on June 7, 8, and 9, 2010 for the proposed 120kV transmission line route and ancillary facilities (e.g., substation site, line pulling sites, angle pole locations). Vegetation communities were identified and mapped and noxious weeds were surveyed.

Above average annual precipitation in early 2010 resulted in much greater level of vegetative blooming in the project area and a greater number of special status plants recorded within the project survey area, as compared to survey results from 2007 and 2008. In summary, no federally threatened, endangered, or candidate plant species were observed during the botanical field surveys. No BLM sensitive species were identified within the project area. Four California special status species were located within the project area, including: *Lomatium foeniculaceum* var. *macdougalii* (MacDougal's lomatium), *Psoralidium lanceolatum* (lance-leaved scurf-pea), *Rumex venosus* (winged dock), and *Thelypodium milleflorum* (many-flowered thelypodium). One noxious weed, *Tribulus terristis* (puncturevine) also was identified within the project area.

D7.0 REFERENCES

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ATTACHMENT D1
BOTANICAL SURVEY PROTOCOLS AND GUIDELINES

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities

State of California
CALIFORNIA NATURAL RESOURCES AGENCY
Department of Fish and Game
November 24, 2009[1]

INTRODUCTION AND PURPOSE

The conservation of special status native plants and their habitats, as well as natural communities, is integral to maintaining biological diversity. The purpose of these protocols is to facilitate a consistent and systematic approach to the survey and assessment of special status native plants and natural communities so that reliable information is produced and the potential of locating a special status plant species or natural community is maximized. They may also help those who prepare and review environmental documents determine when a botanical survey is needed, how field surveys may be conducted, what information to include in a survey report, and what qualifications to consider for surveyors. The protocols may help avoid delays caused when inadequate biological information is provided during the environmental review process; assist lead, trustee and responsible reviewing agencies to make an informed decision regarding the direct, indirect, and cumulative effects of a proposed development, activity, or action on special status native plants and natural communities; meet California Environmental Quality Act (CEQA)[2] requirements for adequate disclosure of potential impacts; and conserve public trust resources.

DEPARTMENT OF FISH AND GAME TRUSTEE AND RESPONSIBLE AGENCY MISSION

The mission of the Department of Fish and Game (DFG) is to manage California's diverse wildlife and native plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. DFG has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations (Fish and Game Code §1802). DFG, as trustee agency under CEQA §15386, provides expertise in reviewing and commenting on environmental documents and makes protocols regarding potential negative impacts to those resources held in trust for the people of California.

Certain species are in danger of extinction because their habitats have been severely reduced in acreage, are threatened with destruction or adverse modification, or because of a combination of these and other factors. The California Endangered Species Act (CESA) provides additional protections for such species, including take prohibitions (Fish and Game Code §2050 *et seq.*). As a responsible agency, DFG has the authority to issue permits for the take of species listed under CESA if the take is incidental to an otherwise lawful activity; DFG has determined that the impacts of the take have been minimized and fully mitigated; and, the take would not jeopardize the continued existence of the species (Fish and Game Code §2081). Surveys are one of the preliminary steps to detect a listed or special status plant species or natural community that may be impacted significantly by a project.

DEFINITIONS

Botanical surveys provide information used to determine the potential environmental effects of proposed projects on all special status plants and natural communities as required by law (i.e., CEQA, CESA, and Federal Endangered Species Act (ESA)). Some key terms in this document appear in **bold font** for assistance in use of the document.

For the purposes of this document, **special status plants** include all plant species that meet one or more of the following criteria[3]:

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1 This document replaces the DFG document entitled "Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened and Endangered Plants and Natural Communities."

2 http://ceres.ca.gov/ceqa/

3 Adapted from the East Alameda County Conservation Strategy available at http://www.fws.gov/sacramento/EACCS/Documents/080228_Species_Evaluation_EACCS.pdf

- Listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12).

- Listed[4] or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 *et seq.*). A species, subspecies, or variety of plant is **endangered** when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is **threatened** when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).

- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 *et seq.*). A plant is **rare** when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).

- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:

  - Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2);

  - Species that may warrant consideration on the basis of local significance or recent biological information[5];

  - Some species included on the California Natural Diversity Database's (CNDDB) *Special Plants, Bryophytes, and Lichens List* (California Department of Fish and Game 2008)[6].

- Considered a **locally significant species,** that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Special status natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status species or their habitat. The most current version of the Department's *List of California Terrestrial Natural Communities*[7] indicates which natural communities are of special status given the current state of the California classification.

Most types of wetlands and riparian communities are considered special status natural communities due to their limited distribution in California. These natural communities often contain special status plants such as those described above. These protocols may be used in conjunction with protocols formulated by other agencies, for example, those developed by the U.S. Army Corps of Engineers to delineate jurisdictional wetlands[8] or by the U.S. Fish and Wildlife Service to survey for the presence of special status plants[9].

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4 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.

5 In general, CNPS List 3 plants (plants about which more information is needed) and List 4 plants (plants of limited distribution) may not warrant consideration under CEQA §15380. These plants may be included on special status plant lists such as those developed by counties where they would be addressed under CEQA §15380. List 3 plants may be analyzed under CEQA §15380 if sufficient information is available to assess potential impacts to such plants. Factors such as regional rarity vs. statewide rarity should be considered in determining whether cumulative impacts to a List 4 plant are significant even if individual project impacts are not. List 3 and 4 plants are also included in the California Natural Diversity Database's (CNDDB) *Special Plants, Bryophytes, and Lichens List.* [Refer to the current online published list available at: http://www.dfg.ca.gov/biogeodata.] Data on Lists 3 and 4 plants should be submitted to CNDDB. Such data aids in determining or revising priority ranking.

6 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.

7 http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf. The rare natural communities are asterisked on this list.

8 http://www.wetlands.com/regs/tlpge02e.htm

9 U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/sacramento/es/protocol.htm

BOTANICAL SURVEYS

Conduct botanical surveys prior to the commencement of any activities that may modify vegetation, such as clearing, mowing, or ground-breaking activities. It is appropriate to conduct a botanical field survey when:

- Natural (or naturalized) vegetation occurs on the site, and it is unknown if special status plant species or natural communities occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- Special status plants or natural communities have historically been identified on the project site; or
- Special status plants or natural communities occur on sites with similar physical and biological properties as the project site.

SURVEY OBJECTIVES

Conduct field surveys in a manner which maximizes the likelihood of locating special status plant species or special status natural communities that may be present. Surveys should be **floristic in nature**, meaning that every plant taxon that occurs on site is identified to the taxonomic level necessary to determine rarity and listing status. "Focused surveys" that are limited to habitats known to support special status species or are restricted to lists of likely potential species are not considered floristic in nature and are not adequate to identify all plant taxa on site to the level necessary to determine rarity and listing status. Include a list of plants and natural communities detected on the site for each botanical survey conducted. More than one field visit may be necessary to adequately capture the floristic diversity of a site. An indication of the prevalence (estimated total numbers, percent cover, density, etc.) of the species and communities on the site is also useful to assess the significance of a particular population.

SURVEY PREPARATION

Before field surveys are conducted, compile relevant botanical information in the general project area to provide a regional context for the investigators. Consult the CNDDB[10] and BIOS[11] for known occurrences of special status plants and natural communities in the project area prior to field surveys. Generally, identify vegetation and habitat types potentially occurring in the project area based on biological and physical properties of the site and surrounding ecoregion[12], unless a larger assessment area is appropriate. Then, develop a list of special status plants with the potential to occur within these vegetation types. This list can serve as a tool for the investigators and facilitate the use of reference sites; however, special status plants on site might not be limited to those on the list. Field surveys and subsequent reporting should be comprehensive and floristic in nature and not restricted to or focused only on this list. Include in the survey report the list of potential special status species and natural communities, and the list of references used to compile the background botanical information for the site.

SURVEY EXTENT

Surveys should be comprehensive over the entire site, including areas that will be directly or indirectly impacted by the project. Adjoining properties should also be surveyed where direct or indirect project effects, such as those from fuel modification or herbicide application, could potentially extend offsite. Pre-project surveys restricted to known CNDDB rare plant locations may not identify all special status plants and communities present and do not provide a sufficient level of information to determine potential impacts.

FIELD SURVEY METHOD

Conduct surveys using **systematic field techniques** in all habitats of the site to ensure thorough coverage of potential impact areas. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct surveys by walking over the entire site to ensure thorough coverage, noting all plant taxa

[10] Available at http://www.dfg.ca.gov/biogeodata/cnddb

[11] http://www.bios.dfg.ca.gov/

[12] Ecological Subregions of California, available at http://www.fs.fed.us/r5/projects/ecoregions/toc.htm

observed. The level of effort should be sufficient to provide comprehensive reporting. For example, one person-hour per eight acres per survey date is needed for a comprehensive field survey in grassland with medium diversity and moderate terrain[13], with additional time allocated for species identification.

TIMING AND NUMBER OF VISITS

Conduct surveys in the field at the time of year when species are both evident and identifiable. Usually this is during flowering or fruiting. Space visits throughout the growing season to accurately determine what plants exist on site. Many times this may involve multiple visits to the same site (e.g. in early, mid, and late-season for flowering plants) to capture the floristic diversity at a level necessary to determine if special status plants are present[14]. The timing and number of visits are determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which the surveys are conducted.

REFERENCE SITES

When special status plants are known to occur in the type(s) of habitat present in the project area, observe reference sites (nearby accessible occurrences of the plants) to determine whether those species are identifiable at the time of the survey and to obtain a visual image of the target species, associated habitat, and associated natural community.

USE OF EXISTING SURVEYS

For some sites, floristic inventories or special status plant surveys may already exist. Additional surveys may be necessary for the following reasons:

- Surveys are not current[15]; or
- Surveys were conducted in natural systems that commonly experience year to year fluctuations such as periods of drought or flooding (e.g. vernal pool habitats or riverine systems); or
- Surveys are not comprehensive in nature; or fire history, land use, physical conditions of the site, or climatic conditions have changed since the last survey was conducted[16]; or
- Surveys were conducted in natural systems where special status plants may not be observed if an annual above ground phase is not visible (e.g. flowers from a bulb); or
- Changes in vegetation or species distribution may have occurred since the last survey was conducted, due to habitat alteration, fluctuations in species abundance and/or seed bank dynamics.

NEGATIVE SURVEYS

Adverse conditions may prevent investigators from determining the presence of, or accurately identifying, some species in potential habitat of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any given year. Discuss such conditions in the report.

The failure to locate a known special status plant occurrence during one field season does not constitute evidence that this plant occurrence no longer exists at this location, particularly if adverse conditions are present. For example, surveys over a number of years may be necessary if the species is an annual plant having a persistent, long-lived seed bank and is known not to germinate every year. Visits to the site in more

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13 Adapted from U.S. Fish and Wildlife Service kit fox survey guidelines available at www.fws.gov/sacramento/es/documents/kitfox_no_protocol.pdf

14 U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/sacramento/es/protocol.htm

15 Habitats, such as grasslands or desert plant communities that have annual and short-lived perennial plants as major floristic components may require yearly surveys to accurately document baseline conditions for purposes of impact assessment. In forested areas, however, surveys at intervals of five years may adequately represent current conditions. For forested areas, refer to "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf

16 U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/botanicalinventories.pdf

than one year increase the likelihood of detection of a special status plant especially if conditions change. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may ensure that the timing of the survey was appropriate.

REPORTING AND DATA COLLECTION

Adequate information about special status plants and natural communities present in a project area will enable reviewing agencies and the public to effectively assess potential impacts to special status plants or natural communities[17] and will guide the development of minimization and mitigation measures. The next section describes necessary information to assess impacts. For comprehensive, systematic surveys where no special status species or natural communities were found, reporting and data collection responsibilities for investigators remain as described below, excluding specific occurrence information.

SPECIAL STATUS PLANT OR NATURAL COMMUNITY OBSERVATIONS

Record the following information for locations of each special status plant or natural community detected during a field survey of a project site.

- A detailed map (1:24,000 or larger) showing locations and boundaries of each special status species occurrence or natural community found as related to the proposed project. Mark occurrences and boundaries as accurately as possible. Locations documented by use of global positioning system (GPS) coordinates must include the datum[18] in which they were collected;
- The site-specific characteristics of occurrences, such as associated species, habitat and microhabitat, structure of vegetation, topographic features, soil type, texture, and soil parent material. If the species is associated with a wetland, provide a description of the direction of flow and integrity of surface or subsurface hydrology and adjacent off-site hydrological influences as appropriate;
- The number of individuals in each special status plant population as counted (if population is small) or estimated (if population is large);
- If applicable, information about the percentage of individuals in each life stage such as seedlings vs. reproductive individuals;
- The number of individuals of the species per unit area, identifying areas of relatively high, medium and low density of the species over the project site; and
- Digital images of the target species and representative habitats to support information and descriptions.

FIELD SURVEY FORMS

When a special status plant or natural community is located, complete and submit to the CNDDB a California Native Species (or Community) Field Survey Form[19] or equivalent written report, accompanied by a copy of the relevant portion of a 7.5 minute topographic map with the occurrence mapped. Present locations documented by use of GPS coordinates in map and digital form. Data submitted in digital form must include the datum[20] in which it was collected. If a potentially undescribed special status natural community is found on the site, document it with a Rapid Assessment or Relevé form[21] and submit it with the CNDDB form.

VOUCHER COLLECTION

Voucher specimens provide verifiable documentation of species presence and identification as well as a public record of conditions. This information is vital to all conservation efforts. Collection of voucher specimens should

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17 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata. For Timber Harvest Plans (THPs) please refer to the "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf

18 NAD83, NAD27 or WGS84

19 http://www.dfg.ca.gov/biogeodata

20 NAD83, NAD27 or WGS84

21 http://www.dfg.ca.gov/biogeodata/vegcamp/veg_publications_protocols.asp

be conducted in a manner that is consistent with conservation ethics, and is in accordance with applicable state and federal permit requirements (e.g. incidental take permit, scientific collection permit). Voucher collections of special status species (or suspected special status species) should be made only when such actions would not jeopardize the continued existence of the population or species.

