

NV ENERGY LINE 1104

SPECIAL USE PERMIT

PREPARED FOR:



PREPARED BY:



AUGUST 8, 2023

PROJECT: 23092.00

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Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name:			
Project Description:			
Project Address:			
Project Area (acres or square feet):			
Project Location (with point of reference to major cross streets AND area locator):			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name:		Name:	
Address:		Address:	
Zip:		Zip:	
Phone: Fax:		Phone: Fax:	
Email:		Email:	
Cell: Other:		Cell: Other:	
Contact Person:		Contact Person:	
Applicant/Developer:		Other Persons to be Contacted:	
Name:		Name:	
Address:		Address:	
Zip:		Zip:	
Phone: Fax:		Phone: Fax:	
Email:		Email:	
Cell: Other:		Cell: Other:	
Contact Person:		Contact Person:	
For Office Use Only			
Date Received: Initial:		Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

**UNINCORPORATED WASHOE COUNTY
PARCELS FOR NV ENERGY 1104 LINE**

TRANSMISSION LINE PARCEL OWNERSHIP

APN	Owner Info
038-822-01	MYERS 2017 TRUST, RAYMOND A
038-821-20	VERDI LAKE LLC
038-842-01	Washoe County
038-042-20	NV Energy
038-043-05	NV Energy
038-044-06	NV Energy
038-045-46	NV Energy
038-060-37	NV Energy
038-280-43	NV Energy
238-320-04	WEST MEADOWS HOMEOWNERS ASSOCIATION
038-010-07	EMERY, ALLYN
038-010-05	LUCAS, STAN
081-170-10	CHURCHILL TRUST et al, DAVID E
081-070-06	USFS
081-070-29	USFS
081-050-46	USFS
081-010-01	USFS
081-010-05	USFS
081-010-06	LIFESTYLE HOMES TND LLC
558-010-06	JCJJ&J TRUST
081-010-18	HEINZ RANCH LAND COMPANY LLC
081-110-06	LIFESTYLE HOMES TND LLC
081-110-05	LIFESTYLE HOMES TND LLC
081-110-04	LIFESTYLE HOMES TND LLC

ACCESS ROAD PRIVATE OWNERSHIP

038-550-44	KRONISH TRUST, HERBERT
081-070-20	INSKIP et al, RICHARD R
081-050-11	KING, CLINTON W



May 2, 2023

To: All Interested Parties

RE: Signature Authority of Matt Gingerich

The undersigned is Senior Vice President, General Counsel, Corporate Secretary and Chief Compliance Officer of Nevada Power Company, a Nevada corporation d/b/a NV Energy and Sierra Pacific Power Company, a Nevada corporation d/b/a NV Energy (collectively, "NV Energy").

As of the date of this letter, Matt Gingerich is Director of Land Resources of NV Energy. As Director of Land Resources, Mr. Gingerich is authorized to sign on behalf of NV Energy the following documents:

1. Land use permits and parcel mapping required by local municipalities;
2. Grants of easements, access to equipment agreements, transmission use agreements, distribution encroachment agreements and deeds;
3. Relinquishments of easements granted on private property or rights contained in government patent easements and on final subdivision maps containing relinquishment language; and
4. Agreements relating to the acquisition of easements; and
5. Letters of intent, non-disclosure agreements and purchase agreements; and
6. Land ownership affidavit; and
7. Parcel maps; and
8. License Agreements; and
9. Other agreements related to obtaining land rights.

This letter will expire one (1) year from the date of issuance.

NV ENERGY

A handwritten signature in black ink, appearing to read "Brandon Barkhuff".

Brandon Barkhuff
Senior Vice President, General Counsel,
Corporate Secretary and Chief Compliance Officer

Special Use Permit Application Supplemental Information

(All required information may be separately attached)

1. What is the project being requested?

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

3. What is the intended phasing schedule for the construction and completion of the project?

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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9. Utilities:

a. Sewer Service	
b. Electrical Service	
c. Telephone Service	
d. LPG or Natural Gas Service	
e. Solid Waste Disposal Service	
f. Cable Television Service	
g. Water Service	

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #		acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

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10. Community Services (provided and nearest facility):

a. Fire Station	
b. Health Care Facility	
c. Elementary School	
d. Middle School	
e. High School	
f. Parks	
g. Library	
h. Citifare Bus Stop	

**Special Use Permit Application
for Grading
Supplemental Information**
(All required information may be separately attached)

1. What is the purpose of the grading?

2. How many cubic yards of material are you proposing to excavate on site?

3. How many square feet of surface of the property are you disturbing?

The following areas include all existing graded road widths and are a very conservative estimate - 65.7 acres total, 37.3 acres of temporary road widening, 28.4 acres of new temporary access roads (see Section 3.1.3 of Project Construction, Operation, and Maintenance (COM) Plan).

4. How many cubic yards of material are you exporting or importing? If none, how are you managing to balance the work on-site?

5. Is it possible to develop your property without surpassing the grading thresholds requiring a Special Use Permit? (Explain fully your answer.)

6. Has any portion of the grading shown on the plan been done previously? (If yes, explain the circumstances, the year the work was done, and who completed the work.)

7. Have you shown all areas on your site plan that are proposed to be disturbed by grading? (If no, explain your answer.)

8. Can the disturbed area be seen from off-site? If yes, from which directions and which properties or roadways?

9. Could neighboring properties also be served by the proposed access/grading requested (i.e. if you are creating a driveway, would it be used for access to additional neighboring properties)?

10. What is the slope (horizontal/vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

11. Are you planning any berms?

Yes	No	If yes, how tall is the berm at its highest?
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12. If your property slopes and you are leveling a pad for a building, are retaining walls going to be required? If so, how high will the walls be and what is their construction (i.e. rockery, concrete, timber, manufactured block)?

13. What are you proposing for visual mitigation of the work?

14. Will the grading proposed require removal of any trees? If so, what species, how many and of what size?

15. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

We will use the seed mix approved by USFS and the Washoe Storey Conservation District Best Management Practices. The actual seed mixture is in Appendix C3 of the Project COM Plan, Table 5-1.

16. How are you providing temporary irrigation to the disturbed area?

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17. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

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18. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that may prohibit the requested grading?

Yes	No	If yes, please attach a copy.
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16. What types of landscaping (e.g. shrubs, trees, fencing, painting scheme, etc.) are proposed? (Please indicate location on site plan.)

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17. What type of signs and lighting will be provided? On a separate sheet, show a depiction (height, width, construction materials, colors, illumination methods, lighting intensity, base landscaping, etc.) of each sign and the typical lighting standards. (Please indicate location of signs and lights on site plan.)

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18. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the administrative permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

19. Community Sewer

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

20. Community Water

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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TAB A

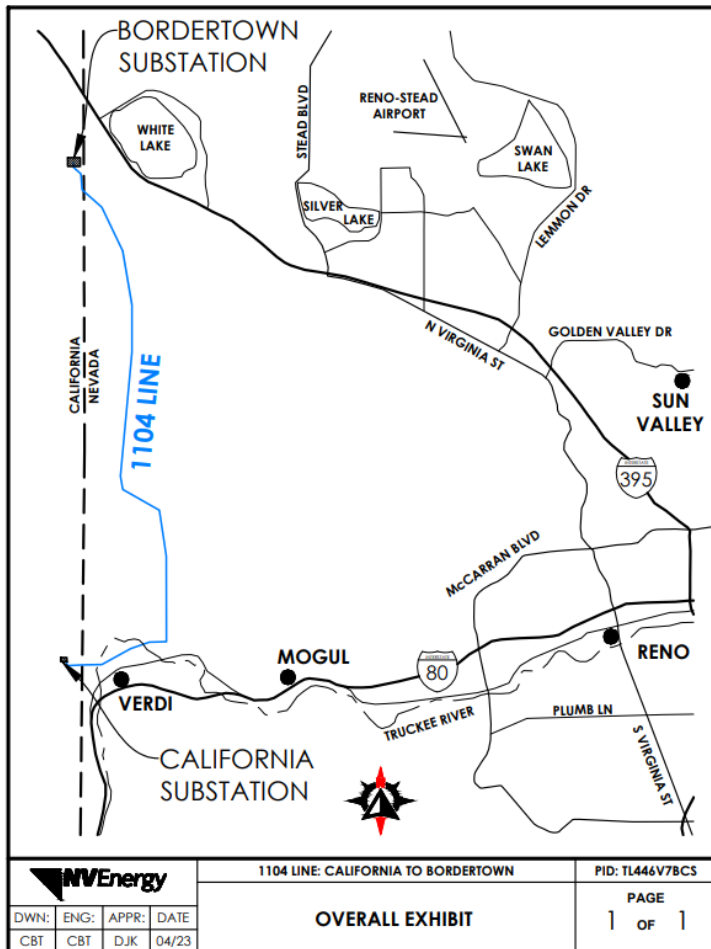


Project Introduction

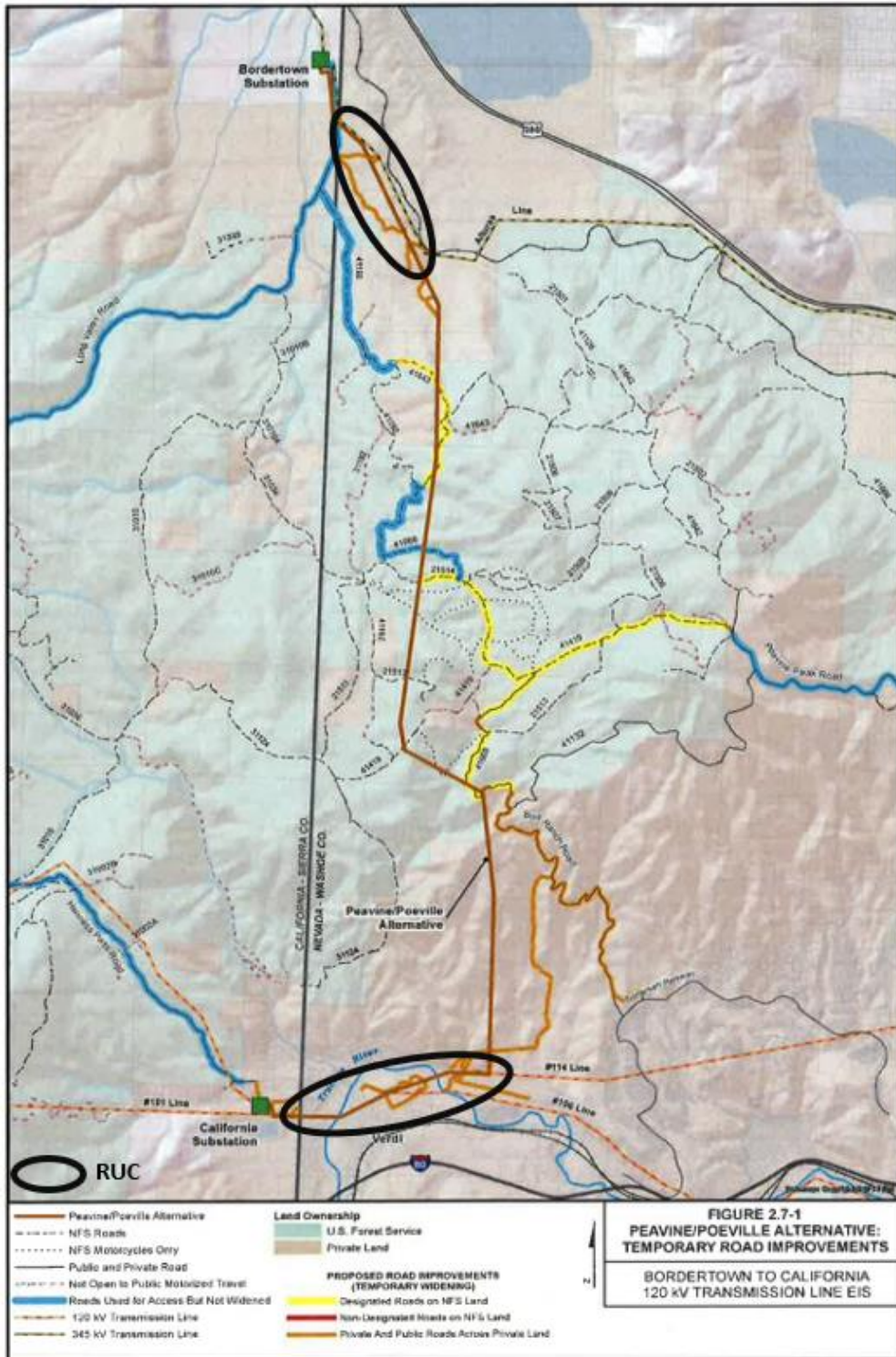
The project presented in this application crosses both unincorporated Washoe County and City of Reno lands. As such, separate applications have been prepared for review by the two jurisdictions. The United States Forest Service has reviewed, approved, and conditioned the project, appropriately relative to the construction, operations and maintenance of the transmission power line. Copies of the Final Environmental Impact Statement (FEIS) and final Record of Decision (ROD) have been provided with this application submittal. A Construction, Operation and Maintenance (COM) Plan is provided with this application in Tab C that covers the specifics of the line development, operations and maintenance. This introduction narrative covers the Washoe County special use permit specific information and relies on the previously prepared COM Plan for review details.

This application requests the approval of a special use permit from Washoe County for the proposed use and major grading associated with temporary grading activities associated with the construction access roads. Additionally requested are deviation or variation from certain design aspects of the Washoe County Development Code (WCDC) including heights, parking, and landscaping.

Project Location/Route Alignment



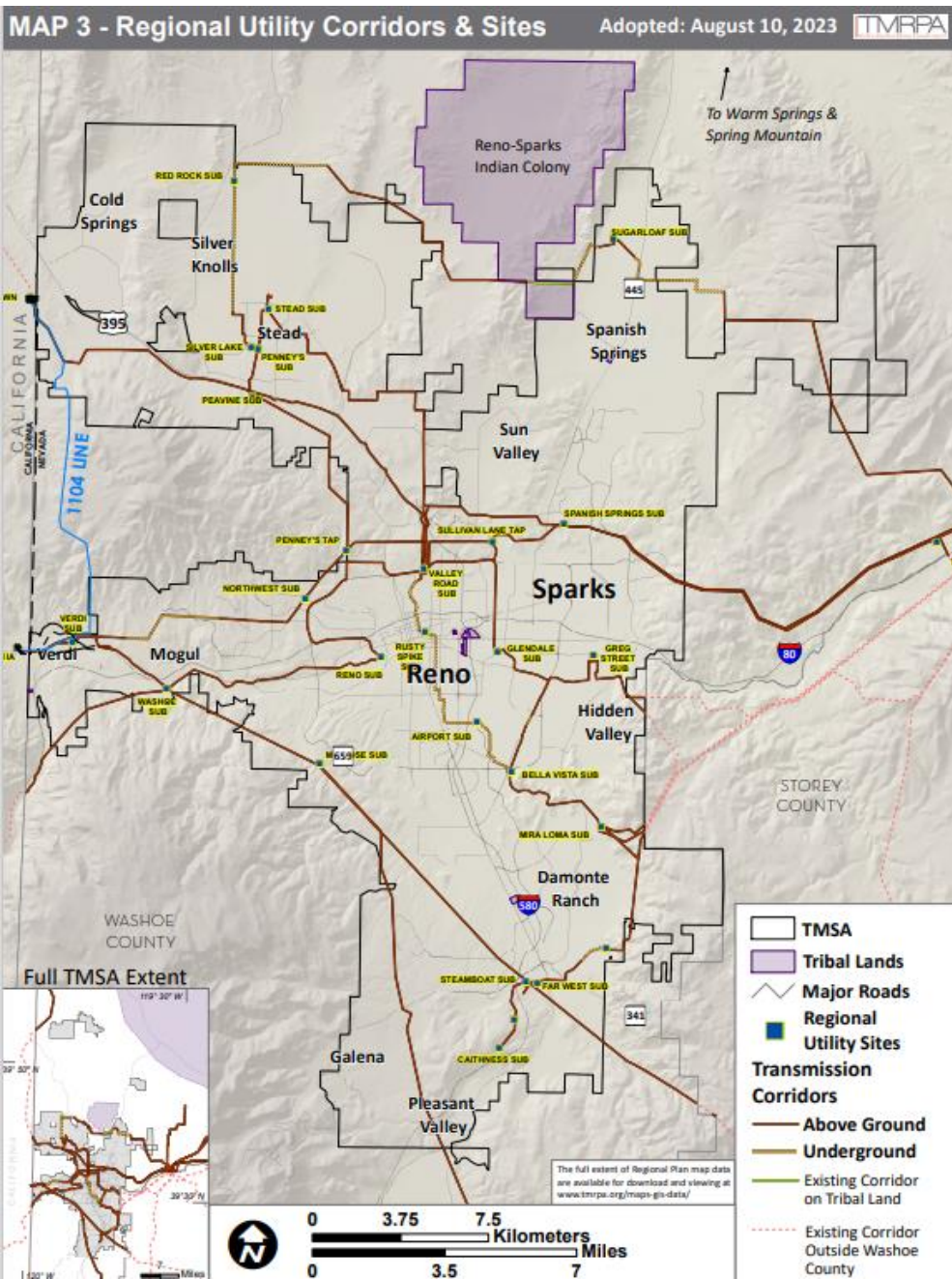
NV Energy Line 1104 is a 120 kV transmission power line that is proposed to run between the Bordertown Substation (near Cold Springs) and the California Substation (near Verdi). A schematic vicinity map is provided, to the left and a more detailed route/vicinity map is provided on the following page, both showing the alignment of this transmission power line.



The proposed alignment of the power line and the temporary access roads needed for construction of the line cross multiple properties with some in unincorporated Washoe County and some within the City of Reno.

Project of Regional Significance & Regional Utility Corridors (RUC's)

The proposed project, being a transmission power line necessitates a project of regional significance review through the Truckee Meadows Regional Planning Agency. Additionally, a new Regional Utility Corridor will need to be established to cover the portion of the line that is not proposed to jointly run within existing corridors. Below is a copy of the Truckee Meadows Regional Plan – Regional Utility Corridors & Sites exhibit. The approximate alignment of the proposed Line 1104 has been shown on this exhibit.



Project Requests

This application specifically requests the following requests, inclusive of special use permit considerations as well as variation or deviation from certain standards within the WCDC.

Special Use Permit

Special Use Permit for Use – a special use permit is requested for the use of a Utility Services within the GR (General Rural) and OS (Open Space) zoning designations.

Special Use Permit for Major Grading - a special use permit is requested for major grading relative to the standards set forth in Article 438 of the Washoe County Development Code (WCDC).

The request for the special use permit for major grading is formally made, but the applicant believes that the proposed use, being a public utility, should be exempt from such a special use permit requirement, per 110.438.35(a)(2)(b), which states that a special use permit is not required for public utilities within the public right-of-way or a public utility easement. The project will be within easement, federal permits/ROW's and regional utility corridors. The grading in association with the temporary access roads has already been reviewed by the USFS through the approval of the FEIS and provision of the final ROD.

If an SUP for major grading is deemed to be required, the specific sections of Article 438 that we believe to be applicable to this request include:

110.438.35 (a)(1) Grading on slopes less than or flatter than 15%

- Area - (i)(C)** Grading of an area of more than four (4) acres on a parcel of any size
- Volume (ii)(A)** Excavation of five thousand (5,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site.

110.438.35 (a)(2) Grading on slopes of 15% or greater (steeper)

- Area - (i)(C)** Grading of more than two (2) acres on any size parcel
- Volume (ii)(A)** Excavation of five thousand (1,000) cubic yards or more whether the material is intended to be permanently located on the project site or temporarily stored on a site for relocation to another, final site.

110.438.35(a)(3) – Any driveway or road that traverses any slope of thirty (30) percent or greater (steeper) – Due to the terrain where the proposed line will cross, there will be temporary access roads or existing access road widening that will need to cross or traverse areas that are 30% or steeper in slope.

Variation from the grading standards of the following is also requested:

Additional Requests – deviation or waiver requests from various code standards

Height Allowances per Table 110.406.05.1 – the proposed pole heights (ranging between 50' and 105' – above ground) will exceed the listed height allowances under the PSP and GR zoning designations.

Article 410 – Parking – Due to the nature of the project, no parking is necessary and a full waiver from any requirements for parking is requested.

Article 412 – Landscaping – Due to the nature of the project, it is requested that a full waiver from typical landscape requirements be provided for the project. There are revegetation requirements that the USFS has already put on the project that will be followed and these can be seen in the Construction, Operation and Maintenance (COM) Plan provided with this introduction narrative.

Height Variation

The proposed poles to be used for the transmission line will range between 50 feet to 105 feet in height depending upon the location, angle of the line at the pole, topography, or necessary crossings of other elements. The GR zoning allows for a height of 35 feet, and it will be necessary to have the allowance to appropriately exceed this height with the poles to meet nationally regulated requirements for clearance and safety. The OS zone does not have a maximum height listed. As such, no deviation from the stipulated heights for that zoning designation would be necessary. Details of the proposed structures are provided in Tab B with this application.

Parking Waiver

Table 110.410.10.2 identifies that Utility Services require no parking per the square footage of the project and parking per employee during peak employment shift is identified to be “as specified by use permit.” There will be no employees nor peak shifts associated with this project. As such, we request a full waiver from any parking requirements identified under Article 410 of the WCDC.

Landscaping Waiver

As part of the special use permit, it is requested that a waiver from landscape standards identified in Article 412 of the WCDC be granted. The provision of any landscaping would not provide intended screening that is paramount in the requirement for landscaping of project. Additionally, any requirement for landscaping would draw attention to the location of the line of pole structures through much of the terrain where the route is located.

The USFS has reviewed the project and has requirements and stipulations associated with remediation and revegetation of temporary grading and widening for the necessary access roads.