Deposit voucher specimens with an indexed regional herbarium[22] no later than 60 days after the collections have been made. Digital imagery can be used to supplement plant identification and document habitat. Record all relevant permittee names and permit numbers on specimen labels. A collecting permit is required prior to the collection of State-listed plant species[23].

BOTANICAL SURVEY REPORTS

Include reports of botanical field surveys containing the following information with project environmental documents:

- **Project and site description**
  - A description of the proposed project;
  - A detailed map of the project location and study area that identifies topographic and landscape features and includes a north arrow and bar scale; and,
  - A written description of the biological setting, including vegetation[24] and structure of the vegetation; geological and hydrological characteristics; and land use or management history.
- **Detailed description of survey methodology and results**
  - Dates of field surveys (indicating which areas were surveyed on which dates), name of field investigator(s), and total person-hours spent on field surveys;
  - A discussion of how the timing of the surveys affects the comprehensiveness of the survey;
  - A list of potential special status species or natural communities;
  - A description of the area surveyed relative to the project area;
  - References cited, persons contacted, and herbaria visited;
  - Description of reference site(s), if visited, and phenological development of special status plant(s);
  - A list of all taxa occurring on the project site. Identify plants to the taxonomic level necessary to determine whether or not they are a special status species;
  - Any use of existing surveys and a discussion of applicability to this project;
  - A discussion of the potential for a false negative survey;
  - Provide detailed data and maps for all special plants detected. Information specified above under the headings "Special Status Plant or Natural Community Observations," and "Field Survey Forms," should be provided for locations of each special status plant detected;
  - Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms should be sent to the CNDDB and included in the environmental document as an Appendix. It is not necessary to submit entire environmental documents to the CNDDB; and,
  - The location of voucher specimens, if collected.

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22 For a complete list of indexed herbaria, see: Holmgren, P., N. Holmgren and L. Barnett. 1990. Index Herbariorum, Part 1: Herbaria of the World. New York Botanic Garden, Bronx, New York. 693 pp. Or: http://www.nybg.org/bsci/ih/ih.html

23 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.

24 A vegetation map that uses the National Vegetation Classification System (http://biology.usgs.gov/npsveg/nvcs.html), for example *A Manual of California Vegetation*, and highlights any special status natural communities. If another vegetation classification system is used, the report should reference the system, provide the reason for its use, and provide a crosswalk to the National Vegetation Classification System.

- **Assessment of potential impacts**
  - A discussion of the significance of special status plant populations in the project area considering nearby populations and total species distribution;
  - A discussion of the significance of special status natural communities in the project area considering nearby occurrences and natural community distribution;
  - A discussion of direct, indirect, and cumulative impacts to the plants and natural communities;
  - A discussion of threats, including those from invasive species, to the plants and natural communities;
  - A discussion of the degree of impact, if any, of the proposed project on unoccupied, potential habitat of the species;
  - A discussion of the immediacy of potential impacts; and,
  - Recommended measures to avoid, minimize, or mitigate impacts.

QUALIFICATIONS

Botanical consultants should possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with the plants of the area, including special status species;
- Familiarity with natural communities of the area, including special status natural communities;
- Experience conducting floristic field surveys or experience with floristic surveys conducted under the direction of an experienced surveyor;
- Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- Experience with analyzing impacts of development on native plant species and natural communities.

SUGGESTED REFERENCES

Barbour, M., T. Keeler-Wolf, and A. A. Schoenherr (eds.). 2007. Terrestrial vegetation of California (3rd Edition). University of California Press.

Bonham, C.D. 1988. Measurements for terrestrial vegetation. John Wiley and Sons, Inc., New York, NY.

California Native Plant Society. Most recent version. Inventory of rare and endangered plants (online edition). California Native Plant Society, Sacramento, CA. Online URL http://www.cnps.org/inventory.

California Natural Diversity Database. Most recent version. Special vascular plants, bryophytes and lichens list. Updated quarterly. Available at www.dfg.ca.gov.

Elzinga, C.L., D.W. Salzer, and J. Willoughby. 1998. Measuring and monitoring plant populations. BLM Technical Reference 1730-1. U.S. Dept. of the Interior, Bureau of Land Management, Denver, Colorado.

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Mueller-Dombois, D. and H. Ellenberg. 1974. Aims and methods of vegetation ecology. John Wiley and Sons, Inc., New York, NY.

U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed plants on the Santa Rosa Plain. Sacramento, CA.

U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento, CA.

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CNPS Botanical Survey Guidelines

CALIFORNIA NATIVE PLANT SOCIETY
December 9, 1983
Revised June 2, 2001

The following recommendations are intended to help those who prepare and review environmental documents determine when a botanical survey is needed, who should be considered qualified to conduct such surveys, how surveys should be conducted, and what information should be contained in the survey report. The California Native Plant Society recommends that lead agencies not accept the results of surveys unless they are conducted and reported according to these guidelines.

1. Botanical surveys are conducted in order to determine the environmental effects of proposed projects on all botanical resources, including special status plants (rare, threatened, and endangered plants) and plant (vegetation) communities. Special status plants are not limited to those that have been listed by state and federal agencies but include any plants that, based on all available data, can be shown to be rare, threatened, or endangered under the following definitions:

   > A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.[1]

   Rare plant (vegetation) communities are those communities that are of highly limited distribution. These communities may or may not contain special status plants. The most current version of the California Natural Diversity Database's *List of California Terrestrial Natural Communities*[2] should be used as a guide to the names and status of communities.

   Consistent with the California Native Plant Society's goal of preserving plant biodiversity on a regional and local scale, and with California Environmental Quality Act environmental impact assessment criteria[3], surveys should also assess impacts to locally significant plants. Both plants and plant communities can be considered significant if their local occurrence is on the outer limits of known distribution, a range extension, a rediscovery, or rare or uncommon in a local context (such as within a county or region). Lead agencies should address impacts to these locally unique botanical resources regardless of their status elsewhere in the state.

2. Botanical surveys must be conducted to determine if, or to the extent that, special status or locally significant plants and plant communities will be affected by a proposed project when any natural vegetation occurs on the site and the project has the potential for direct or indirect effects on vegetation.

3. Those conducting botanical surveys must possess the following qualifications:
   a. Experience conducting floristic field surveys;
   b. Knowledge of plant taxonomy and plant community ecology and classification;
   c. Familiarity with the plants of the area, including special status and locally significant plants;

[1] California Environmental Quality Act Guidelines, §15065 and §15380.
[2] List of California Terrestrial Natural Communities. California Department of Fish and Game Natural Diversity Database. Sacramento, CA.
[3] California Environmental Quality Act Guidelines, Appendix G (Initial Study Environmental Checklist).

d. Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
e. Experience with analyzing impacts of a project on native plants and communities.

4. Botanical surveys should be conducted in a manner that will locate any special status or locally significant plants or plant communities that may be present. Specifically, botanical surveys should be:

   a. Conducted in the field at the proper times of year when special status and locally significant plants are both evident and identifiable. When special status plants are known to occur in the type(s) of habitat present in the project area, nearby accessible occurrences of the plants (reference sites) should be observed to determine that the plants are identifiable at the time of survey.

   b. Floristic in nature. A floristic survey requires that every plant observed be identified to species, subspecies, or variety as applicable. In order to properly characterize the site, a complete list of plants observed on the site shall be included in every botanical survey report. In addition, a sufficient number of visits spaced throughout the growing season is necessary to prepare an accurate inventory of all plants that exist on the site. The number of visits and the timing between visits must be determined by geographic location, the plant communities present, and the weather patterns of the year(s) in which the surveys are conducted.

   c. Conducted in a manner that is consistent with conservation ethics and accepted plant collection and documentation techniques[4,5]. Collections (voucher specimens) of special status and locally significant plants should be made, unless such actions would jeopardize the continued existence of the population. A single sheet should be collected and deposited at a recognized public herbarium for future reference. All collections shall be made in accordance with applicable state and federal permit requirements. Photography may be used to document plant identification only when the population cannot withstand collection of voucher specimens.

   d. Conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas. All habitats within the project site must be surveyed thoroughly in order to properly inventory and document the plants present. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity.

   e. Well documented. When a special status plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form, accompanied by a copy of the appropriate portion of a 7.5-minute topographic map with the occurrence mapped, shall be completed, included within the survey report, and separately submitted to the California Natural Diversity Database. Population boundaries should be mapped as accurately as possible. The number of individuals in each population should be counted or estimated, as appropriate.

5. Complete reports of botanical surveys shall be included with all environmental assessment documents, including Negative Declarations and Mitigated Negative Declarations, Timber Harvesting Plans, Environmental Impact Reports, and Environmental Impact Statements. Survey reports shall contain the following information:

   a. Project location and description, including:

[4] Collecting Guidelines and Documentation Techniques. California Native Plant Society Policy (adopted March 4, 1995).
[5] Ferren, W.R., Jr., D.L. Magney, and T.A. Sholars. 1995. The Future of California Floristics and Systematics: Collecting Guidelines and Documentation Techniques. *Madroño* 42(2):197-210.

1) A detailed map of the location and footprint of the proposed project.
2) A detailed description of the proposed project, including one-time activities and ongoing activities that may affect botanical resources.
3) A description of the general biological setting of the project area.

b. Methods, including:
1) Survey methods for each of the habitats present, and rationale for the methods used.
2) Description of reference site(s) visited and phenological development of the target special status plants, with an assessment of any conditions differing from the project site that may affect their identification.
3) Dates of surveys and rationale for timing and intervals; names of personnel conducting the surveys; and total hours spent in the field for each surveyor on each date.
4) Location of deposited voucher specimens and herbaria visited.

c. Results, including:
1) A description and map of the vegetation communities on the project site. The current standard for vegetation classification, *A Manual of California Vegetation*[6], should be used as a basis for the habitat descriptions and the vegetation map. If another vegetation classification system is used, the report must reference the system and provide the reason for its use.
2) A description of the phenology of each of the plant communities at the time of each survey date.
3) A list of all plants observed on the project site using accepted scientific nomenclature, along with any special status designation. The reference(s) used for scientific nomenclature shall be cited.
4) Written description and detailed map(s) showing the location of each special status or locally significant plant found, the size of each population, and method used to estimate or census the population.
5) Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms and accompanying maps.

d. Discussion, including:
1) Any factors that may have affected the results of the surveys (*e.g.*, drought, human disturbance, recent fire).
2) Discussion of any special local or range-wide significance of any plant population or community on the site.
3) An assessment of potential impacts. This shall include a map showing the distribution of special status and locally significant plants and communities on the site in relation to the proposed activities. Direct, indirect, and cumulative impacts to the plants and communities shall be discussed.
4) Recommended measures to avoid and/or minimize direct, indirect, and cumulative impacts.

e. References cited and persons contacted.

f. Qualifications of field personnel including any special experience with the habitats and special status plants present on the site.

[6] Sawyer, J.O. and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society. Sacramento, CA. 471 pp.

ATTACHMENT D2
PROPOSED PROJECT MAPS

(PLEASE REFER TO ENVIRONMENTAL ASSESSMENT)

ATTACHMENT D3
FIELD PHOTOGRAPHS

Photo D1 *Lomatium foeniculaceum* var. *macdougalii* (MacDougal's lomatium)

Photo D2 *Psoralidium lanceolatum* (lance-leaved scurf-pea)

Photo D3 *Psoralidium lanceolatum* (lance-leaved scurf-pea) habitat

Photo D4 *Rumex venosus* (winged dock)

Photo D5 Thelypodium milleflorum (many-flowered thelypodium)

Photo D6 SGB: Big sagebrush with saltbush and antelope bitterbrush understory, Highway 395

Photo D7 SGB: Mature big sagebrush with sparse bitterbrush and rabbitbrush understory, facing west along proposed route

Photo D8 SGB/sb: big sagebrush habitat with four-wing saltbush, rabbitbrush, and Great Basin wild rye interspersed in the understory; facing southeast to Fort Sage Substation

Photo D9 BBR: Mature bitterbrush habitat with sagebrush and desert peach understory; approximately 0.25 mile east of Garnier Road, looking east toward Turtle Mountain

Photo D10 PGS: perennial grassland dominated by Great Basin wild rye and saltgrass, facing southeast along proposed route toward Fort Sage Substation

Photo D11 MRI: Willow-dominated riverine system, Long Valley Creek

ATTACHMENT D4
BOTANICAL SPECIES RECORDED

PLUMAS-SIERRA RURAL ELECTRIC COOPERATIVE
Fort Sage to Herlong 120kV Interconnect Project
Botanical Survey Species
Lassen County, California
Washoe County, Nevada
May 29, 2007
June 14, 2008
June 7, 8, and 9, 2010