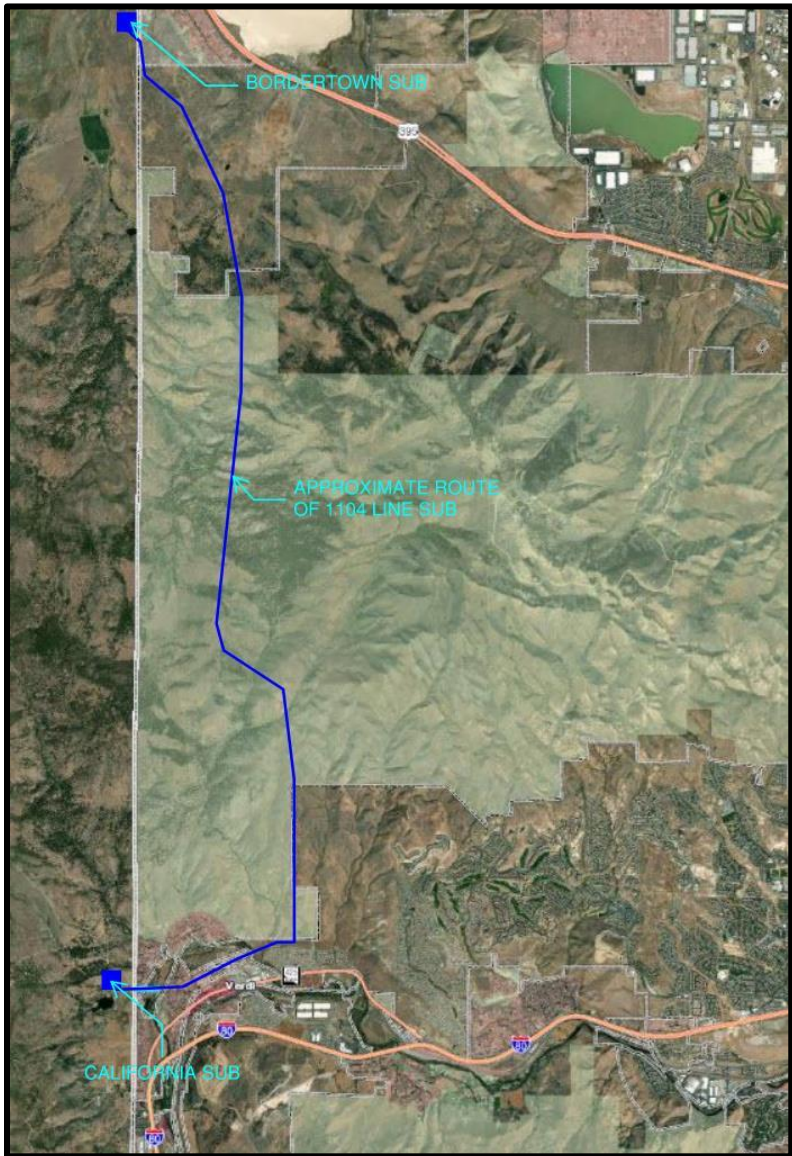
Master Plan and Zoning

The parcels crossed by the proposed line route running through unincorporated Washoe County are master planned Open Space and are zoned General Rural (GR) and Open Space (OS). Most of the land area that lies within unincorporate Washoe County’s jurisdiction are federally owned properties administered by the USFS. Below are exhibits of the Master Plan and Zoning maps for Washoe County within the vicinity of the

project route. The project route has been approximately shown on these exhibits. An enlarged exhibit of each has been provided for the Verdi area as the designations in this area are difficult to see in the larger scale exhibit.

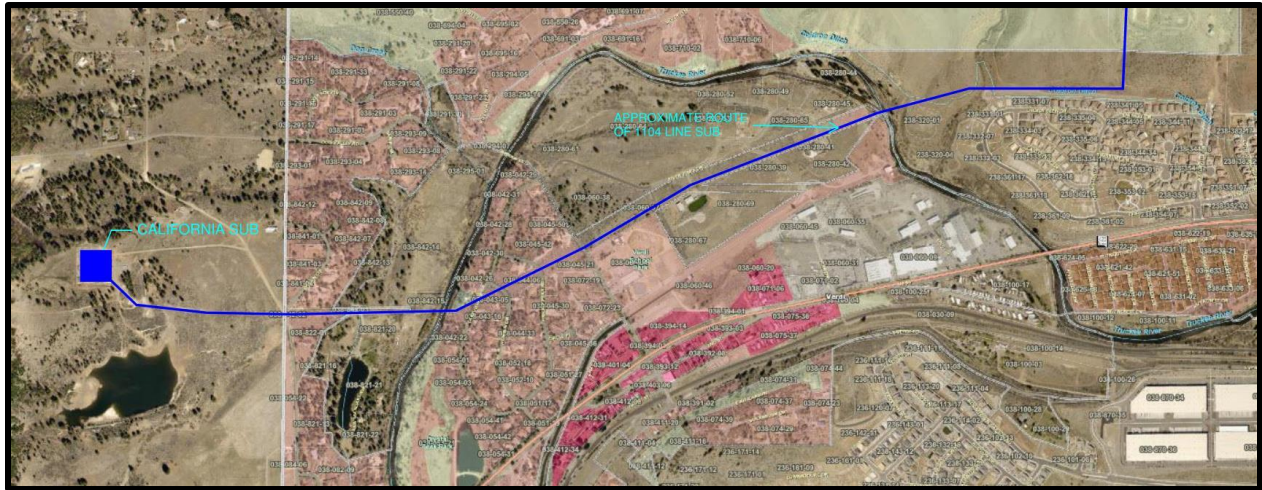
Utility Services are allowed with the review and approval of a special use permit under the GR and OS zoning designations, per Table 110.302.05.2 in the Washoe County Development Code (WCDC)

Master Plan Exhibit (Full Route)

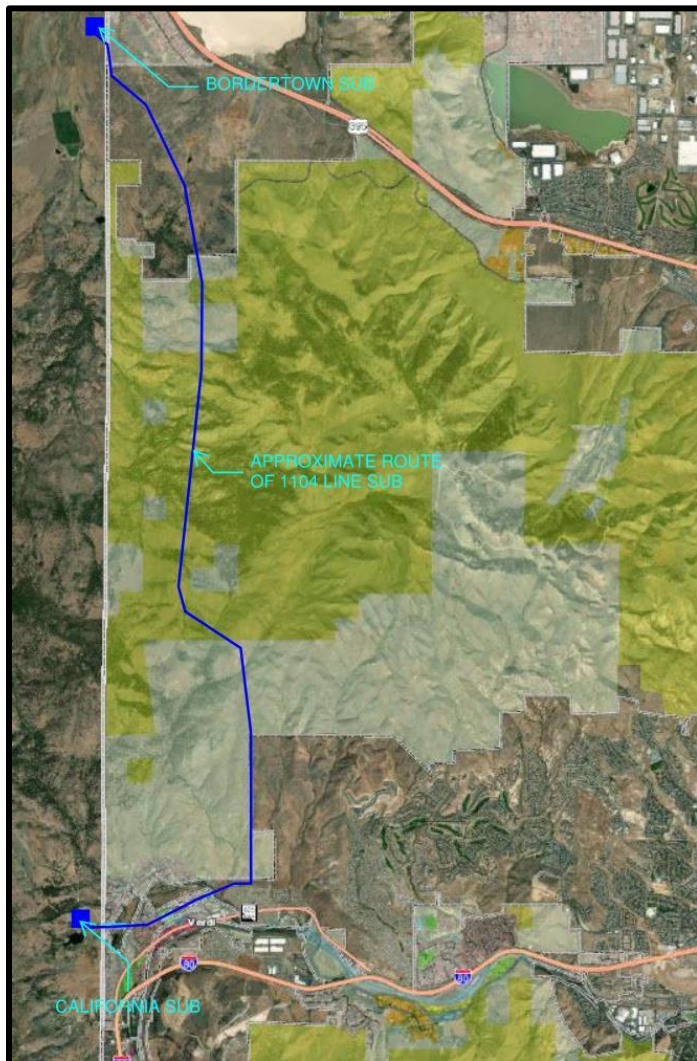


Master Plan Designations of project route – Open Space and Suburban Residential

Master Plan Exhibit (Verdi Area)



Zoning Exhibit (Full Route)



Zoning Designations of project route – OS, GR, PSP, and LDS

Zoning Exhibit (Verdi Area)

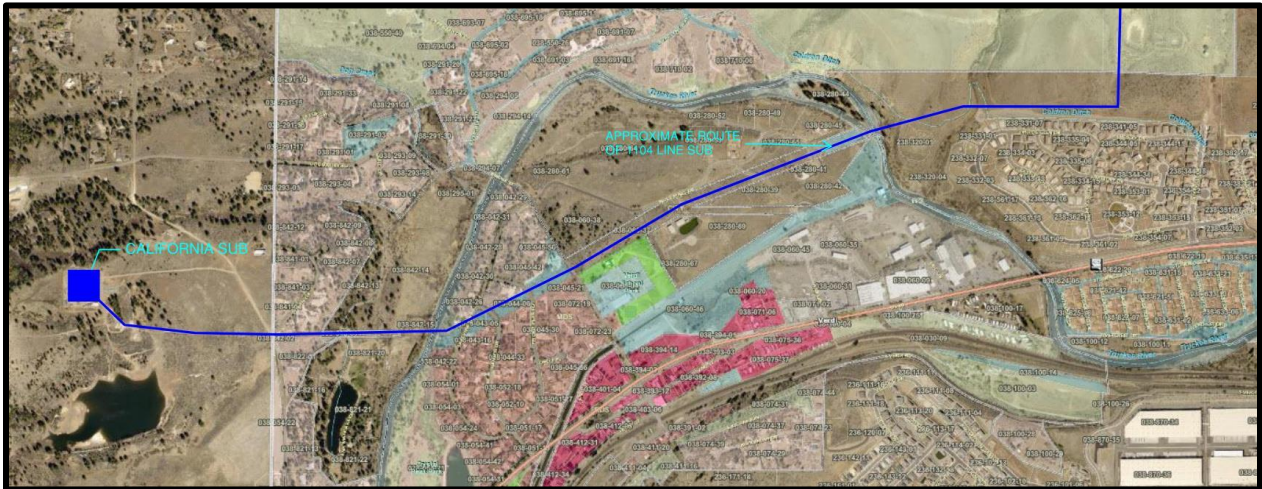
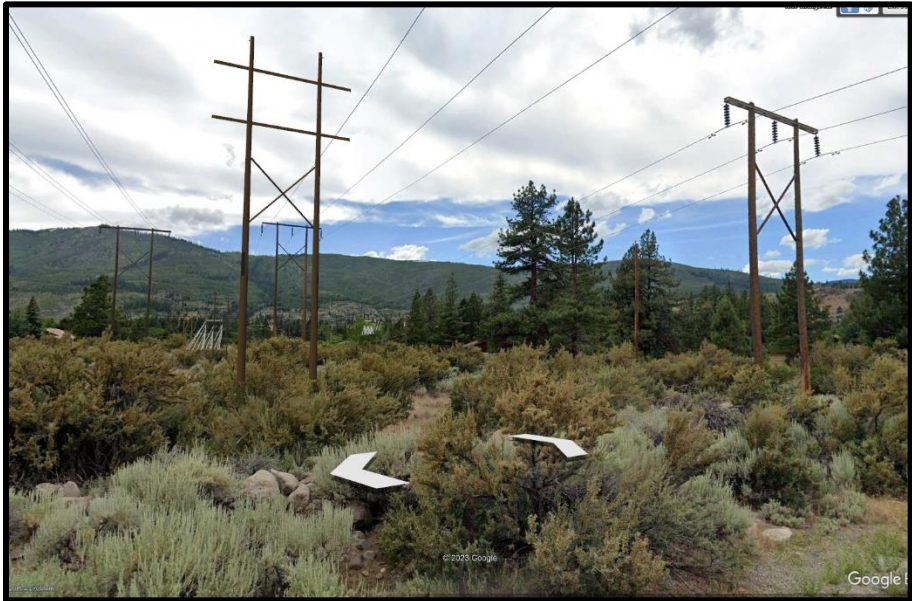


Photo Simulations – Various Site Locations (Verdi Area)

Following are some photo simulations within the existing Regional Utility Corridor in Verdi that show the new pole structures enhanced in the photos. It should be noted that through most of this corridor there are three separate line routes, predominately on H-frame structures. With the proposed 1104 Line, the one new pole route will replace the two northern H-frame structures and the number of overall structures through the segment of line that travels west-east through Verdi will be reduced by 11 total structures from what currently exists.

Bridge Street Photo Simulations



Looking West

Looking East



Prickly Pear Road Photo Simulations



Looking West

Looking East



Special Use Permit Findings

Article 810 of the Washoe County Development Code identifies findings that must be made in order to approve a special use permit. Following is an identification of each finding and the applicant’s response as to how or why this finding is met with this request.

(a) Consistency. The proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the applicable area plan;

The proposed use of utility services is consistent with the action programs, policies, standards and maps of the Master Plan and applicable area plan(s). The proposed transmission power line is necessary under NERC requirements that NV Energy must follow relative to energy reliability requirements. The proposed route was the preferred option from a USFS EIS process and a final ROD has been obtained which includes requirements and stipulations for protection of environmental and wildlife areas. The Construction, Operation and Maintenance Plan, provided as part this application in Tab C addresses cultural, environmental, visual, public safety and fire prevention and response and other issues that are covered within the Area Plan policies.

(b) Improvements. Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and

proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;

Any access road work for construction will be temporary and is required to be remediated and revegetated at the completion of the construction, per the final ROD. The project will have no impact relative to sanitation, water supply concerns, drainage or other typical development level public infrastructure considerations. The project will improve the reliability of electric service in the west part of Reno.

(c) Site Suitability. The site is physically suitable for the type of development and for the intensity of development;

The proposed route has been thoroughly analyzed and approved through the USFS EIS process and a final ROD has been issued. The lengthy federal process considered the site access, topography, environmental, visual, public safety and fire prevention and response and other considerations.

(d) Issuance Not Detrimental. Issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area;

Where the project is in proximity to existing residences, the line runs through an existing regional utility corridor. There will be fewer structures within the Verdi regional utility corridor after the construction of this proposed transmission power line through the consolidation and joint circuiting of the new poles.

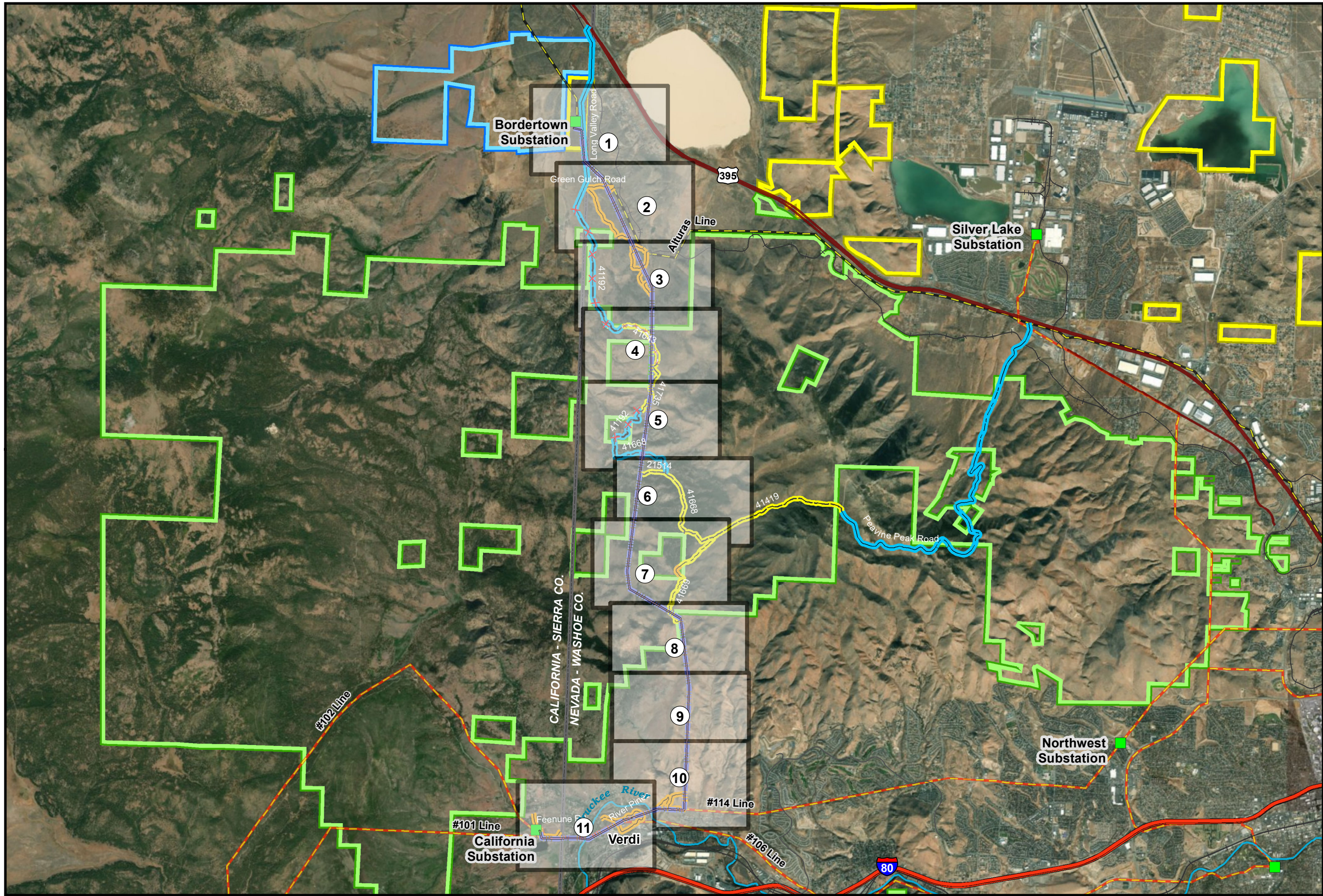
(e) Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

There are no military installations located in proximity to the proposed site area. As such, this finding is not applicable.

TAB B



V:\2023\Active\203703160\03_data\gis\mxd\Map_Books\Construction_and_Access_Mapbook\Construction_Map_Book_Cover_Page_Aerial_11x17L.mxd Revised: 2020-05-12 By: christmson



Bordertown to California 120 kV Transmission Line Project Construction and Access Mapbook



Feet
0 3,250 6,500
1 in = 6,500 feet

Sierra County, CA &
Washoe County, NV
NAD 1983 UTM Zone 11N








PROJECT NO: 203703160
DRAWN BY: CJ
1ST REVIEW: JT
2ND REVIEW: KC
DATE: 5/12/2020

**MAP BOOK
COVER PAGE**











V:\2037\Active\203703160\03_data\gls_cad\gls\mxd\Map_Books\Construction_and_Access_Mapbook\Construction_Map_Book_Legend.mxd Reviewed: 2020-01-07 By: chjohnson

How to Use This Map Book



This Map Book is intended as the pictorial reference for the construction and access for the Bordertown to California 120 kV Transmission Line Project. Each map sheet is the Centerline Construction and Access Map overlaid on an aerial and topographic photo background depicting Land Ownership, Access, and Construction Vehicle Travel.

-  Peavine\Poeville Alignment
-  90-ft ROW
-  Existing Substation
-  Addition to Substation
-  New Pole Structure
-  New Pole Structure/Existing Pole To Be Removed
-  Wire Set-up Site







Roads

-  USFS Roads
-  USFS Road (Designated Seasonal Use April 1 - November 18)
-  USFS Road Not Open to Public Motorized Travel
-  USFS Not Open to Public Motorized Travel (Designated Seasonal Use April 1 - November 18)
-  USFS Roads (Temporary Widening)
-  USFS Roads Used for Access (No Widening)
-  Public and Private Roads across Private Land (Temporary Widening; includes Dirt Roads)
-  Public and Private Roads Used for Access (No Widening)
-  Public and Private Road
-  Fence

Existing Transmission Routes

-  120 kV Transmission Line
-  345 kV Transmission Line

Land Ownership

-  U.S. Bureau of Land Management
-  U.S. Forest Service
-  California Department of Fish & Wildlife
-  Assessor's Parcel on Private Land
-  State Boundary
-  Staging Areas