Shrubs:	
Artemisia spinescens	Budsage
Artemisia tridentate	Big sagebrush
Atriplex canescens var. *canescens*	Four-wing saltbush
Atriplex confertifolia	Spiny saltbush
Chrysothamnus nauseosus	Green rabbitbrush
Chrysothamnus viscidiflorus	Rubber rabbitbrush
Elaeagnus angustifolia	Russian olive (invasive)
Ephedra viridis	Mormon tea
Krascheninnikovia lanata	Winterfat
Grayia spinosa	Hop sage
Populus hybrid	Wind break poplar
Prunus andersonii	Desert peach
Purshia tridentate	Bitterbrush
Ribes aureum	Golden current
Rosa woodsii var. ultramontana	Interior wild rose
Salix exigua	Narrowleaf willow
Sarcobatus vermiculatus	Black greasewood
Tetradymia canescens	Gray horsebrush
Tetradymia glabrata	Littleleaf horsebush
Tetradymia spinosa	Spiny horsebrush
Grasses:	
Achnatherum hymenoides	Indian rice grass
Agropyron desertorum	Crested wheatgrass (invasive)
Bromus tectorum	Cheat grass (invasive)
Elymus cinereus	Basin wild rye
Elymus elymoides ssp. *elymoides*	Squirreltail
Festuca rubra	Red fescue
Hordeum brachyantherum ssp. *brachyantherum*	Meadow barley
Poa bulbosa	Bulbous bluegrass (invasive)
Annuals and Perennials:	
Abronia turbinate	Sand verbena
Allium tolmiei var. *tolmiei*	Tolmie's onion
Amsinckia intermedia	Fiddleneck
Amsinckia tessellate	Devil's lettuce (invasive)
Argemone munita	Prickly poppy
Astragalus curvicarpus var. *curvicarpus*	Coiled locoweed
Astragalus filipes	Narrow pod locoweed

Annuals and Perennials, continued:

Astragalus lentiginosus var. *salinus*	Freckled milkvetch
Astragalus purshii var. *purshii*	Pursh's milkvetch
Balsamorhiza sagittata	Arrowleaf balsamroot
Calochortus bruneaunis	Mariposa lily
Calochortus leichtlinii	Smokey mariposa lily
Camissonia contorta	Contorted suncup
Camissonia tanacetifolia ssp. *tanacetifolia*	Tansy suncup
Cardaria pubescens	Hairy white-top (alien)
Castilleja angustifolia	Desert Indian paintbrush
Chaenactis douglasii var. *douglasii*	Dusty maidens
Chamomilla suaveolens	Pineapple weed
Claytonia perfoliata	Miner's lettuce
Collensia parvaflora	Maiden blue-eyed mary
Crepis acuminate	Tapertip hawksbeard
Crepis bakeri	Baker's hawksbeard
Cryptantha circumscissa	Cushion cryptantha
Cryptantha watsonii	Watson's cryptantha
Descurainia pinnata ssp*. intermedia*	Tansy mustard
Descurainia sophia	Flix weed (invasive)
Eatonella nivea	White false tickhead
Eriastrum sparsiflorum	Great Basin woolystar
Erigeron aphanactis var. *aphanactis*	Rayless shaggy fleabane
Erigeron bloomeri var. *bloomer*	Bloomer's fleabane
Eriogonum baileyi var. *baileyi*	Bailey's buckwheat
Eriogonum cernuum var. *cernuum*	Nodding buckwheat
Eriogonum maculatum	Spotted buckwheat
Eriogonum nudum var. *oblongifolium*	Oblong leaf buckwheat
Eriogonum nummulare	Round leaf buckwheat
Eriogonum strictum var. anserinum	Blue mountain buckwheat
Eriogonum umbellatum var. *nevadense*	Sulpher flower buckwheat
Eriogonum vimineum	Wicker stem buckwheat
Erodium cicutarium	Storksbill (invasive)
Gayophytum diffusum ssp*. parviflorum*	Diffuse groundsmoke
Gayophytum ramosissimum	Sagebrush groundsmoke
Gilia brecciarum ssp. *brecciarum*	Nevada gilia
Gilia inconspicua	
Gnaphalium palustre	Low cudweed
Gymnosteris parvula	
Hesperostipa comata ssp*. comate*	Needle and thread
Lagophylla ramosissima	Common hareleaf
Layia glandulosa	Tidytips
Lepidium campestre	Field peppergrass (invasive)
Lepidium perfoliatum	Shield peppergrass (invasive)
Linanthus pungens	Granite prickly phlox
Linanthus ciliatus	Whisker brush
Lomatium foeniculaceum var. *macdougalii*	Macdougal's lomatium (CNPS List 2.2)
Lomatium plummerae	Plummer's lomatium
Lupinus albicaulis	White stemmed lupine

Annuals and Perennials, continued:

Lupionus arbustus	Spurred lupine
Lupinus argenteus var. *holosericeus*	
Lupinus nanus	
Malacothrix glabrata	Desert dandelion
Medicago sativa	Alfalfa (invasive)
Mentzelia albicaulis	White stemmed mentzelia
Mentzelia congesta	Clustered blazing star
Microsteris gracilis	Annual phlox
Mimulus mephiticus	Skunky monkeyflower
Mimulus nana	Small monkeyflower
Nama aretiodes var. *multiflorum*	Purple nama
Nama densum var. *densum*	Leafy nama
Oenothera caespitosa	Desert evening primrose
Oenothera deltoides ssp. *deltoides*	Birdnest evening primrose
Orobanche fasciculate	Broomrape
Paeonia brownie	Western peony
Phacelia adenophora	Golden-gilia
Phacelia hastata ssp. *hastate*	White-leafed phacelia
Plagiobothrys kingii var. *kingie*	Great basin popcorn flower
Polygonum spp.	Knotweed (invasive)
Potentilla anserina	Common silverweed
Psoralidium lanceolatum	Lance-leaved scurf-pea (CNPS List 2.3)
Ranunculus testiculatus	Crowfoot (invasive)
Rumex conglomeratus	Whorled dock (invasive)
Rumex paucifolius	Sheep sorrel (invasive)
Rumex venosus	Winged dock (CNPS List 2.3)
Salsola tragus	Russian thistle (invasive)
Sisymbrium altissimum	Tumble mustard (invasive)
Stanleya pinnata var. *pinnata*	Prince's plume
Thelapodium milliflorum	Many-flowered thelapodium (CNPS List 2.2)
Tiquilia nuttalii	Crinklemat
Tragopogon dubius	Oysterplant (invasive)
Tribulus terristis	Puncturevine (invasive)
Veronica serpyllifolia	Thyme leaved speedwell (invasive)
Wyethia mollis	Mule ears
Zigadenus paniculatus	Sand corn
Zigadenus venenosus	Death camas

APPENDIX E
2010 WILDLIFE SURVEY REPORT

E1.0 INTRODUCTION

Initial wildlife baseline surveys were conducted in 2007 to characterize wildlife habitats occurring along the right-of-way (ROW) alignment for Plumas-Sierra Rural Electric Cooperative's (PSREC's) proposed Fort Sage to Herlong 120kV Interconnect Project. Subsequent and more detailed surveys were completed in spring and summer of 2010 to better define what special status wildlife species may occur along the 13.67-mile route.

Literature and database reviews were conducted to identify special status wildlife species that may occur in or near the project area. Survey methods followed existing and established protocols by species and the study plans were developed in conjunction with federal and state agency directives and reviewed by these agencies prior to field implementation in 2010.

The 2007 wildlife field surveys were conducted by a local biologist, Paul Hardy; the 2010 wildlife field surveys were conducted by Paul Hardy and David Arsenault, both independent, local biologists. Detailed pedestrian wildlife surveys were conducted between April 17 and June 27, 2010, following the established survey protocols by species.

E1.1 Project Location

The Fort Sage Substation is located in Washoe County, Nevada, and the Herlong Substation is located in Lassen County, California. Initial routing alternatives examined for this project ranged from 11 to 15 miles between the two substations. Based on preliminary field review, environmental concerns (e.g., Doyle State Wildlife Area [SWA]), and human resource issues, the alignment was modified to reflect the currently proposed route alignment shown on Map 1-1 of the EA.

E1.2 Habitat Characterization

Habitat types recorded along the proposed ROW alignment are based on the California Wildlife-Habitat Relationships (WHR) System (Mayer and Laudenslayer 1988), focusing on dominant species by vegetation types (Table E1-6-2). Wildlife habitats within the project area parallel the vegetation communities described in Section 3.13 of the EA. These habitats include a mosaic of native upland areas of sagebrush, bitterbrush, desert peach, and grasslands, with montane riparian occurring only along Long Valley Creek. Other habitats with human-induced aspects include agricultural lands, pasture, residential, some industrial, and disturbed areas (see Map 2-1 of the EA and representative photos in Attachment E2).

Table E1-6-2 Vegetation Community Types Occurring within the Project Area

Vegetation Classification	Abbreviation	Description
Agriculture	AGR	Crops; irrigated pasture.
Bitterbrush	BBR	Antelope bitterbrush (*Purshia tridentata*) dominant with variations of sagebrush species (*Artemisia tridentata* and subspecies), desert peach (*Prunus andersonii*), rabbitbrush (*Chrysothamnus* spp.), and Mormon tea (*Ephedra viridis*) interspersed in the understory.
Bitterbrush and Desert Peach	BBR/DP	Antelope bitterbrush and desert peach co-dominants with sagebrush species, rabbitbrush, and Mormon tea interspersed in the understory.
Desert Peach with Big Sagebrush and Bitterbrush	DP/sgb/bbr	Desert peach dominant with big sagebrush and antelope bitterbrush understory.
Disturbed	DIST	Areas of existing surface disturbance with little vegetative cover or weedy plant species.
Industrial	IND	Industrial typically reflects surface disturbance with non-vegetated areas and some planted patches.
Montane Riparian	MRI	Willow (Salix spp.) dominant; limited to Long Valley Creek.
Perennial Grassland with Saltbush and Sagebrush	PGS	Great Basin wild rye (Elymus cinereus) dominant with scattered saltgrass (Distichlis spicata), four-wing saltbush (Atriplex canescens), and sagebrush species.
Residential	RES	Residential homes with planted vegetation and some surface disturbance.
Rock Outcrops	ROCK	Rocky outcrops occurring within 0.5 mile of project ROW alignment.
Big Sagebrush	SGB	Big sagebrush dominant with antelope bitterbrush, rabbitbrush, and Mormon tea interspersed in the understory.
Big Sagebrush and Desert Peach	SGB/DP	Big sagebrush and desert peach co-dominants with rabbitbrush and Mormon tea interspersed in the understory.
Big Sagebrush with Saltbush	SGB/sb	Big sagebrush dominant with saltbush, sagebrush species, rabbitbrush, and Mormon tea interspersed in the understory.

E1.3 Wildlife Species of Concern

The following species identified for the proposed project are presented by listing category. Detailed descriptions of these species are discussed in Section 4 of this appendix.

E1.3.1 Federally Listed Species

The Endangered Species Act (16 U.S.C. 1531-1544) (ESA) provides protection for species of fish, wildlife, and plants listed as threatened or endangered. Endangered species are those in danger of extinction throughout all or a significant portion of its range. Threatened species are those likely to become endangered within the foreseeable future. Candidate species are likely to decline in numbers due to habitat loss and require additional data to warrant listing as an endangered or threatened species. One federally listed and one federal candidate wildlife species documented in the larger project region but not occurring in the immediate project area were assessed for the proposed project (Table E1-6-3).

Table E1-6-3 Federally Listed and Federal Candidate Species Assessed for the Project Area

Common Name	Scientific Name	Status[1]	State[2]
Bird			
Greater Sage-grouse	*Centrocercus urophasianus*	FC	CA, NV
Invertebrate			
Carson Wandering Skipper	*Pseudocopaeodes eunus obscurus*	FE	CA, NV

Source: USFWS 2010a, 2010b
[1] Status Codes: FE = Federally Endangered; FC = Species Candidate for Federal Listing
[2] State: CA = California; NV = Nevada

E1.3.2 BLM Sensitive Species

BLM Manual 6840 (BLM 2009) defines sensitive species as "…those species that are 1) under status review by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS); or 2) whose numbers are declining so rapidly that Federal listing may become necessary; or 3) with typically small and widely dispersed populations; or 4) those inhabiting ecological refugia or other specialized or unique habitats." Existing BLM policy concerning the designation of sensitive species identifies two conditions that must be met before a species may be considered as BLM sensitive: 1) a significant population of the species must occur on BLM-administered lands and 2) the potential must exist for improvement of the species' condition through BLM management. Table E1-6-4 lists the BLM sensitive wildlife species identified as potentially occurring in the project area in Lassen County, California, and Washoe County, Nevada.

Table E1-6-4 BLM Sensitive Species Potentially Occurring in the Project Area

Common Name	Scientific Name	Status[1]	State[2]
Reptile			
Northern Sagebrush Lizard	*Sceloporus graciosus graciosus*	BLM-S	CA
Birds			
Greater Sage-grouse	*Centrocercus urophasianus*	BLM-S	CA, NV
Burrowing Owl	*Athene cunicularia*	BLM-S	CA, NV
Invertebrate			
Honey Lake Blue	*Euphilotes pallescens calneva*	BLM-S	NV

[1] Status Codes: BLM-S = BLM Sensitive Species
[2] State: CA = California; NV = Nevada

E1.3.3 California Special Status Species

The State of California maintains a list of "Endangered and Threatened Animals of California" (CESA), maintained by the California Natural Diversity Database (CNDDB). In addition, the California Department of Fish and Game (CDFG) has designated certain species as "Fully Protected," and such species may not be taken or possessed at any time and no provision or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species, although take may be authorized for necessary scientific research. CDFG also identifies "Species of Special Concern," because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. A third category established by CDFG is the "Taxa to Watch" for certain bird species. The birds on this watch list: 1) are not on the current Species of Special Concern list but were on previous lists and they have not been state-listed under CESA; 2) were previously state- or federally listed and now are on neither list; or 3) are on the list of "fully protected" species. Table E1-6-5 lists the California special status species known to historically occur or potentially occur in the project area.