**Bordertown to California 120 kV
Transmission Line Project
Construction and Access Mapbook**



Sierra County, CA &
Washoe County, NV
NAD 1983 UTM Zone 11N

PROJECT NO: 203703160
DRAWN BY: CJ
1ST REVIEW: JT
2ND REVIEW: KC
DATE: 1/7/2020

**Map Book
Legend**

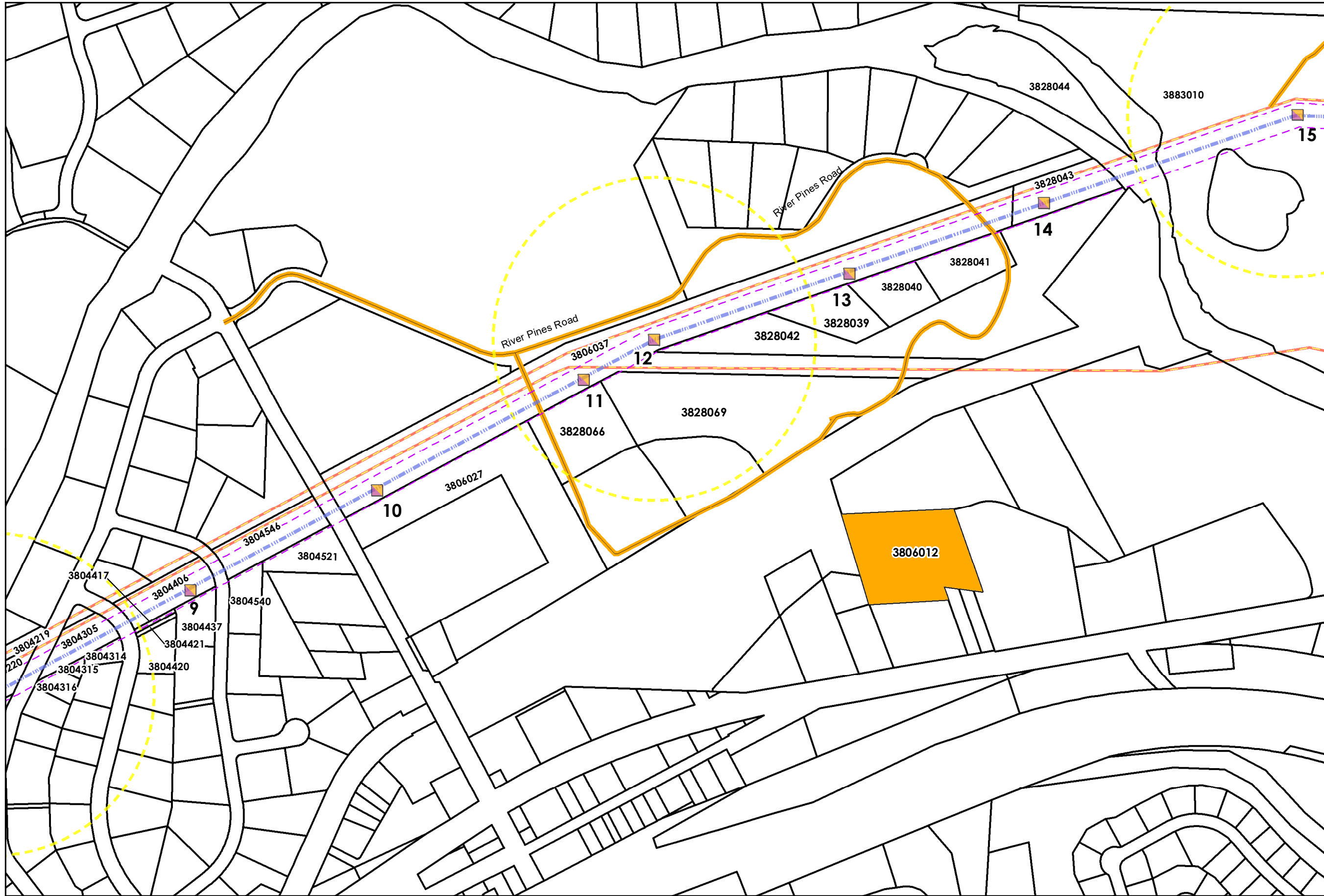
PROPERTY OWNERSHIP

Sheet #	APN	Last Name
1	8111005	LIFESTYLE HOMES TND LLC
1	8111004	LIFESTYLE HOMES TND LLC
1	21090002	UNITED STATES OF AMERICA
1	21100012	CONSERVANCY TRUST
2	8111004	LIFESTYLE HOMES TND LLC
2	8101018	HEINZ RANCH LAND COMPANY LLC
2	8101010	UNITED STATES OF AMERICA
2	8111005	LIFESTYLE HOMES TND LLC
2	8111006	LIFESTYLE HOMES TND LLC
3	8101003	UNITED STATES OF AMERICA
3	55801003	GUSTAFSON
3	55801002	MENTOR INVESTMENTS LLC
3	8101006	LIFESTYLE HOMES TND LLC
3	8101018	HEINZ RANCH LAND COMPANY LLC
3	8101010	UNITED STATES OF AMERICA
4	8101001	UNITED STATES OF AMERICA
4	8101003	UNITED STATES OF AMERICA
4	8101004	UNITED STATES OF AMERICA
4	8101005	UNITED STATES OF AMERICA
4	8105046	UNITED STATES OF AMERICA
4	8101006	LIFESTYLE HOMES TND LLC
5	8105011	KING
5	8105046	UNITED STATES OF AMERICA
6	8105046	UNITED STATES OF AMERICA
6	8107029	UNITED STATES OF AMERICA
7	8107020	GEORGE
7	8107029	UNITED STATES OF AMERICA
7	8105046	UNITED STATES OF AMERICA
7	8107019	COX
8	8107006	UNITED STATES OF AMERICA
8	8117009	RUBINSTEIN TRUST
8	8107029	UNITED STATES OF AMERICA
8	8107010	BJORKMAN
8	8117010	CHURCHILL TRUST
9	8117010	CHURCHILL TRUST
9	3801005	LUCAS
9	8107010	BJORKMAN
9	3801010	KRONISH TRUST

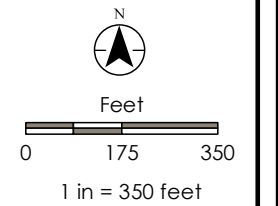
Sheet #	APN	Last Name
10	3801007	EMERY
10	3801010	KRONISH TRUST
10	3828040	RIVER BEND INVESTMENTS LLC
10	3828043	SIERRA PACIFIC POWER CO
10	3828041	OLIVER TRUST
10	3828042	HOTEL-CASINO MANAGEMENT INC
10	3855044	FERRONI FOUNDATION
10	3801005	LUCAS
10	3883010	D R HORTON INC
11	3804314	KRONISH TRUST
11	3884104	HERSCHBACH TRUST
11	3804521	ALTMAN
11	3804420	FARRELL TRUST
11	3884204	HARRIGAN IRREVOCABLE TRUST
11	3804221	BUUS TRUST
11	3884103	HERSCHBACH TRUST
11	3804220	SIERRA PACIFIC POWER CO
11	3804437	CUSHMAN FAMILY TRUST
11	3882201	SKAMEL
11	3804540	LOPEY
11	3804316	DEVINE
11	3804406	SIERRA PACIFIC POWER CO
11	3804315	DEVINE
11	3804434	CHUSHMAN FAMILY TRUST
11	3805422	KRONISH TESTAMENTARY TRUST
11	3806037	SIERRA PACIFIC POWER CO
11	3806027	WASHOE CO. SCHOOL DISTRICT BOARD
11	3828066	MFT LIVING TRUST
11	3828069	MFT LIVING TRUST
11	3884215	PIONEER INN ASSOC LTD PTSP
11	3882120	SMALL LLC
11	3884203	SIERRA PACIFIC POWER CO
11	3828039	RIVER BEND INVESTMENTS LLC
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11	3828043	SIERRA PACIFIC POWER CO
11	3806012	SIERRA PACIFIC POWER CO
11	230800110	PIONEER INN ASSOC LTD PARTNER
11	230800260	FERRONI
11	230700720	KRONE
11	231500070	SIERRA PACIFIC POWER CO

Supplemental APN Map	APN	Last Name
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1	3804420	FARRELL TRUST
1	3804314	KRONISH TRUST
1	3804540	LOPEY
1	3804521	ALTMAN
1	3804546	SIERRA PACIFIC POWER CO
1	3806027	WASHOE CO. SCHOOL DISTRICT BOARD
1	3806037	SIERRA PACIFIC POWER CO
1	3828066	MFT LIVING TRUST
1	3828069	MFT LIVING TRUST
1	3828042	HOTEL-CASINO MANAGEMENT INC
1	3828039	RIVER BEND INVESTMENTS LLC
1	3828040	RIVER BEND INVESTMENTS LLC
1	3828041	OLIVER TRUST
1	3828043	SIERRA PACIFIC POWER CO
1	3828044	HOTEL-CASINO MANAGEMENT INC
1	3883010	D R HORTON INC
1	3804437	CUSHMAN FAMILY TRUST
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2	230800110	PIONEER INN ASSOC LTD PARTNER
2	231500070	SIERRA PACIFIC POWER CO

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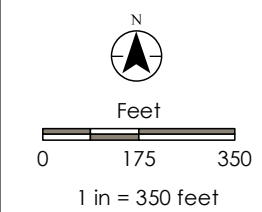
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1ST REVIEW: JT
2ND REVIEW: KC
DATE: 1/22/2020

Supplemental
APN Map
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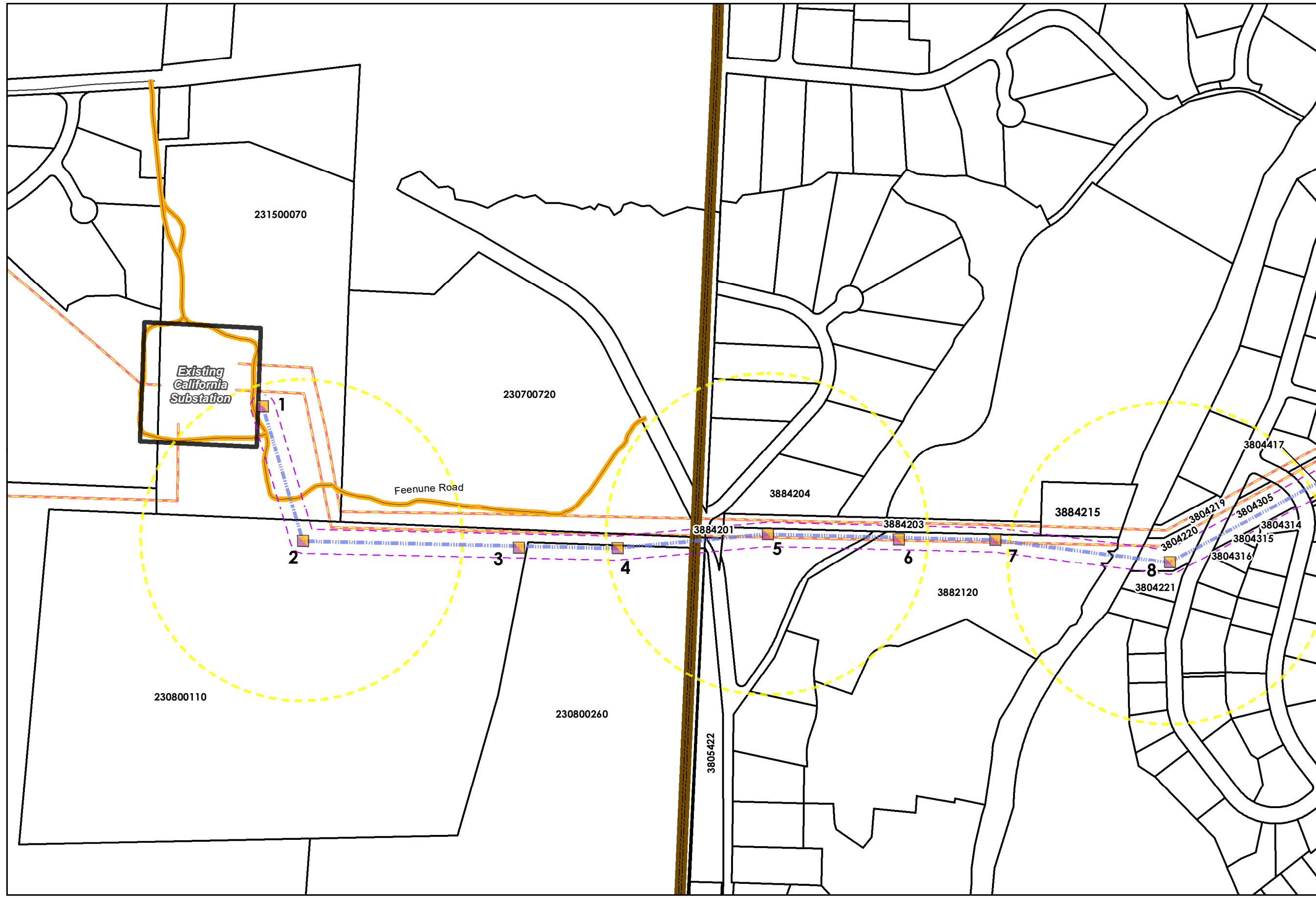
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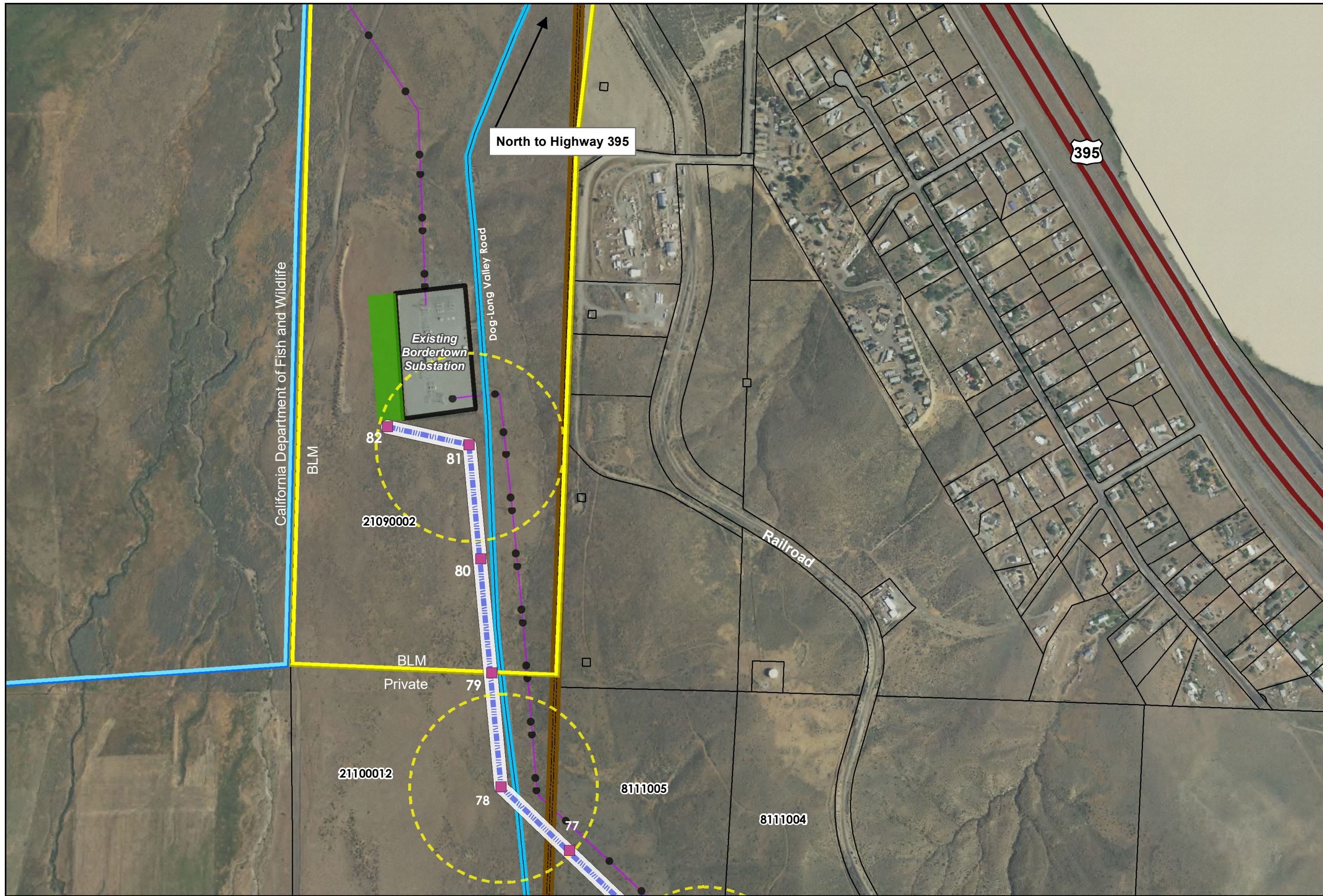
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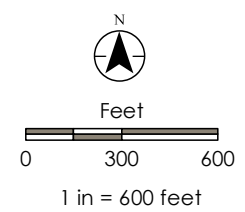
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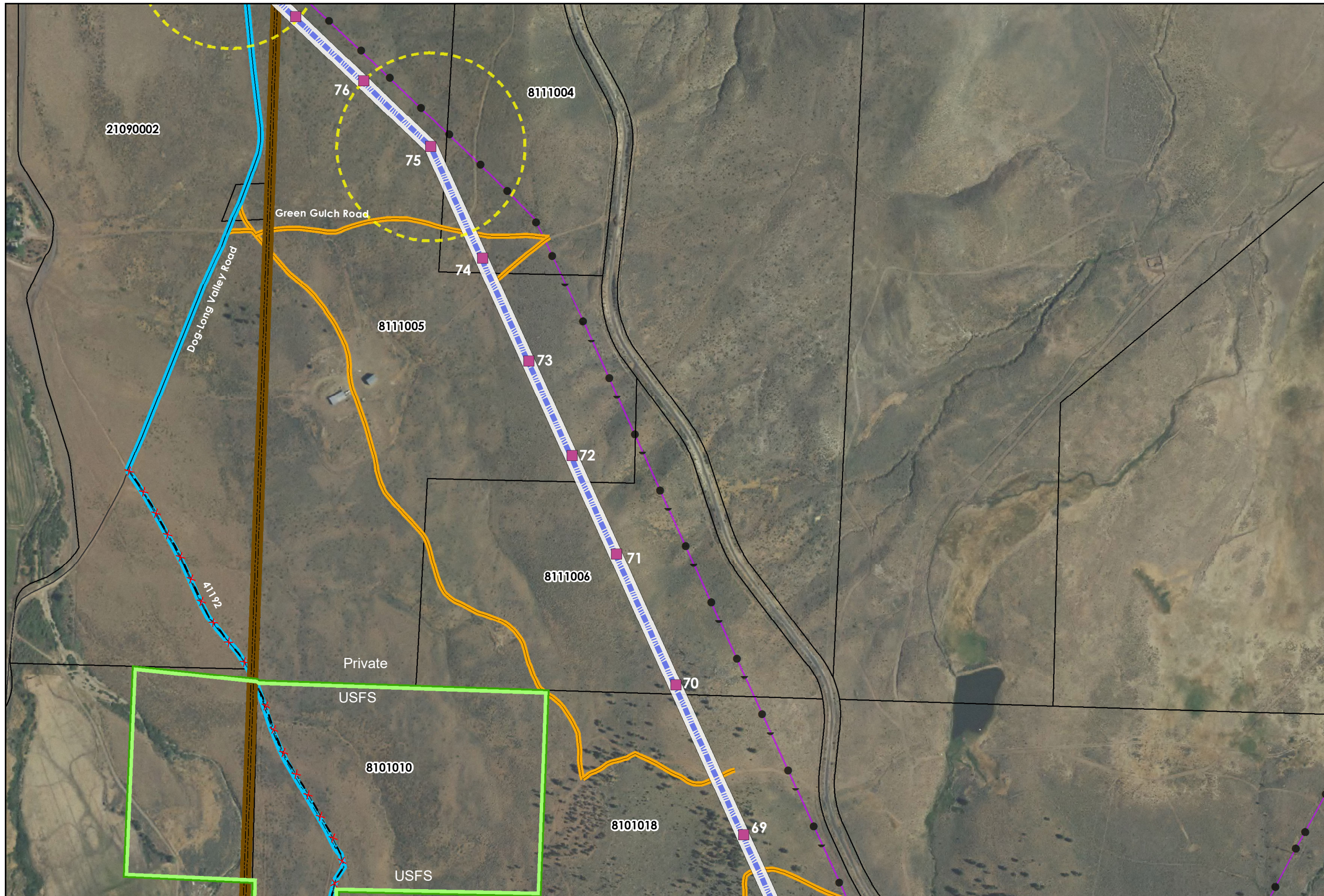


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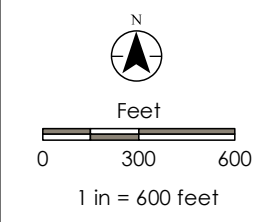
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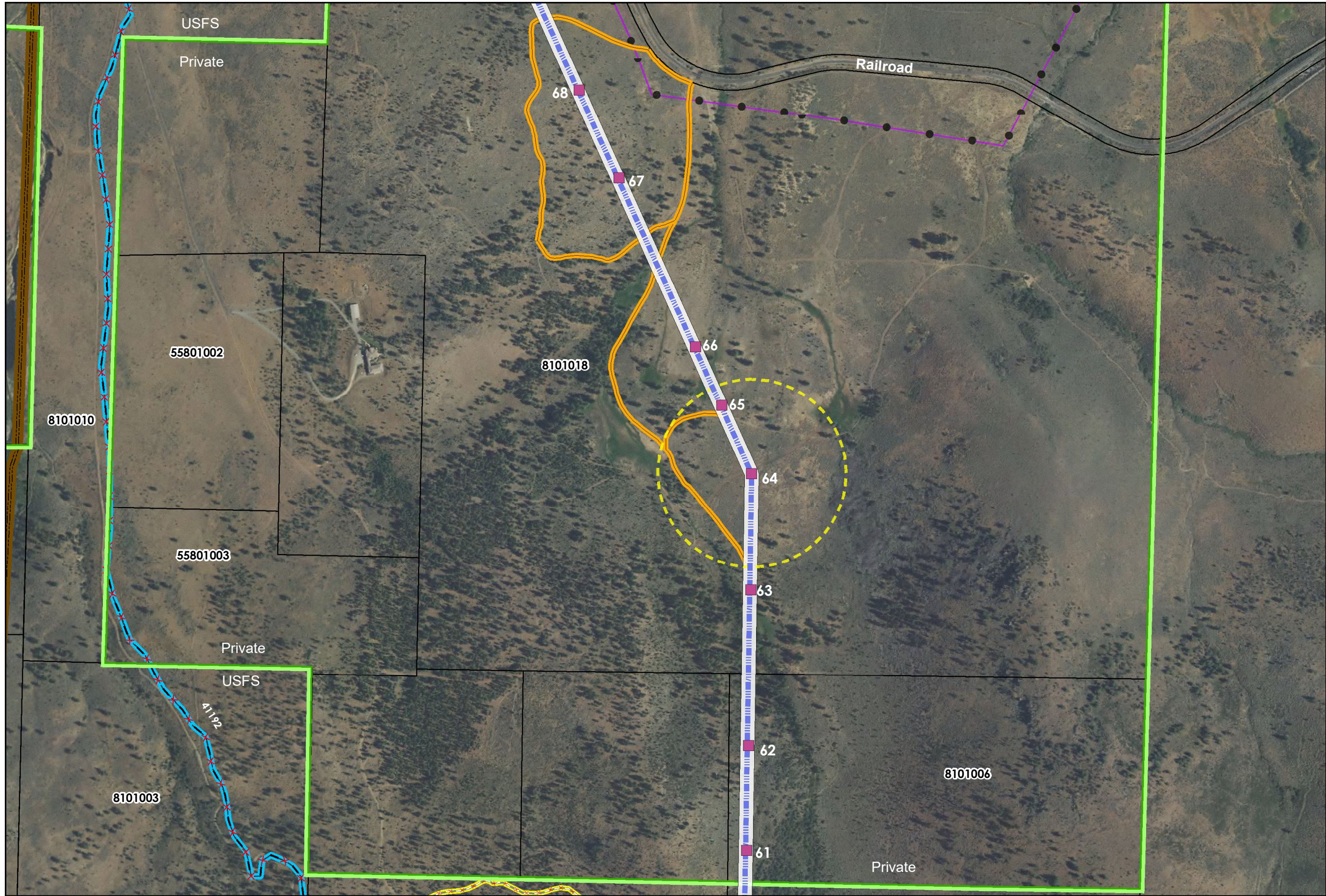
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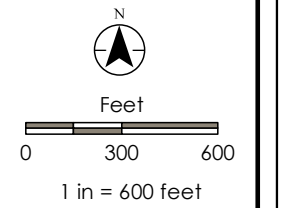
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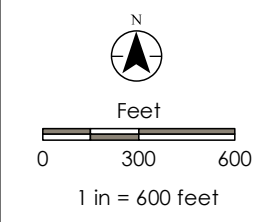
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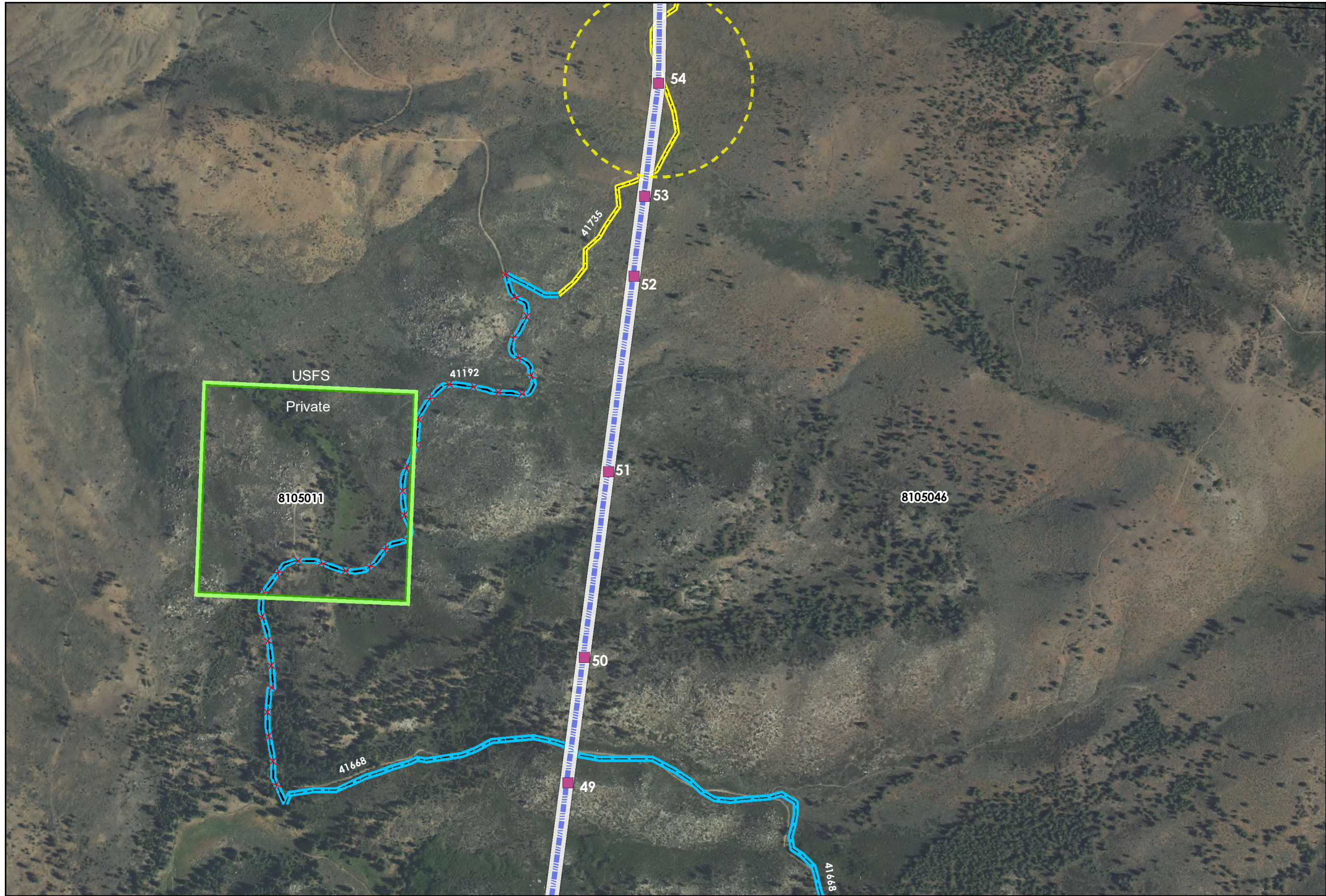
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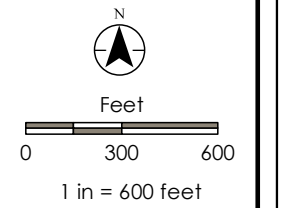
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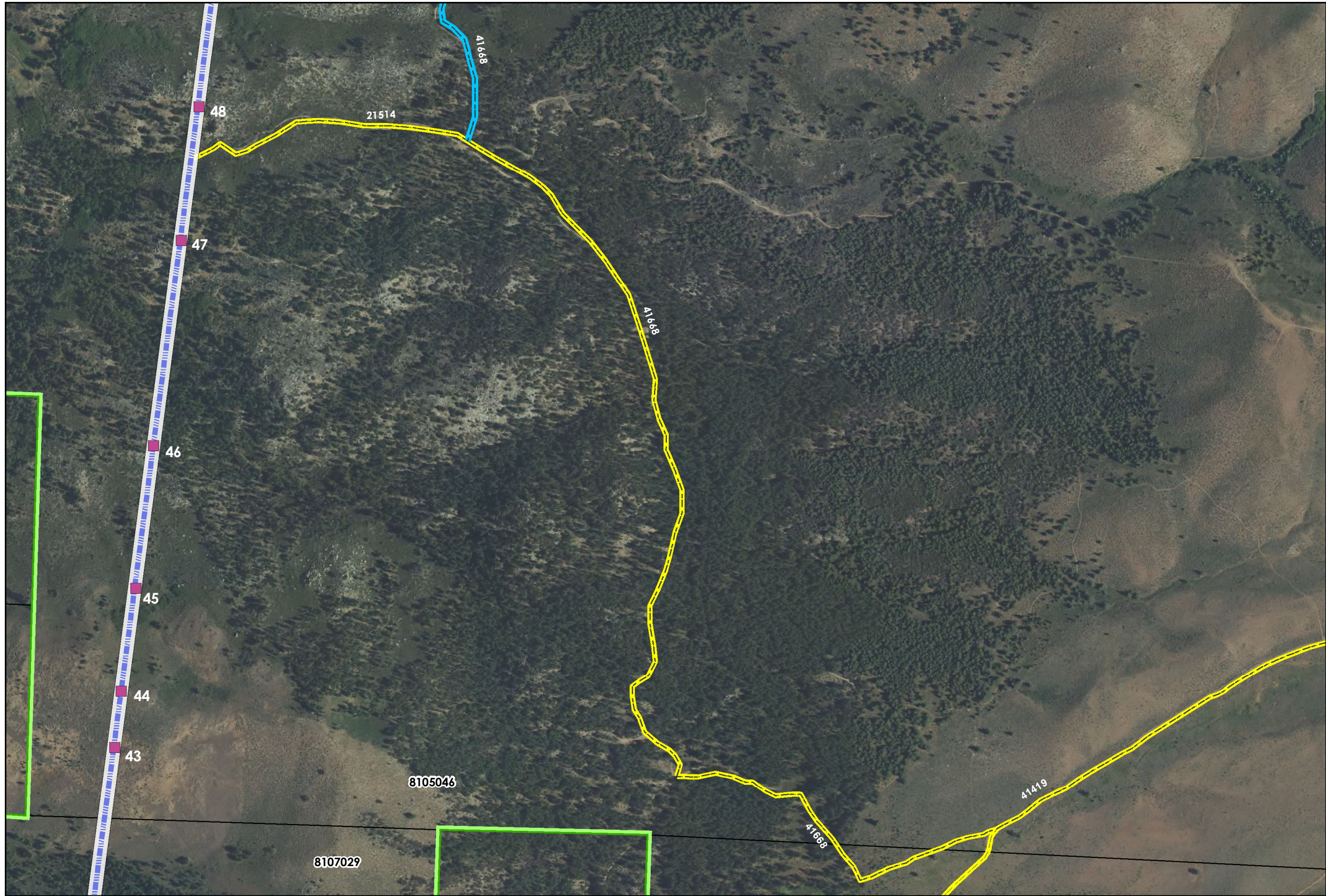