Table E1-6-5 California Special Status Species

Common Name	Scientific Name	Status[1]
Birds		
Bald Eagle	*Haliaeetus leucocephalus*	SE; CDFG-FP
Golden Eagle	*Aquila chrysaetos*	CDFG-FP; CDFG-WL
Northern Harrier	*Circus cyaneus*	CDFG-SSC
Prairie Falcon	*Falco mexicanus*	CDFG-WL
Swainson's Hawk	*Buteo swainsoni*	ST
American Peregrine Falcon	*Falco peregrinus anatum*	SE; CDFG-FP
Short-eared Owl	*Asio flammeus*	CDFG-SSC
Long-eared Owl	*Asio otus*	CDFG-SSC
Burrowing Owl	*Athene cunicularia*	CDFG-SSC
Long-billed Curlew	*Numenius americanus*	CDFG-WL
Willow Flycatcher	*Empidonax traillii*	SE
Loggerhead Shrike	*Lanius ludovicianus*	CDFG-SSC
Bank Swallow	*Riparia riparia*	ST

Table E1-9 California Special Status Species, continued

Common Name	Scientific Name	Status[1]
Yellow-breasted Chat	*Icteria virens*	CDFG-SSC
Yellow Warbler	*Dendroica petechia brewsteri*	CDFG-SSC
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*	CDFG-SSC
Greater Sandhill Crane	*Grus canadensis tabida*	ST; CDFG-FP
Mountain Plover	*Charadrius montanus*	CDFG-SSC
Greater Sage-grouse	*Centrocercus urophasianus*	CDFG-SSC
Mammals		
American Badger	*Taxidea taxus*	CDFG-SSC
Pygmy Rabbit	*Brachylagus idahoensis*	CDFG-SSC
Western White-tailed Jackrabbit	*Lepus townsendii townsendii*	CDFG-SSC
Amphibian		
Northern Leopard Frog	*Lithobates pipiens*	CDFG-SSC

[1]Status Codes: SE = State-listed as Endangered
ST = State-listed as Threatened
CDFG-FP = CDFG - Fully Protected
CDFG-SSC = CDFG - Species of Special Concern
CDFG-WL = CDFG - Watch List

E1.3.4 Migratory Birds and Eagle Protection

The Migratory Bird Treaty Act (16 U.S.C. 703-712) (MBTA) is the benchmark legislation for migratory-bird conservation and protection in the United States. The MBTA was established in response to the unregulated and indiscriminate taking of migratory bird species, as well as their eggs, feathers, or nests. “Take” is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof. The Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d) affords additional protection to all bald and golden eagles.

E2.0 PURPOSE AND SCOPE

The 2010 wildlife surveys were conducted to characterize area habitats, provide baseline data for the EA analysis, and ultimately identify potential environmental impacts to wildlife species from construction and operation of the proposed 120kV transmission line project as part of the EA review. Survey results were incorporated into the EA analysis to identify any key wildlife resource issues that may require further consideration. Table E2-1 lists sources used in conjunction with the 2010 survey data.

Table E2-1 Project-Specific Wildlife Information Sources in Addition to 2010 Survey Results

Source	Citation
Initial Field Reconnaissance	EDM 2007
2007 Initial Wildlife Surveys	Hardy 2007
California Department of Fish and Game	CDFG 2005; Callas 2008; Ehler 2008; Hall 2007; Haney 2008; Stowers 2008
California Natural Diversity Database	CNDDB 2009; McGriff 2008
Nevada Department of Wildlife	Hamson 2007
Nevada Natural Heritage Program	NNHP 2008
Bureau of Land Management	BLM 2008
U.S. Fish and Wildlife Service	USFWS 2007, 2008
Honey Lake Conservation Team	HLCT 2007

E3.0 METHODS

E3.1 Review of Existing Data

Prior to initiating the 2010 field surveys, a number of federal and state sources were reviewed, including: 1) the federal threatened, endangered, and candidate species lists for Washoe County, Nevada and Lassen County, California; 2) BLM's sensitive species list; 3) CDFG's "List of Special Animals;" and 4) CNDDB's state database for sensitive wildlife species. Based on these data reviews, initial results from the 2007 field surveys, and input from the federal and state agencies, a list of those species with the potential to occur in the project area was developed. Table E3-1 describes the survey protocol and Table E3-2 summarizes both those species potentially present and wildlife species unlikely to occur or with very low potential to occur in or near the project area. Because of this low potential for occurrence, no field surveys were conducted for these latter species, as shown. This decision process was coordinated with the applicable federal and state agencies prior to the 2010 field surveys.

E3.2 Pedestrian Wildlife Survey and Habitat Characterization

Pedestrian surveys of the proposed transmission line route were conducted between April 17 and June 27, 2010, with survey dates corresponding to the species-specific survey protocols. Specifically, the 2010 field surveys were conducted:

- April 17-19 and 25-27
- May 16-17
- June 15-16 and 27

The pedestrian surveys focused on the proposed construction areas to characterize habitats and potential wildlife species that may occur in or adjacent to the project ROW. Additionally, wildlife surveys were conducted beyond the 200-foot-wide construction ROW (e.g., raptor nesting), based on the species-specific survey protocol (see Table E3-1 and E3-2) and agency dialog and directives.

The presence of wildlife species and/or sign was documented during all field surveys. Reptiles were identified visually, and birds were identified both visually and by auditory methods (i.e., song or calls). Mammals were identified visually or by sign (e.g., tracks, scat, diggings). Habitat types along the proposed transmission line ROW and surrounding areas were recorded according to the California WHR classification system (Mayer and Laudenslayer 1988).

Table E3-1 Survey Protocols for 2010 Wildlife Resource Surveys

Protocol	Protocol Source	Protocol Description
Standard Raptor Survey Protocol	Based on best available science and applicable raptor species in project region.	Walk entire proposed ROW between 9:00 a.m. and 5:30 p.m. (date range April 15 through May 15); map all raptor observations, including perch sites, roost sites, and nest sites; scan for potential roost and nest sites within 0.5 mile of ROW centerline; search potential sites by foot; and obtain GPS coordinates for all verified nest sites.
Swainson's Hawk Survey Protocol	Swainson's Hawk Technical Advisory Committee. 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. CDFG May 31, 2000. (http://www.dfg.ca.gov/wildlife/nongame/docs/swain_proto.pdf)	Survey timing adjusted 2 weeks later than the CDFG Survey Protocol to account for Swainson's hawk nesting phenology in Honey Lake area (date range April 15 through May 31). Nest searches and nest mapping conducted within 0.5 mile of ROW centerline. This survey protocol requires a minimum of six surveys over two survey periods within suitable habitat.
Long-eared Owl Survey Protocol	Bibby, C.J., N.D. Burgess, and D.A. Hill. 1992. Bird Census Techniques. Academic Press, New York	The long-eared owl is best surveyed by using call playback to improve detection. The call played at or near suitable habitat along Garnier Road/Long Valley Creek (April 15 through May 15). Methods include 30 seconds of calls alternated with 30 seconds of silence over a 2- to 5-minute period (http://web4.msue.msu.edu/mnfi/explorer/species.cfm?id=11065). Surveys, nest searches, and nest mapping conducted within 0.25 mile of ROW centerline within suitable habitat.
Burrowing Owl Survey Protocol	CDFG. 1995. Staff Report on Burrowing Owl Mitigation. October 17, 1995. (http://www.dfg.ca.gov/wildlife/nongame/docs/burowlmit.pdf)	Surveys, nest searches, and nest mapping to occur within 650 feet of ROW centerline between the peak breeding season (April 15 through June 30). This survey protocol requires a minimum of four surveys within suitable habitat if potential breeding is observed.
Long-billed Curlew Survey Protocol	Jones, S L., T.R. Stanley, S.K. Skagen, and R.L. Redmond. 2003. Long-Billed Curlew (*Numenius americanus*) Rangewide Survey and Monitoring Guidelines (http://library.fws.gov/Bird_Publications/long-billed_curlew_survey03.pdf).	Surveys, nest searches, and nest mapping conducted within 0.25 mile of ROW centerline within suitable habitat (April 15 through May 15).

Table E3-1 Survey Protocols for 2010 Wildlife Resource Surveys, continued

Protocol	Protocol Source	Protocol Description
Willow Flycatcher Survey Protocol	Bombay, H.L, T.M. Benson, B.E. Valentine, and R.A. Stefani. 2003. A willow flycatcher survey protocol for California. May 29, 2003. (http://www.dfg.ca.gov/wildlife/nongame/docs/wifl_2003_protocol.pdf).	Surveys, nest searches, and nest mapping conducted in montane riparian habitat along Long Valley Creek within 0.3 mile of ROW centerline. This survey protocol requires a minimum of two separate surveys in 1 year in suitable habitat; one during mandatory survey period (June 15-25) and one during either survey period (June 1-14) or (June 26 through July 15) to document presence or absence of willow flycatchers in the survey year. In addition, to be considered a separate survey, visits must be at least 5 days apart. Taped playback calls used, per the suggested methodology.
Loggerhead Shrike Survey Protocol	Wisconsin Department of Natural Resources. 2000. Protocol for Incidental Take Authorization, Loggerhead Shrike (Lanius ludovicianus). Bureau of Endangered Resources. February 2000. (http://dnr.wi.gov/org/land/er/take/pdfs/loggprot.pdf).	Surveys, nest searches, and nest mapping conducted within 300 feet of ROW centerline between dawn and 10:00 a.m. (April 15 through May 31).
Bank Swallow Survey Protocol	Garrison, B.A. 1998. Bank Swallow (Riparia riparia). In The Riparian Bird Conservation Plan: A Strategy for Reversing the Decline of Riparian-Associated Birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v 2.html Laymon, S.A., B.A. Garrison, and J.M. Humphrey. 1988. Historic and Current Status of the Bank Swallow in California, 1987. State of California, Resources Agency, Department of Fish and Game, Wildl. Mgmt. Div. Admin. Rept. 88-2. (http://www.prbo.org/calpif/htmldocs/species/riparian/bank_swallow_acct2.html).	Associated Birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v 2.html. Survey protocol consists of searching suitable habitat (e.g., eroded, vertical banks) along Long Valley Creek for nest holes and bank swallows during nesting period (May 1 through June 15) Surveys, nest searches, and nest mapping conducted within 0.3 mile of ROW centerline, on each side of Garnier Road within the Long Valley Creek drainage.
General Songbird Survey Protocol	Based on best available science and applicable songbird (passerine) species in project region.	General breeding bird surveys for songbirds along Long Valley Creek within 0.25 mile of ROW for yellow-breasted chat, yellow warbler, and yellow-headed blackbird, including nest searches and nest mapping (May 1 through June 15).

Table E3-1 Survey Protocols for 2010 Wildlife Resource Surveys, continued

Protocol	Protocol Source	Protocol Description
American Badger Survey Protocol	Nupqu Development Corporation. 2009. American Badger (*Taxidea taxus jeffersonii*) Inventory and Habitat Assessment for Elkford, BC. May 13, 2009 (April 15 – May 31). (http://www.elkford.ca/include/get.php?path=/File/Wildfire%20Fuel%20Reduction%20Program/Elkford%20fuel%20treatment%20badger%20report%2013may2009.pdf).	Burrow surveys and mapping conducted within 300 feet of ROW centerline.

Table E3-2 Survey Results for 2010 Wildlife Resource Surveys and Species Not Surveyed

Proposed Survey Method (range of dates)	Common Name (Scientific Name)	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
Proposed Field Surveys				
Standard Raptor Survey Protocol *(Apr 15 – May 15)*	Golden Eagle *(Aquila chrysaetos)*	BGEPA MBTA CDFG-FP CDFG-WL	Known to occur in project area; confirmed breeder. Active golden eagle nests documented in both 2007 and 2010 on Turtle Mountain outside the ROW; foraging habitat occurs throughout the project area.	B = SGB, BBR, PAS, PGS, ROCK F = same W = same
Standard Raptor Protocol *(Apr 15 – May 15)*	Northern Harrier *(Circus cyaneus)*	MBTA CDFG-SSC	Known to occur in project area. In 2007, species observed. Possible foraging and/or wintering in PAS along Garnier Road. In 2010, not observed, and no evidence of breeding.	B = WTM, FEW F = WTM, FEW, AGR, PAS, SGB W = WTM, FEW, AGR, PAS, SGB
Standard Raptor Protocol *(Apr 15 – May 15)*	Prairie Falcon *(Falco mexicanus)*	MBTA CDFG-WL	Known to occur in project area. In 2007, located eyrie on cliff ledge approximately 0.2 mile south of proposed ROW. In 2010, previously documented eyrie inactive; one adult observed near Fort Sage Substation; one adult observed at Turtle Mountain. Could occur year-round.	B = ROCK F = PGS, SGB, BBR W = diverse

Table E3-2 Survey Results for 2010 Wildlife Resource Surveys and Species Not Surveyed, continued