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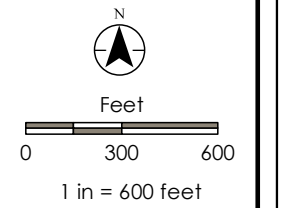
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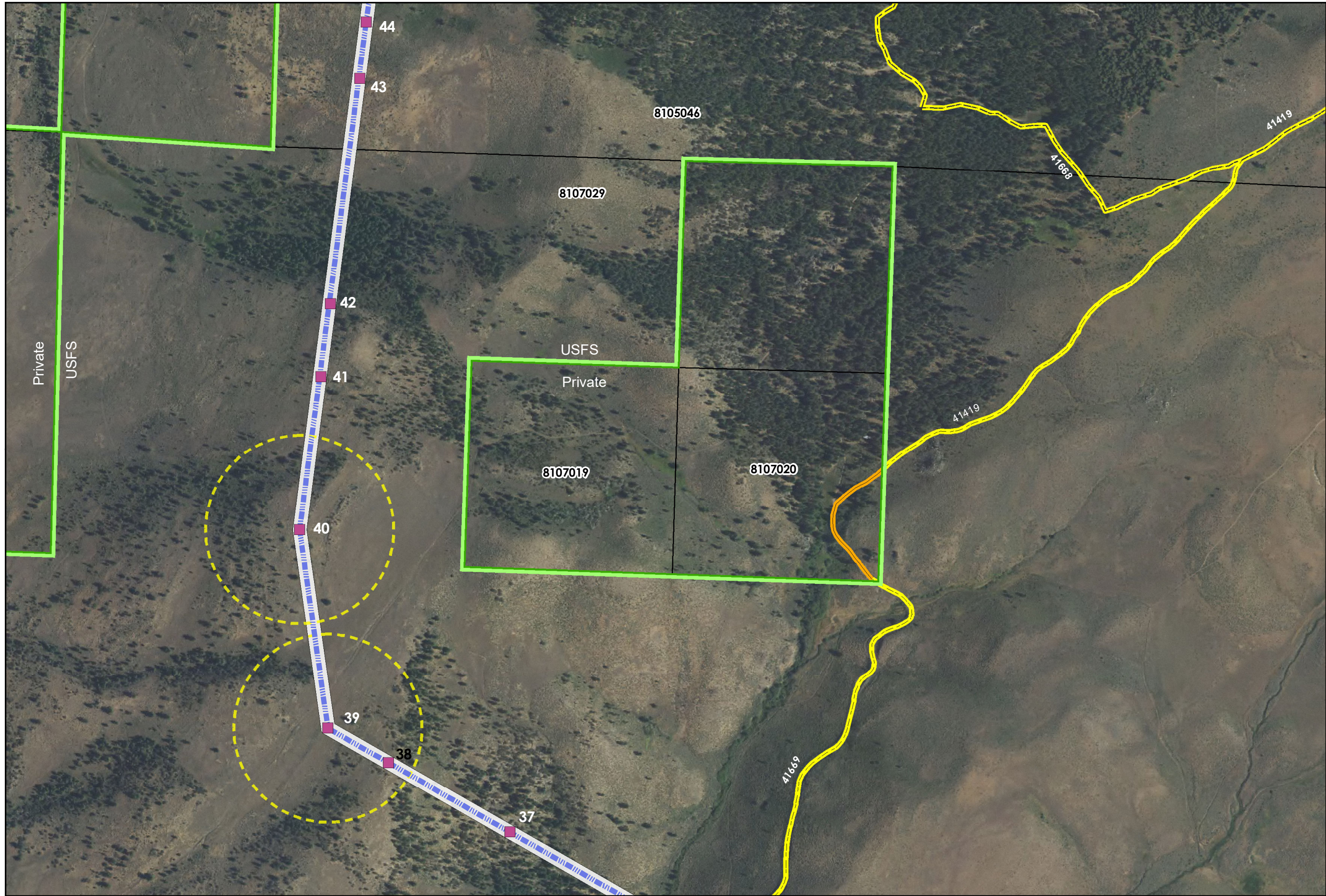