Proposed Survey Method (range of dates)	Common Name (Scientific Name)	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
Swainson's Hawk Survey Protocol *(Apr 15 – May 31)*	Swainson's Hawk *(Buteo swainsoni)*	MBTA ST	Known to occur in project area. In 2007, one observed flying north edge of Long Valley Creek. In 2010, eight individuals observed, two active nests located within 0.5 mile of ROW, one active nest within 1.5 miles of ROW. Foraging habitats occur throughout the project area.	B = PAS, SGB, BBR, PGS, AGR F = same W = N/A
Long-Eared Owl Survey Protocol *(Apr 15 – May 15)*	Long-eared Owl *(Asio otus)*	MBTA CDFG-SSC	Known to occur in project area. Confirmed breeder in vicinity of project area. In 2007, nest located along Long Valley Creek, approximately 600 feet upstream (southeast) of Garnier Road bridge. Not observed in 2010.	B = MRI, WTM, EPN F = MRI, WTM, EPN, SGB, PAS W = MRI
Burrowing Owl Survey Protocol *(Apr 15 – Jun 30)*	Burrowing Owl *(Athene cunicularia)*	MBTA BLM-S (CA & NV) CDFG-SSC	Known to occur in project area. In 2007, one active nest burrow located approximately 300 yards south of proposed ROW on NE-facing slope of Turtle Mountain. In 2010, six individuals, three active nesting burrows, and one inactive burrow documented. Four burrow sites located E/SE of Turtle Mountain ranging from 200 feet to 0.3 mile from ROW centerline. Nest burrow recorded in 2007 located near one of the 2010 active nest sites.	B = PAS, SGB F = same W = same
Long-Billed Curlew Survey Protocol *(Apr 15 – May 15)*	Long-billed Curlew *(Numenius americanus)*	MBTA CDFG-WL	Known to occur in project area. In 2007, 10 individuals observed foraging west of Garnier Rd, approximately 150 feet west of proposed ROW. In 2010, not observed.	B = PAS, PGS F = same
Willow Flycatcher Survey Protocol *(Jun 15 – Jul 15)*	Willow Flycatcher *(Empidonax traillii)*	MBTA SE	Low potential to occur in project area along Long Valley Creek, but low likelihood of occurrence. Unlikely to breed and unlikely to migrate in area. Not observed in 2007 or 2010.	B = MRI, WTM M = MRI, WTM
Loggerhead Shrike Survey Protocol *(Apr 15 – May 31)*	Loggerhead Shrike *(Lanius ludovicianus)*	MBTA CDFG-SSC	Known to occur in project area. In 2007, common along proposed ROW, often perching on poles or power lines. In 2010, 16 individuals observed and four nests located, two of them believed inactive. These nests were located from the ROW center (6 feet) to 0.17 mile from the centerline.	B = SGB, BBR, PAS, PGS, JUN F = same W = same
Bank Swallow Survey Protocol *(May 1 – Jun 15)*	Bank Swallow *(Riparia riparia)*	MBTA ST	Known to occur in project area. Observed flying near Long Valley Creek in 2007 where primary habitat occurs. Possible breeder and likely forager in Project area. Not observed in 2010.	B = MRI (eroded banks) F = MRI, diverse W = N/A

Table E3-2 Survey Results for 2010 Wildlife Resource Surveys and Species Not Surveyed, continued

Proposed Survey Method (range of dates)	Common Name (Scientific Name)	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
General Songbird Survey Protocol *(May 1 – Jun 15)*	Yellow-breasted Chat *(Icteria virens)*	MBTA CDFG-SSC	Unlikely to occur in project area. If present, could occur along Long Valley Creek corridor during breeding season or in migration. Not observed in 2007 or 2010.	B = MRI F = same M = same
General Songbird Survey Protocol *(May 1 – Jun 15)*	Yellow Warbler *(Dendroica anadensi brewsteri)*	MBTA CDFG-SSC	Known to occur in project area. In 2007, confirmed breeder with singing male along Long Valley Creek approximately 50 yards downstream (northwest) of Garnier Road bridge and proposed ROW. Not observed in 2010.	B = MRI F = same M = same W = N/A
General Songbird Survey Protocol *(May 1 – Jun 15)*	Yellow-headed Blackbird *(Xanthocephalus xanthocephalus)*	MBTA CDFG-SSC	Unlikely to occur in project area due to lack of suitable habitat. Not observed in 2007 or 2010.	B = MRI, FEW F = same M = same
American Badger Survey Protocol *(Apr 15 – May 31)*	American Badger *(Taxidea taxus)*	CDFG-SSC	Known to occur in project area. Confirmed resident. In 2007, adult observed and active badger burrow complex located. In 2010, 10 active dens located.	Yearlong = SGB, PAS, WTM
Discussed in the EA but No Field Surveys Conducted				
No Survey	Greater Sandhill Crane *(Grus anadensis tabida)*	MBTA ST CDFG-FP	Previously documented in project area along Long Valley Creek by CNDDB. Not observed in 2007. Individual heard vocalizing approximately 0.5 mile west of Garnier Road in agricultural fields during 2010 field surveys. Possible foraging habitat in project area; no nesting habitat along ROW.	B = FEW, WTM F = FEW, WTM, PAS W = FEW, WTM, PAS
No Survey	Bald Eagle *(Haliaeetus leucocephalus)*	BGEPA MBTA SE CDFG-FP	Low potential to occur in project area. Suitable foraging habitat present in region, but no documented occurrences have been recorded in or near project area. No habitat for communal winter roosts is present.	B = Diverse, but typically near water F = PAS, MRI W = PAS, MRI
No Survey	American Peregrine Falcon *(Falco peregrinus anatum)*	MBTA SE CDFG-FP	Unlikely to occur in project area. Possible rare occurrence during migration. Foraging would be opportunistic with Long Valley Creek providing the best foraging habitat. No nesting habitat.	B = ROCK; MRI F = MRI; SGB W = diverse

Table E3-2 Survey Results for 2010 Wildlife Resource Surveys and Species Not Surveyed, continued

Proposed Survey Method (range of dates)	Common Name (Scientific Name)	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
No Survey	Short-eared Owl *(Asio flammeus)*	MBTA CDFG-SSC	Unlikely to occur in project area. May forage and/or winter in agricultural lands along Garnier Road; no nesting habitat.	B = FEW, WTM F = FEW, WTM, SGB, PAS W = FEW, WTM, PAS, SGB
No Survey	Mountain Plover *(Charadrius montanus)*	MBTA CDFG-SSC	Unlikely to occur in project area. Potential for rare occurrences during migration. No survey, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	B = PGS, AGR, PAS F = same W = same
No Survey	Greater Sage-grouse *(Centrocercus urophasianus)*	FC BLM-S (CA & NV) CDFG-SSC	Unlikely to occur in project area. Based on BLM and CDFG data; no known leks or grouse present. Greater sage-grouse is not known to occur in the vicinity of this Project area in either California or Nevada (Hall 2007, pers. comm.; Hampson 2007, pers. comm.; Haney 2008, pers. comm.). No survey warranted, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	B = SGB F = SGB, WTM W = SGB
No Survey	Pygmy Rabbit *(Brachylagus idahoensis)*	CDFG-SSC	Unlikely to occur in project area, based on CNDDB records and historical distribution information. No survey, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	Yearlong = SGB, BBR
No Survey	Western White-tailed Jackrabbit *(Lepus townsendii townsendii)*	CDFG-SSC	Unlikely to occur in project area, based on CNDDB records and historical distribution information. No survey, based on literature review, CDFG/BLM data, and communications with CDFG/BLM biologists.	Yearlong = SGB
No Survey	Northern Sagebrush Lizard *(Sceloporus graciosus graciosus)*	BLM-S (CA)	May occur in project area. Surveys determined not warranted by BLM.	Yearlong = SGB, mixed shrub
No Survey	Northern Leopard Frog *(Lithobates pipiens)*	CDFG-SSC	Unlikely to occur in project area, although habitat upstream and downstream of Long Valley Creek crossing may support this species in the region. No survey, based on avoidance of suitable habitat.	Yearlong = WTM, MRI, FEW, springs

Table E3-2 Survey Results for 2010 Wildlife Resource Surveys and Species Not Surveyed, continued

Proposed Survey Method (range of dates)	Common Name (Scientific Name)	Status Summary[1]	Potential Occurrence in the Project Area	General Habitat Preferences[2]
No Survey	Carson Wandering Skipper *(Pseudocopaeodes eunus obscurus)*	FE	Low to no potential to occur in project area based on historic records, previous regional surveys by the Honey Lake Conservation Team, BLM records, further discussions with the applicable agencies, and a habitat reconnaissance conducted in 2007. No survey warranted.	Yearlong = saltgrass grassland (*Distichlis spicata*)
No Survey	Honey Lake Blue *Euphilotes pallescens calneva*	BLM-S (NV) Nevada = Critically Imperiled	Known to occur on Doyle State Wildlife Area approximately 2 miles of the ROW and on BLM land approximately 0.5 mile south of the proposed ROW (i.e., Turtle Mountain area). No survey warranted, based on low potential for effects to species.	Yearlong = PAS, BBR, SGB – wild buckwheat (*Eriogonum* sp.)

1FE = Federally Listed as Endangered
FC = Species Candidate for Federal Listing
MBTA = Migratory Bird Treaty Act
BGEPA = Bald and Golden Eagle Protection Act
BLM-S = BLM Sensitive Species
CA = California
NV = Nevada
CA Special Status Species:
SE = State-listed as Endangered
ST = State-listed as Threatened
CDFG-FP = CDFG – Fully Protected
CDFG-SSC = CDFG – Species of Special Concern
CDFG-WL = CDFG – Watch List

[2]Habitats and their associated acronyms follow the California Wildlife-Habitat Relationships (WHR) System, detailed in Mayer, K.E. and Laudenslayer, W.F., *A Guide to Wildlife Habitats of California*. 1988.

B = Breeding; F = Foraging; M = Migration; W = Wintering; habitat preferences are listed by species as they may apply to the project region only.

AGR = agricultural lands
BBR = bitterbrush
EPN = eastside pine habitat
FEW = fresh emergent wetlands
JUN = juniper habitat
MRI = montane riparian
PAS = pastures
PGS = perennial grassland with saltbush and sagebrush;
SGB = big sagebrush
WTM = wet meadow habitat
ROCK = rock outcrops
DIST = disturbed areas
N/A = not applicable

E3.3 Bird Surveys

E3.3.1 Standard Raptors

Standard raptor surveys were implemented to record breeding raptors (e.g., golden eagle, prairie falcon, northern harrier) within 0.5 mile of the project ROW. The entire length of the proposed transmission line ROW was walked between 9:00 a.m. and 5:30 p.m. during the April, May, and June 2010 survey periods. All raptor observations, including perch sites, roost sites, and nest sites were recorded. In addition, potential roost and nest sites within 0.5 mile of the ROW centerline were evaluated and GPS coordinates were taken for all verified nest sites.

E3.3.2 General Songbirds

Breeding bird surveys for songbirds were conducted along Long Valley Creek within 0.25 mile of the ROW during the April, May, and June 2010 survey periods. Visual and auditory observations were recorded, and nest searches were conducted. Special status species, including the yellow-breasted chat, yellow warbler, and yellow-headed blackbird, were targeted by this survey protocol.

E3.3.3 Swainson's Hawk

Surveys for Swainson's hawks followed the protocol established by CDFG (2000). However, survey timing was adjusted 2 weeks later than the CDFG Survey Protocol to account for Swainson's hawk nesting phenology in the Honey Lake area (April 15 through May 31). Nest searches and nest mapping occurred within 0.5 mile of the ROW centerline. Surveys were conducted April 17-19, April 25-27, and May 16-17, 2010.

E3.3.4 Long-eared Owl

Surveys for long-eared owls followed the protocol established by Bibby et al. (1992) and involved the use of call playbacks to improve detection. Long-eared owl calls were played in suitable habitat along Garnier Road/Long Valley Creek. Surveys occurred April 17-19 and April 25-27, 2010. Each 30-second call was alternated with 30 seconds of silence over a 2- to 5-minute period. Any calls in response to the recording were noted. In addition, nest searches were conducted within 0.25 mile of the ROW centerline within suitable habitats.

E3.3.5 Burrowing Owl

Surveys for burrowing owls followed the protocol established by CDFG (1995). Surveys, nest searches, and nest mapping occurred within 650 feet of the ROW centerline on April 17-19, April 25-27, May 16-17, and June 15-16, 2010. This survey protocol requires a minimum of four surveys within suitable habitat if potential breeding is observed.

E3.3.6 Long-billed Curlew

Surveys for long-billed curlews followed the protocol established by Jones et al. (2003). Surveys, nest searches, and nest mapping occurred within 0.25 mile of the ROW centerline within suitable habitat on April 17-19, April 25-27, and May 16-17, 2010.

E3.3.7 Willow Flycatcher

Surveys for willow flycatchers followed the protocol established by Bombay et al. (2003). Surveys, nest searches, and nest mapping occurred in the riparian habitat along Long Valley Creek within 0.3 mile of the ROW centerline. Taped playback calls were used, per the suggested methodology. This survey protocol requires a minimum of two separate surveys in one year in suitable habitat; one during the mandatory survey period (June 15-25) and one during either survey period (June 1-14) or (June 26-July 15) to document presence or absence of willow flycatchers in the survey year. In addition, to be considered a separate survey, visits must be at least 5 days apart. Surveys for willow flycatcher were conducted on June 15-16 and June 27, 2010.

E3.3.8 Loggerhead Shrike

Surveys for loggerhead shrikes followed the protocol established by the Wisconsin Department of Natural Resources (2000). Surveys, nest searches, and nest mapping were conducted within 300 feet of the ROW centerline between dawn and 10:00 a.m. on April 17-19, April 25-27, and May 16-17, 2010.

E3.3.9 Bank Swallow

Surveys for bank swallows followed the protocols established by Garrison (1998) and Laymon et al. (1988). Surveys consisted of searching suitable habitat (e.g., eroded, vertical banks) within 0.3 mile of the ROW centerline, on each side of Garnier Road within the Long Valley Creek drainage. These surveys occurred May 16-17 and June 15-16, 2010.

E3.4 Mammal Surveys

E3.4.1 American Badger

Surveys for badgers followed the protocol established by Nupqu Development (2009). Burrow surveys and mapping were conducted within 300 feet of the ROW centerline on May April 17-19, April 25-27, and May 16-17, 2010.

E4.0 SURVEY RESULTS

E4.1 Wildlife Observations

During the 2010 wildlife surveys a total of 64 bird species, 15 mammal species, and 3 reptile species were observed (see Attachment A1 of this Appendix E).

E4.2 Federally Listed and Federal Candidate Species

Table E4-1 summarizes details for both the federal candidate greater sage-grouse and federally endangered Carson wandering skipper relative to the 2010 field effort and species examined. The following species' discussions provide additional information pertaining to these two sensitive species' known distribution and occurrences.

Table E4-1 Federally Listed and Federal Candidate Species and Potential for Occurrence

Species	Observed (Number)	Date(s) Observed	Comments
Bird			
Greater Sage-grouse	No	__	Does not occur in the project area.[1]
Invertebrate			
Carson Wandering Skipper	No	__	Does not occur in the project area.[1]

[1]No field surveys were conducted. This species does not occur in the project area, based on existing distribution information and agency input.

Greater Sage-grouse

The greater sage-grouse is a fairly large, ground-dwelling bird. Measuring as much as 30 inches in length and 2 feet tall, it weighs from 2 to 7 pounds. It has a long, pointed tail with legs feathered to the base of the toes and fleshy yellow combs over the eyes. Males are larger than females and sport a white ruff around their necks in addition to the typical mottled brown, black and white plumage. The greater sage-grouse is found at elevations ranging from 4,000 to over 9,000 feet. It is an omnivore and sagebrush obligate, consuming some other soft plants and insects (USFWS 2010d).

Greater sage-grouse occurring in Lassen County and parts of Washoe County belong to the Buffalo-Skedaddle Population Management Unit (PMU). The closest sage-grouse population to the project site is the Pah Rah-Virginia PMU located in Washoe County (Ehler 2011 pers. comm.).

Based on existing BLM and CDFG data, the greater sage-grouse does not occur in the project area, including these portions of Lassen County, California and Washoe County, Nevada (Hall 2007, pers. comm.; Hampson 2007, pers. comm.; Haney 2008, pers. comm.). Therefore, no field surveys were deemed to be warranted.

Carson Wandering Skipper

The Carson wandering skipper is a small butterfly in the subfamily Hesperiinae (grass skippers) that is federally listed as endangered. This butterfly is small, brownish orange with a black terminal line and veins. It is locally distributed in grassland habitats on alkaline substrates in Nevada and California. Saltgrass (*Distichlis spicata*) is the larval food plant and is commonly found in the saltbush-greasewood community of the intermountain west. Suitable habitat characteristics for the Carson wandering skipper include: east of the Sierra Nevada, elevations less than 5,000 feet, saltgrass present, near nectar sources and open areas, near springs or other water bodies, and possibly near geothermal activity. Nectar sources depend on various environmental conditions and are likely transitory (USFWS 2010c).

Only four populations of the Carson wandering skipper are known to exist, including one in Honey Lake Valley in Lassen County, California, and three populations located in Washoe and Douglas counties in Nevada. Surveys of suitable habitat for this species have been conducted in the area since 1998, including detailed surveys conducted by the Honey Lake Conservation Team (2007) between 2004 and 2008. The Honey Lake population is the closest known location of this species to the project area. The westernmost edge of the project area is located approximately 4 miles south and 4 miles west of the southern portions of Honey Lake.

The Eagle Lake RMP (BLM 2007, BLM 2008b) identified suitable habitat for the Carson wandering skipper within the Field Office boundaries; however, none is located within the project area. Detections of this species have occurred on CDFG, CSLC (including previous Department of Defense), and private lands within the Eagle Lake Field Office boundaries, particularly in the vicinity of Honey Lake. However, to date, no Carson wandering skippers have been found on BLM Eagle Lake Field Office lands.

Based on historic records, previous regional surveys by the Honey Lake Conservation Team, BLM records, and further discussions with the applicable agencies, the Carson wandering skipper was found to have “low to no potential” to occur in the project area and no subsequent field surveys were determined to be warranted.

E4.3 BLM Sensitive Species

Table E4-2 lists the survey results for BLM Sensitive Species examined for the proposed project.

Table E4-2 BLM Sensitive Species Observations and Dates Observed[1]

Species	Observed (number[2])	Date(s) Observed (2010)	Comments
Amphibian			
Northern Sagebrush Lizard	No	--	No field surveys warranted.
Birds			
Greater Sage-grouse	No	--	Does not occur in the project area.[3]
Burrowing Owl	Yes (6)	5/16 and 5/17	In 2007, one active nest burrow located approximately 300 yards south of proposed ROW on NE-facing slope of Turtle Mountain. In 2010, six individuals, three active nesting burrows, and one inactive burrow documented. Four burrow sites located E/SE of Turtle Mountain ranging from 200 feet to 0.3 mile from ROW centerline. Nest burrow recorded in 2007 located near one of the 2010 active nest sites.
Invertebrate			
Honey Lake Blue	No	--	No field surveys warranted.

[1]Protocol field surveys conducted on: 4/17, 4/18, 4/19, 4/25, 4/26, 4/27, 5/16, 5/17, 6/15, 6/16, and 6/27, 2010.
[2]Estimated number of separate individuals observed for a given species.
[3]No field surveys were conducted; this species does not occur in the project area, based on existing distribution information and agency input.

Northern Sagebrush Lizard

The northern sagebrush lizard is a small gray or brown lizard with dark blotches or irregular bands on the body and tail and distinct light and dark stripes along the sides and upper sides at the edge of the back. This species occurs in the Great Basin desert east of the Sierra Nevada and in the northeast corner of the California. Habitat consists of sagebrush and other types of shrublands, mainly in the mountains (at higher elevations than the western fence lizard). This lizard species prefers open areas with scattered low bushes and sun, ranging from 500 feet to around 10,500 feet in elevation (Stebbins 2003).

The northern sagebrush lizard may occur in the project area. However, no surveys for this species were determined to be warranted by the BLM.

Greater Sage-grouse

The greater sage-grouse is discussed in Section E4.2 of this Appendix E as a federal candidate species. Based on BLM and CDFG data, no known leks or sage-grouse occur in the project area and is it unlikely to occur. No field surveys were deemed to be warranted, based on a literature review, existing BLM and CDFG data, and the fact this

species does not occur in these areas of Lassen County, California or Washoe County, Nevada.

Burrowing Owl

The burrowing owl is a small ground-dwelling owl commonly found in open, dry shrub/steppe grasslands, agricultural and range lands, and desert habitats. It is often associated with burrowing animals, particularly prairie dogs, ground squirrels, and badgers. This owl species nests in underground burrows and occurs across much of western North America as far east as Texas. The primary characteristics of suitable habitat appear to be burrows for roosting and nesting and relatively short vegetation with sparse shrubs. Burrowing owls feed on a wide variety of prey, changing food habits as location and season determine availability. Large arthropods, mainly beetles and grasshoppers, comprise a large portion of their diet. Small mammals, especially mice, rats, gophers, and ground squirrels, also are important food items. Unlike other owls, they also will consume fruits and seeds (Klute et al. 2003; Gervais et al. 2008; NDOW 2010).

During the initial 2007 field surveys, one active nest burrow was documented approximately 0.2 mile south of the ROW alignment on a northeast-facing slope of Turtle Mountain. In 2010, a total of six individual owls, three active nest burrows, and one inactive nest were recorded. The three active nest burrows occurred along the northeast-facing slope of Turtle Mountain. One of these nest locations was near the burrow identified previously in 2007. These four burrowing owl nest sites (three active and one inactive) occurred from 200 feet to 0.34 mile from the project ROW. Map 2-1 Sheet 4 and Map 2-1 Sheet 5 of the EA provide general location information for these nest sites; however, exact locations are not shown to protect the sites.

The burrowing owl nests found along the bajadas of Turtle Mountain were in ground squirrel burrows within the area's soft, sandy soils. Additional suitable nesting and foraging habitat for the species also was observed along Garnier Road and other site-specific locations along the proposed route, largely due to the soft, fine soils and common presence of fossorial mammals, such as American badger and Belding's ground squirrel. However, no other burrowing owl nests were discovered besides those recorded on Turtle Mountain.

Honey Lake Blue

The Honey Lake blue is another rare butterfly species, which has historically been recorded in the area. Blues are tiny to small butterflies of the Family Lycaenidae. Most of the nearly 50 North American species are found in the western U.S. Adult males are predominantly blue dorsally, with some males and most females largely brown dorsally. On the ventral side, wings of both sexes are usually gray-white with black spots or streaks. Most adults are found near their host plants, and they do not fly long distances; although, some tropical and subtropical species undertake long migrations. Adults visit

flowers for nectar. Males frequent moist sand and mud, and females lay eggs singly on host plant leaves or flowers.

The NNHP lists occurrences in the Turtle Mountain area on BLM land, approximately 0.5 mile south of the proposed ROW, and in the Doyle SWA, approximately 2 miles from the ROW (see Map 3-5 of the EA) (NNHP 2008). Because the NNHP database contains some rare species reported for both Nevada and California along the states' boundary, the NNHP occurrence data lists this butterfly species as having occurred in Lassen County, California. The Honey Lake blue is not currently on the CNDDB's "Special Animals" list (CNDDB 2009); however, this species does have a narrow distribution in Lassen County, California and Washoe County, Nevada and may be added to the CNDDB in the future for "rare and declining species" (McGriff 2008, pers. comm.). This butterfly is closely associated with wild buckwheat (*Eriogonum* sp.) (USFWS 2007).

Though known to occur south of the proposed ROW (i.e., Turtle Mountain area), no surveys for this species were warranted, based on the low potential for adverse impacts to this species. This approach was confirmed with the applicable federal and state agencies prior to initiating the 2010 field surveys.

E4.4 California Special Status Species

Of the 14 California special status species surveyed, six were documented during the 2010 field surveys, based on the survey protocols developed for the proposed project (see Table E3-1). Table E4-3 lists these six species, with four of the five bird species confirmed nesting within the protocol-based distances delineated for the 2010 project surveys. Map 2-1 of the EA provides general location information for these survey results and associated nest sites; however, exact locations are not shown to protect the breeding bird nest sites. An additional eight species surveyed for in 2010 were not recorded (Table E4-3).

Golden Eagle

One of North America's largest predatory birds, the golden eagle inhabits a wide range of latitudes throughout the Northern Hemisphere and uses a variety of habitats ranging from arctic to desert. Rare in the eastern half of North America, it is most common in the West near open spaces that provide hunting habitat and often near cliffs that supply nesting sites. The golden eagle has great speed and maneuverability for its size, and uses a wide variety of hunting techniques to capture prey. Although capable of killing large animals, this species subsists primarily on rabbits, hares, ground squirrels, and prairie dogs. The nesting season is prolonged, extending more than 6 months from egg-laying until young fledge. The black-tailed jackrabbit (*Lepus californicus*) is a key prey species throughout much of the range, and eagle reproductive rates fluctuate with jackrabbit population cycles (Kochert et al. 2002).

Table E4-3 California Special Status Wildlife Species Observations and 2010 Dates Observed[1]

Species	Observed (number[2])	Date(s) Observed (2010)	Comments
Golden Eagle	Yes (6)	4/17, 4/18, 4/25, 4/26, 5/16, and 5/17	One large stick nest located on ledge on west side of Turtle Mtn., 0.45 mile south of proposed ROW; one adult on nest on 4/17 and 5/16.
Swainson's Hawk	Yes (8)	4/17, 4/25, 4/26, 5/16, and 5/17	Three nests located: 1) one stick nest in 20-foot locust tree 0.45 mile northwest of Herlong Substation along U.S. 395, 0.4 mile west of ROW; 2) one stick nest in 8-foot cottonwood tree 0.3 mile east of Garnier Rd. and ROW and 0.2 mile south of Long Valley Creek; 3) one stick nest in 15-foot juniper tree 1.5 miles south of proposed ROW on west edge of Turtle Mtn.
Prairie Falcon	Yes (2)	4/18, 4/25	One adult observed near Fort Sage Substation; one adult observed at Turtle Mtn.; no nests located; 2007 eyrie not active.
Burrowing Owl	Yes (6)	5/16, 5/17	Six individuals, three active nesting burrows, and one inactive burrow documented. Four burrow sites located E/SE of Turtle Mountain ranging from 200 feet to 0.3 mile from ROW centerline. Nest burrow recorded in 2007 located near one of the 2010 active nest sites.
Loggerhead Shrike	Yes (16)	4/17, 4/18, 4/25, 4/26, 5/16, 5/17	In 2010, 16 individuals observed and four nests located, two of them believed inactive. These nests were located from the ROW center (6 feet) to 0.17 mile from the centerline. Common along proposed ROW in 2007 and 2010, often perching on poles or power lines.
American Badger	Yes (10)	4/17, 4/18, 4/25, 4/26, 5/16, 5/17	Ten active dens located along ROW, ranging from 55 feet to 0.2 mile from ROW centerline, and three active dens located within the 200-foot-wide construction ROW.
Willow Flycatcher	N	N/A	No evidence of breeding within project area.
Northern Harrier	N	N/A	Known to forage in project area; one adult recorded in 2007. No individuals observed in 2010; no suitable breeding habitat along project ROW.

Table E4-3 California Special Status Wildlife Species Observations and 2010 Dates Observed[1], continued

Species	Observed (number[2])	Date(s) Observed (2010)	Comments
Long-billed Curlew	N	N/A	In 2007, 10 long-billed curlews foraging along Garnier Road ~150 feet west of proposed ROW. None seen in 2010 and no evidence of breeding within project area.
Long-eared Owl	N	N/A	Confirmed breeder in 2007; no evidence of breeding within project area in 2010.
Bank Swallow	N	N/A	No evidence of breeding within project area.
Yellow-breasted Chat	N	N/A	No evidence of breeding within project area
Yellow Warbler	N	N/A	Confirmed breeder in 2007; no evidence of breeding within project area in 2010.
Yellow-headed Blackbird	N	N/A	No evidence of breeding within project area.

[1]Field surveys conducted on: 4/17, 4/18, 4/19, 4/25, 4/26, 4/27, 5/16, 5/17, 6/15, 6/16, and 6/27, 2010.
[2]Estimated number of separate individuals observed for a given species.

A total of six golden eagles were observed during the 2010 field surveys. One large stick nest was documented on a ledge along the west side of Turtle Mountain. This nest site occurred approximately 0.45 mile south of the proposed project ROW (see Map 2-1 Sheet 5 of the EA). One adult was observed on the nest on April 17 and May 16, 2010. One active golden eagle nest also had been documented during the initial 2007 field surveys. This nest was located on Turtle Mountain approximately 0.25 mile south of the proposed ROW, as shown on Map 2-1 Sheet 5 of the EA). Golden eagles have historically nested on Turtle Mountain. It is assumed these active nests recorded in 2007 and 2010 represent alternative nest sites for one breeding pair of golden eagles.

Swainson's Hawk

Swainson's hawks occur as a breeding species in open habitats throughout much of the western U.S. and Canada, and in northern Mexico. Swainson's hawks inhabit a wide variety of open habitats, ranging from prairie and shrubsteppe to desert and intensive agricultural systems. Swainson's hawks generally breed in North America and winter in the pampas of southern South America. Swainson's hawks are a highly mobile, opportunistic species. Home range size is highly variable and affected by a number of factors including distribution of nesting habitat to foraging habitat, amount of foraging habitat, and temporal fluctuations in availability of prey. This species is morphologically adapted for aerial foraging, and spends a large proportion of foraging time soaring over open habitats. Swainson's hawks may construct their nests in a wide variety of locations, typically using trees for nesting. They often nest in riparian forest, remnant riparian trees, planted windbreaks, shade trees at residences and along roadsides, and solitary upland trees (Woodbridge 1998).

During the 2007 field surveys, one adult Swainson's hawk was observed flying across Garnier Road at Long Valley Creek along the interface between montane riparian and bitterbrush habitats. During the 2010 field surveys, a total of eight Swainson's hawks were observed. In addition, three nests were documented: 1) one stick nest was located in a 20-foot-tall locust tree 0.45 mile northwest of the proposed Herlong Substation along U.S. 395 (see Map 2-1 Sheet 8 of the EA); 2) one stick nest occurred in an 8-foot-tall cottonwood tree approximately 0.3 mile east of Garnier Road and the project ROW and 0.2 mile south of the Long Valley Creek drainage (see Map 2-1 Sheet 8 of the EA); and 3) one stick nest in a 15-foot-tall juniper tree approximately 1.5 miles south of the proposed ROW along the western edge of Turtle Mountain. This latter nest site was observed inadvertently by the surveyors while traveling in the Turtle Mountain area and occurs outside the project area boundary and associated maps.

Prairie Falcon

The prairie falcon is a medium-sized falcon of western North America, primarily associated with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. Its plumage is warm gray-brown above and pale with more or less dark mottling below. The prairie falcon uses open terrain for foraging and nests in open terrain with canyons, cliffs, escarpments, and rock outcrops. This species typically builds nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Diet consists mostly of small mammals, some small birds, and reptiles (CWHR 2005).

Historically, prairie falcons nested on Turtle Mountain (CNDDB 2009). In 2007, one prairie falcon eyrie was documented in this area on a low cliff ledge approximately 0.2 mile south of the proposed ROW (see Map 2-1 Sheet 5 of the EA). This nest site appeared to have been active earlier in 2007, since the scrape was lined with down feathers and eggshells were present. During the 2010 field surveys, no prairie falcon nests were recorded. However, two prairie falcons were observed in separate areas. One adult was observed on Turtle Mountain and one adult was observed near the Fort Sage Substation. Despite not finding a nest site in 2010, it is assumed prairie falcons commonly nest on or near Turtle Mountain based on the historical information, 2007 survey results, and the suitable nesting substrate for this species in this area.

Burrowing Owl

A complete species description for burrowing owl is presented in Section E4.3 for BLM-sensitive species. One active nest burrow was found in 2007 approximately 0.2 mile south of the ROW alignment on a northeast-facing slope of Turtle Mountain. Six burrowing owls, three active nest burrows, and one inactive nest burrow were documented during the 2010 field surveys. The three nest sites occurred along the northeast-facing slope of Turtle Mountain, with one of these nest locations near the 2007 burrow. These four burrowing owl nest sites (three active and one inactive) occurred from 200 feet to 0.34 mile from the project ROW. Map 2-1 Sheet 4 and Map 2-1 Sheet 5 of the EA provide general location information for these nest sites; however, exact locations are not shown to protect the sites.

Loggerhead Shrike

The loggerhead shrike is a medium-sized songbird found throughout North America. They are most often seen perched on overhead wires, barbed-wire fences, and isolated shrubs along pastures, grasslands, and agricultural fields. Loggerhead shrikes occur in open landscapes characterized by widely spaced shrubs and low trees within a variety of plant associations, including arid shrublands, grasslands, savannahs, pasturelands, and farmlands. Trees and shrubs used for nesting generally share common characteristics of having dense foliage and can be bushy and thorny. Shrikes are unique among songbirds in that they prey upon large insects, small birds, amphibians, reptiles, and small rodents. Shrikes hunt from perches often returning to these perches to impale their prey on barbed wire and thorns. Shrikes use open habitats for foraging during both breeding and non-breeding seasons (Pruitt 2000; Humple 2008).

During the June 2007 field surveys, loggerhead shrikes were common along the proposed ROW, commonly perching on power poles or conductor wires. During the 2010 field surveys, a total of 16 loggerhead shrikes were observed. Additionally, four nests were recorded within the survey area; two of which were believed to be inactive. These nests were located from the ROW center (6 feet) to 0.17 mile from the centerline (see Map 2 1 Sheets 4, 6, and 7 of the EA).

American Badger

American badgers are heavy bodied, short-legged, grayish-colored mammals that have a white medial stripe from nose over the top of the head and down the back. Their feet are black with long front claws for burrowing. They are found in a variety of open, arid habitats, but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. Principal habitat requirements for the species include sufficient prey base, friable soils, and relatively open, uncultivated ground. They are generally found in areas of low to moderate slope. American badgers are carnivorous and feed on fossorial rodents including ground squirrels, cottontail rabbits, jackrabbits, small rodents, and pocket gophers (Stephenson and Calcarone 1999; Laudenslayer and Parisi 2007).

In 2007, one adult badger and an active badger burrow complex were recorded west of the UPRR, approximately 0.3 mile south of the proposed project ROW. During the 2010 field surveys, a total of 10 active badger dens were observed. The 10 badger dens were located from 55 feet to 0.2 mile from the proposed ROW centerline. Three of these active den sites occurred within the 200-foot-wide construction ROW (see Map 2-1, Sheets 3, 4, 5, 6, 7 and 8 of the EA).

Willow Flycatcher

The willow flycatcher is a small, insect-eating neotropical migrant that breeds in a variety of usually shrubby, often wet habitats from Maine to British Columbia and as far south as southern Arizona and southern California. In California, it is a rare to locally uncommon summer resident in wet meadows and montane riparian habitats, with most

of the remaining breeding populations occurring in isolated mountain meadows of the Sierra Nevada. Breeding habitat is typically moist meadows with perennial streams; lowland riparian woodlands dominated by willows (*Salix* spp.), primarily in tree form, and cottonwoods (*Populus* spp.); or smaller spring-fed or boggy areas with willow or alders (*Alnus* spp.). Riparian deciduous shrubs or trees, such as willow or alder, are essential elements on willow flycatcher territories. A local, concentrated source of flying insects is required to meet the nutritional needs of this species for territorial establishment and defense, mating, nest building, egg laying, brooding, and nestling rearing. Willow flycatchers forage by either aerially gleaning from trees, shrubs, and herbaceous vegetation or hawking larger insects by waiting on exposed forage perches and capturing insects in flight (Craig and Williams 1998; Sedgwick 2000)

The only potentially suitable habitat for the willow flycatcher in the project area is located along Long Valley Creek. Preliminary surveys were completed in 2007; detailed surveys were conducted in 2010 per the required protocol. No willow flycatchers were observed during either the 2007 or 2010 wildlife surveys, and no evidence of breeding within the project area was found.

Northern Harrier

The northern harrier is a medium-sized raptor that is a year-round resident of California. Northern harriers breed and forage in a variety of open (treeless) habitats that provide adequate vegetative cover, an abundance of suitable prey, and scattered perches. In California, such habitats include marshes and wet meadows; weedy borders of lakes, rivers, and streams; annual and perennial grasslands; fields and pastures; some croplands; and sagebrush flats. Harriers nest on the ground, mostly within patches of dense, often tall, vegetation in undisturbed areas. Harrier ecology is strongly correlated with prey availability. They predominantly feed on small mammals. However, harriers also are generalists and may consume reptiles, amphibians, birds, and invertebrates (CPIF 2000; Davis and Niemela 2008).

During the initial June 2007 field surveys, an adult female northern harrier was observed flying and foraging across Long Valley Creek along Garnier Road, approximately 300 feet west of the ROW. During the 2010 field surveys, no northern harriers were recorded; however, it is assumed they forage in the project area. No suitable breeding habitat occurs along the ROW.

Long-billed Curlew

The long-billed curlew is the largest member of the sandpiper family, with a total body length of 21 to 26 inches, including its long bill. Long-billed curlews are birds of open habitats: upland shortgrass prairies, wet meadows, grasslands, and, in winter agricultural fields, saltwater marshes with tidal channels, intertidal mudflats, and coastal estuaries. Long-billed curlews rely on the cover and openness of grasslands, prairies, and pastures to nest and rear young. The long-billed curlew is a solitary or loosely colonial nester. In California, nests are usually near lakes or marshes. The long-billed curlew is an opportunistic feeder, consuming available food items by probing its long bill

in the mud and in animal burrows. Long-billed curlews feed on insects, marine and freshwater invertebrates, mollusks, amphibians, and wild fruits. When foraging in uplands, long-billed curlews feed on grasshoppers, beetles, and caterpillars and other invertebrates in low-growing grassy areas (NRCS 2000; Sedgwick 2006).

During the initial June 2007 project surveys along the project ROW, 10 long-billed curlews were observed foraging in a grassy pasture with hundreds of California and ring-billed gulls west of Garnier Road. This foraging activity was observed approximately 150 feet west of the proposed ROW. During the 2010 detailed surveys, no long-billed curlews were observed and no evidence of breeding was recorded within the project area.

Long-eared Owl

The long-eared owl is a medium-sized woodland owl. Long-eared owls nest in conifer, oak, riparian, piñon-juniper, and desert woodlands that are either open or are adjacent to grasslands, meadows, or shrublands (Marks et al. 1994). Key habitat components are some dense cover for nesting and roosting, suitable nest platforms, and open foraging areas. Long-eared owls nest mainly in old corvid (e.g., crow, raven)or hawk nests but also in old woodrat and squirrel nests, mistletoe brooms, and natural platforms of (or debris piles in) trees. Long-eared owls forage primarily at night by flying low over open ground, including grasslands, meadows, active or fallow agricultural lands, sagebrush scrub, and desert scrub. They feed almost exclusively on small mammals but opportunistically take other prey, such as small birds and rabbits (Hunting 2008).

In 2007, one active long-eared owl nest was documented along Long Valley Creek, approximately 600 feet upstream (southeast) of the Garnier Road bridge (see Map 2-1 Sheet 7 of the EA). No long-eared owls were observed during the 2010 wildlife surveys.

Bank Swallow

The bank swallow is the smallest of the North American swallows. This swallow occurs as a breeding species in California in a hundred or so widely distributed nesting colonies in alluvial soils along rivers, streams, lakes, and coastal areas. It is largely found in riparian ecosystems, particularly rivers in the larger lowland valleys of northern California. Nests occur in colonies of 5 to over 3,000 pairs; an occurrence of a single nest is rare. Nesting colonies are located in vertical banks or bluffs in friable soils. The bank swallow forages predominantly on flying or jumping insects that it captures almost exclusively on the wing. Terrestrial and aquatic insects or larvae are occasionally eaten. Foraging habitats include aerial areas over lakes, ponds, rivers and streams, meadows, fields, pastures, bogs, and occasionally over forests and woodlands (CDFG 1993; Garrison 1998).

Bank swallows had been observed flying near Long Valley Creek in 2007, 80 feet south of the proposed ROW. Bank swallows may breed in the project area; suitable nesting habitat occurs along Long Valley Creek. However, they more likely forage in this vicinity. No bank swallows were observed during the 2010 wildlife surveys.

Yellow-breasted Chat

The yellow-breasted chat is the largest wood-warbler and differs from other wood-warblers in behavior, vocalizations, and morphology. This species is characterized by its large size, bright yellow throat and breast, white belly, uniform olive-green upperparts, and distinct white "spectacles." In California, chats require dense riparian thickets of willows, vine tangles, and dense brush associated with streams, swampy ground and the borders of small ponds. Some taller trees (e.g., cottonwoods and alders) are required for song perches. Diet studies of chats are lacking in California. Elsewhere, adults feed predominantly on insects and spiders; wild fruits and berries also are important. The yellow-breasted chat forages for insects by gleaning foliage and branches (Ricketts and Kus 2000; Comrack 2008).

Potentially suitable habitat for this songbird occurs along Long Valley Creek drainage. However, no yellow-breasted chats were observed during either the 2007 or 2010 wildlife surveys, and no evidence of breeding within the project area was found.

Yellow Warbler

Yellow warblers belong to the wood-warbler genus *Dendroica*, whose members generally possess distinct characteristics such as wing bars, tail spots, flank streaks, and patterning around the eyes. Yellow warblers breed and forage in riparian woodlands, montane chaparral, open ponderosa pine, and mixed conifer habitats with substantial brush, from coastal and desert lowlands up to 8,000 feet in the Sierra Nevada. Breeding habitat also includes montane chaparral, open ponderosa pine, and mixed conifer landscapes with substantial amounts of brush. The species is most commonly found in riparian deciduous woodlands. The nest is an open cup placed 2 to 16 feet above ground in a deciduous sapling or shrub. The territory often includes tall trees for singing and foraging and a heavy brush understory for nesting. This species primarily eats insects, which, like most other wood-warblers, it captures by foliage gleaning (Dunn and Garrett 1997).

Potentially suitable habitat occurs along Long Valley Creek drainage. In 2007, a singing male was recorded along Long Valley Creek approximately 150 feet downstream northwest of the Garnier Road bridge and proposed ROW. No yellow warblers were observed during the 2010 wildlife surveys.

Yellow-headed Blackbird

The yellow-headed blackbird, although most numerous in prairie wetlands, is a conspicuous breeding bird in deep-water, emergent wetlands throughout nonforested regions of western North America. Highly social, these large-bodied blackbirds are polygynous, nesting on grouped territories. Yellow-headed blackbirds breed almost exclusively in marshes with tall emergent vegetation, such as tules (*Scirpus* spp.) or cattails (*Typha* spp.), generally in open areas and edges over relatively deep water. Nests are fabricated from dry vegetation and placed in dense cover. Because of the need for deeper water, breeding marshes often are on the edges of water bodies such

as lakes, reservoirs, or larger ponds. Diet is primarily seeds and, to a minor extent, insects. During breeding, however, adults forage primarily on insects and feed young almost entirely aquatic insects. Birds forage within breeding territories if resource abundance is high, but also will forage in uplands, such as agricultural fields (Twedt and Crawford 1995; Jaramillo 2008).

Potentially suitable habitat occurs along Long Valley Creek drainage. No yellow-headed blackbirds were observed during either the 2007 or 2010 wildlife surveys.

E4.5 Avian Nesting

The 2010 field surveys also recorded other nesting raptors (non-special status) and corvids located within 0.5 mile of the proposed project ROW. Beyond those delineated for special status species, eight additional active nests were observed during the 2010 field surveys. Evidence of foraging, roosting, and nesting was especially concentrated in and around the rock formations of Turtle Mountain, including excrement "whitewash," castings, and prey remains. Raptor species also were observed perching on existing power poles along the proposed route.

Table E4-4 lists the other raptor and corvid nests recorded during the 2010 wildlife surveys

Table E4-4 Active Raptor and Corvid Nests Documented During 2010 Field Surveys

Common Name	Scientific Name	Nesting Substrate	Location
Red-tailed hawk	*Buteo jamaicensis*	Large cottonwood tree	Residence immediately east of Garnier Road and 1.25 miles north of U.S. 395, about 250 feet east of the proposed ROW.
Red-tailed hawk	*Buteo jamaicensis*	Large cottonwood tree	On Long Valley Creek, about 275 yards upstream (southeast) of Garnier Road bridge, 275 yards east of the proposed line ROW along Garnier road, and 110 yards south of the proposed east-west project alignment.
Red-tailed hawk	*Buteo jamaicensis*	Wooden power pole	Near groundwater project pump house, located approximately 200 yards southeast of the existing Fort Sage Substation.
Common raven	*Corvus corax*	Large cottonwood tree	About 0.3 mile west of Garnier Road, 0.7 mile north of U.S. 395, and 0.3 mile west of the proposed line.
Common raven	*Corvus corax*	Large cottonwood tree	200 yards east of Garnier Road, about 0.4 mile south of Long Valley Creek and 200 yards east of the proposed line ROW.
Common raven	*Corvus corax*	Distribution pole	Desert Tap distribution pole, about 0.5 mile east of UPRR.
Common raven	*Corvus corax*	Transmission line structure	On Reno-Alturas 345kV transmission line structure approximately 200 yards north of Fish Springs Road and about 200 yards northeast of the proposed 120kV transmission line ROW.

Table E4-4 Active Raptor and Corvid Nests Documented During 2010 Field Surveys

Common Name	Scientific Name	Nesting Substrate	Location
Common raven	*Corvus corax*	Transmission line structure	On Reno-Alturas 345kV transmission line structure about 0.5 mile northwest of the Fort Sage Substation and 150 feet east of the proposed 120kV line.

E5.0 CONCLUSIONS

Initial literature and database reviews were conducted to identify special status wildlife species that may occur in or near the proposed project area. Survey protocols were developed by species and concurrence was received by the applicable federal and state agencies on these survey methods prior to initiating the 2010 field surveys. Detailed pedestrian wildlife surveys and habitat characterization of the proposed 120kV transmission line route were conducted between April 17 and June 27, 2010, following the established survey protocols by species. No federally threatened, endangered, or candidate species occur in the project area. One BLM-sensitive species, the burrowing owl (*Athene cunicularia*), was documented. A total of six California special status wildlife species were found, including: golden eagle (*Aquila chrysaetos*), Swainson's hawk (*Buteo swainsoni*), prairie falcon (*Falco mexicanus*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), and American badger (*Taxidea taxus*).

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ATTACHMENT E1
2010 WILDLIFE FIELD SURVEY SPECIES LIST

List of all wildlife species observed during 2010 field surveys.

Bird Species Observed

Mallard
Turkey vulture
Golden eagle
Sharp-shinned hawk
Cooper's hawk
Red-tailed hawk
Swainson's hawk
American kestrel
Prairie falcon
Chukar
California quail
Sandhill crane
Ring-billed gull
California gull
Rock pigeon
Mourning dove
Eurasian collared dove
Burrowing owl
Common poorwill
Northern flicker
Western wood-pewee
Say's phoebe
Ash-throated flycatcher
Western kingbird
Loggerhead shrike
Western scrub jay
Black-billed magpie
Common raven
Horned lark
Tree swallow
Violet-green swallow
Cliff swallow
Barn swallow
Northern rough-winged swallow
Bushtit
Bewick's wren
Rock wren
Canyon wren
Ruby-crowned kinglet
Blue-gray gnatcatcher
American robin
Northern mockingbird
European starling
Yellow-rumped warbler
Black-throated gray warbler
Wilson's warbler
Western tanager
Spotted towhee
Chipping sparrow
Brewer's sparrow
Lark sparrow
Black-throated sparrow
Sage sparrow
Song sparrow
Vesper sparrow
White-crowned sparrow
Western meadowlark
Red-winged blackbird
Brewer's blackbird
Brown-headed cowbird
Bullock's oriole
House finch
Lesser goldfinch
House sparrow
n = 64 bird spp.

Mammal Species Observed

Gray fox
Coyote
Bobcat
Raccoon
American badger
Striped skunk
Belding's ground squirrel
Antelope ground squirrel
Kangaroo rat spp. (likely Great Basin)
Desert woodrat
Black-tailed jackrabbit
Nuttall's cottontail
Pronghorn
Mule deer
Wild horses
n = 15 mammal spp.

Reptile Species Observed

Lahontan Basin leopard lizard
Western fence lizard
Gopher snake
n = 3 herp spp.

ATTACHMENT E2
REPRESENTATIVE HABITAT PHOTOS

Photo E1 Big Sagebrush with Saltbush and Antelope Bitterbrush Understory

Photo E2 Mature Big Sagebrush with Sparse Bitterbrush and Rabbitbrush Understory

Photo E3 Big Sagebrush Habitat with Four-Wing Saltbush, Rabbitbrush, and Great Basin Wild Rye Interspersed in the Understory

Photo E4 Mature Bitterbrush Habitat with Sagebrush and Desert Peach Understory

Photo E5 Perennial Grassland Dominated by Great Basin Wild Rye and Saltgrass

Photo E6 Native Willows and Introduced Plant Species at the Garnier Road Crossing of Long Valley Creek

Photo E7 Ephemeral Portion of Long Valley Creek at Proposed ROW Crossing

Photo E8 Project ROW Alignment along Garnier Road

Photo E9 Rock Outcrops Providing Raptor Nesting Substrate on Turtle Mountain Outside of ROW

Photo E10 Rock Outcrops on Turtle Mountain Outside of ROW

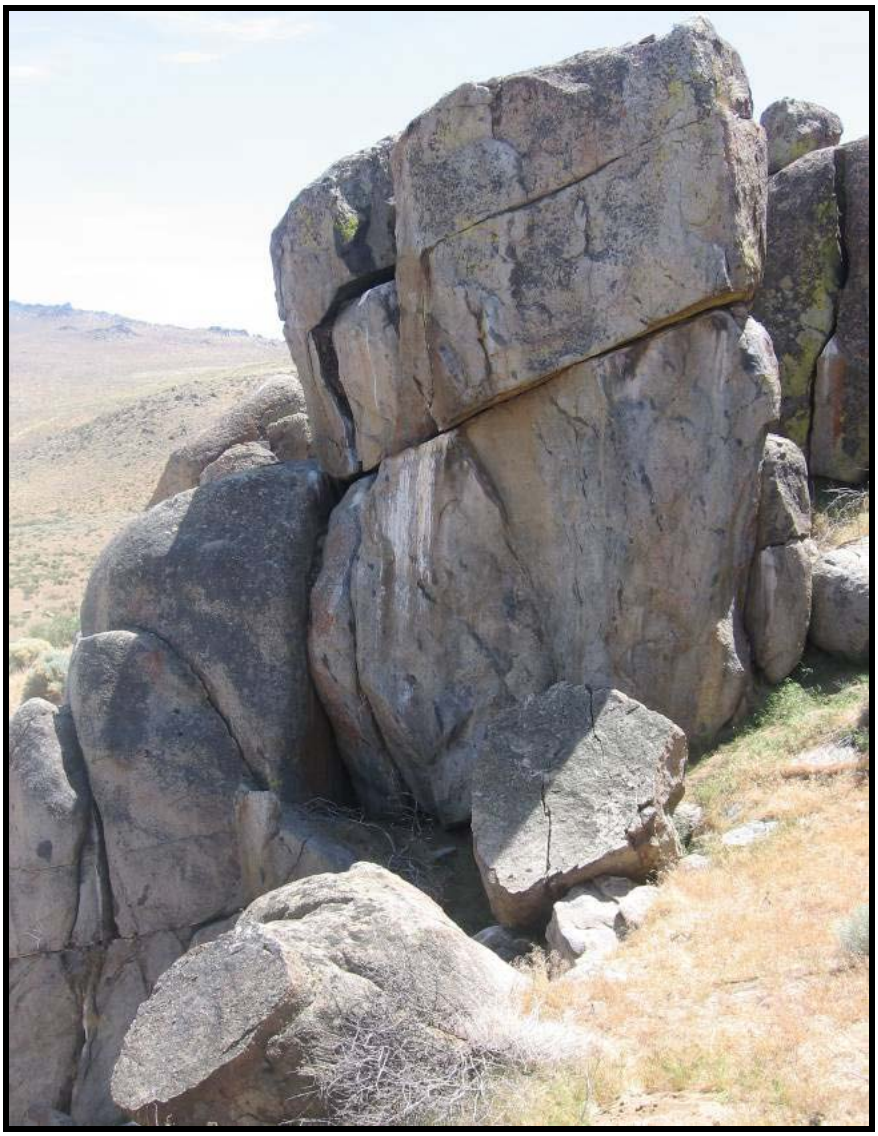

Photo E11 Sign of Raptor Use on Turtle Mountain Outside of ROW

APPENDIX F
AIR QUALITY MODELING AND
LASSEN COUNTY BEST MANAGEMENT PRACTICES

APPENDIX F1
SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
ROAD CONSTRUCTION EMISSIONS MODEL OUTPUT
VERSION 6.3.2

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> PSREC 120KV Transmission Line Project Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	0.7	2.7	4.9	16.4	0.4	16.0	3.7	0.3	3.3	450.6
Drainage/Utilities/Sub-Grade	5.9	21.6	55.5	18.6	2.6	16.0	5.8	2.4	3.3	5,134.0
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (pounds/day)	5.9	21.6	55.5	18.6	2.6	16.0	5.8	2.4	3.3	5,134.0
Total (tons/construction project)	0.2	0.6	1.4	0.5	0.1	0.5	0.2	0.1	0.1	133.3

Notes:

Project Start Year ->	2012
Project Length (months) ->	4
Total Project Area (acres) ->	141
Maximum Area Disturbed/Day (acres) ->	2
Total Soil Imported/Exported (yd^3/day)->	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> PSREC 120KV Transmission Line Project Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	0.3	1.2	2.2	7.4	0.2	7.3	1.7	0.1	1.5	204.8
Drainage/Utilities/Sub-Grade	2.7	9.8	25.2	8.5	1.2	7.3	2.6	1.1	1.5	2,333.6
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (kilograms/day)	2.7	9.8	25.2	8.5	1.2	7.3	2.6	1.1	1.5	2,333.6
Total (megagrams/construction project)	0.1	0.5	1.3	0.5	0.1	0.4	0.1	0.1	0.1	120.9

Notes:

Project Start Year ->	2012
Project Length (months) ->	4
Total Project Area (hectares) ->	57
Maximum Area Disturbed/Day (hectares) ->	1
Total Soil Imported/Exported ($meters^3$/day)->	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

APPENDIX F2
LASSEN COUNTY AIR POLLUTION CONTROL DISTRICT
RECOMMENDED BEST MANAGEMENT PRACTICES

Lassen County Air Pollution Control District Recommended Best Management Practices (BMPs)

RULE 4:18 - Fugitive Dust Emissions

Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to, the following provisions:

a. Covering open bodied trucks when used for transportation materials likely to give rise to airborne dust.

b. Installation and use of hoods, fans, and other fabric filters to enclose and vent the handling of dusty materials. Containment methods may be employed during sandblasting and other similar operations.

c. The application of asphalt, oil, water or suitable chemicals to dirt roads, material stockpiles, land clearing, excavation, grading or other surfaces which can give rise to airborne dusts.

d. The prompt removal of earth or other material from paved streets onto which earth or other material for earth moving equipment, erosion by water, or other means has been deposited.

e. The provisions of this rule shall not apply to agricultural operations.

Lead Agency:

United States Department of Agriculture
Rural Utilities Service
1400 Independence Avenue, SW
Washington, D.C. 20250-1571

Cooperating Agency:

United States Department of Interior
Bureau of Land Management
Eagle Lake Field Office
2950 Riverside Drive
Susanville, California 96130