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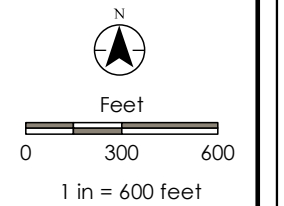
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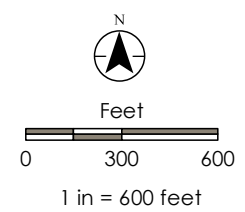
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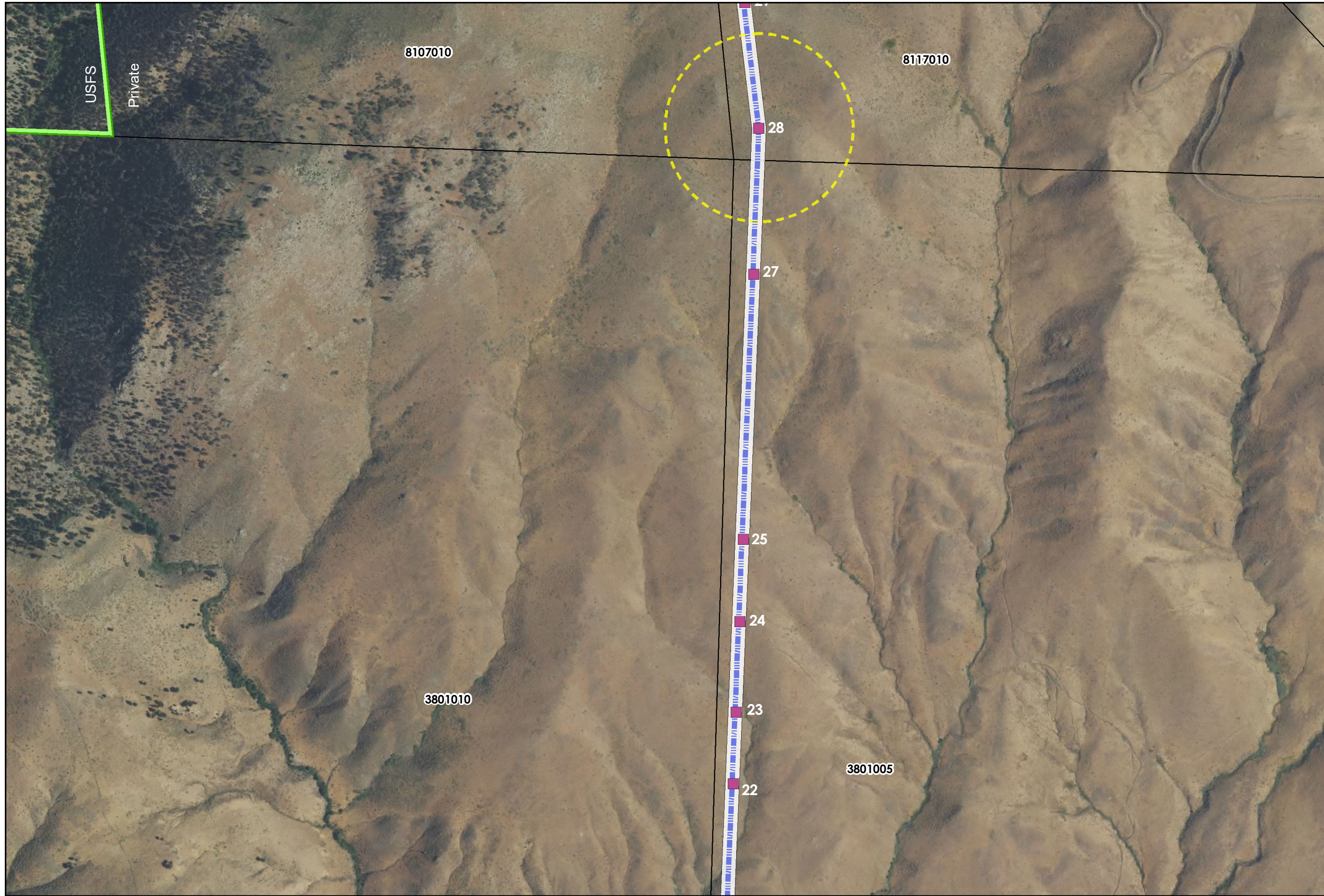
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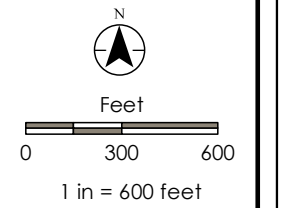
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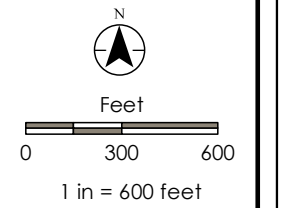
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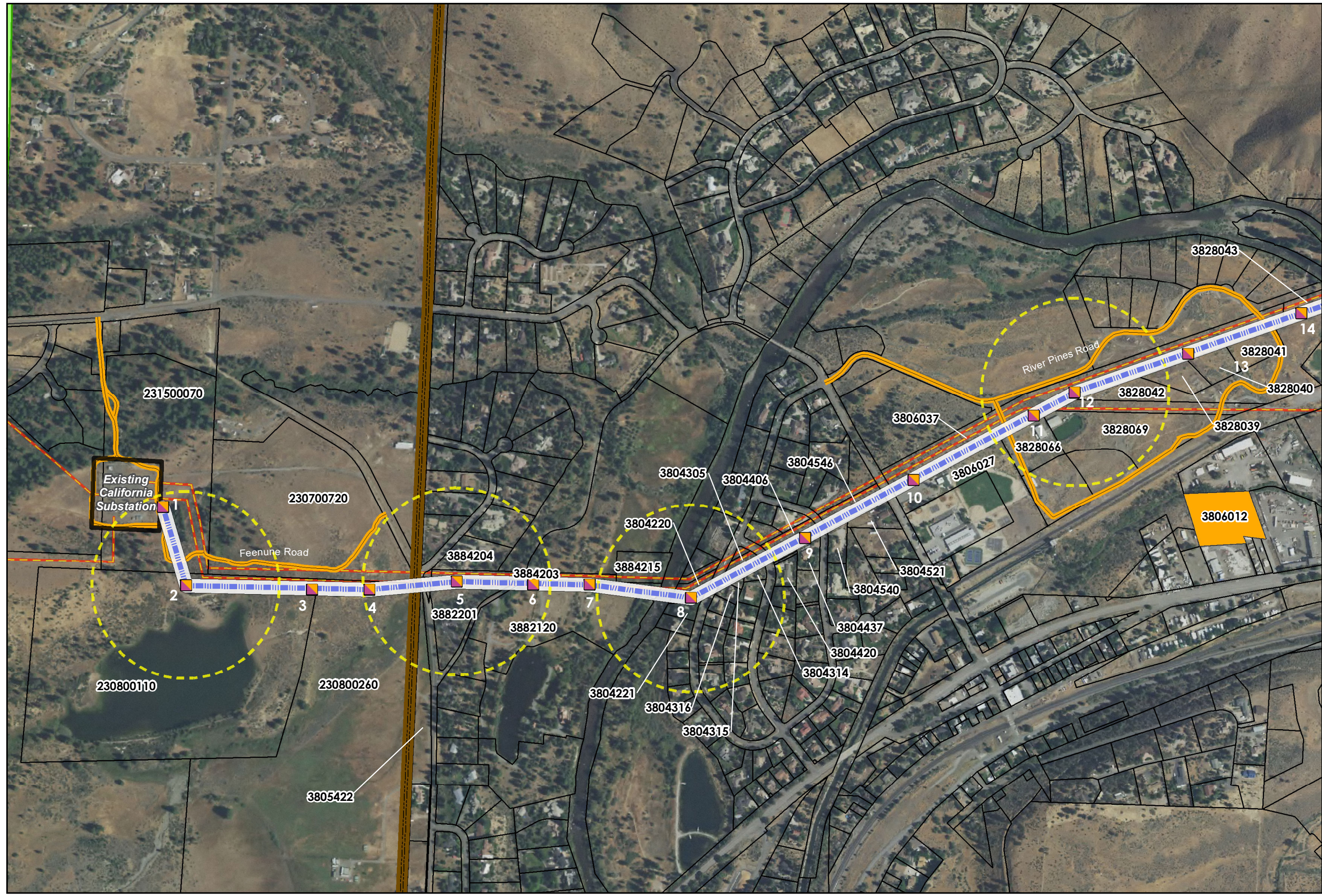


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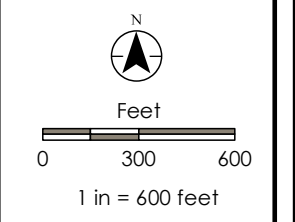
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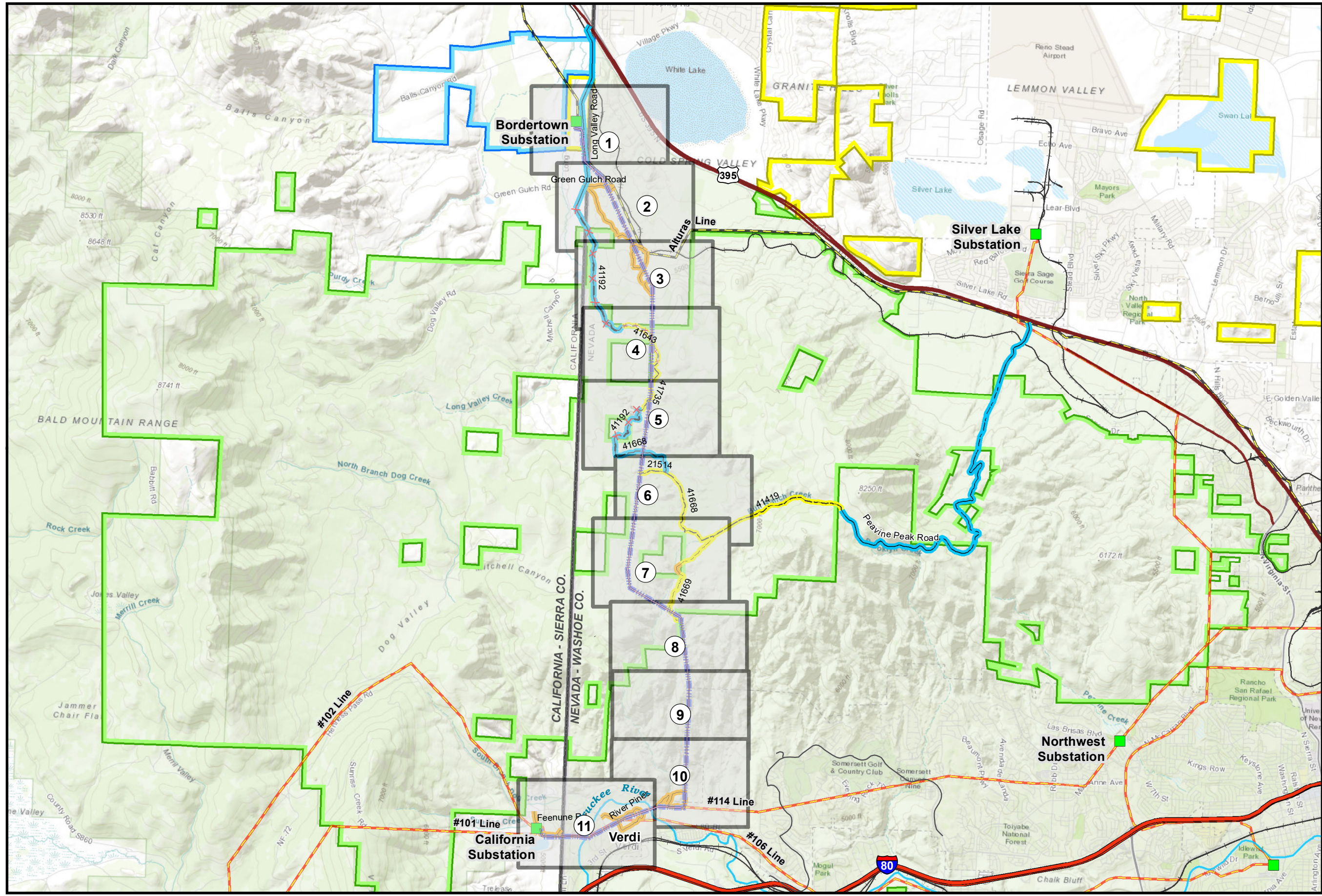
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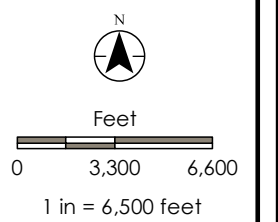
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Sierra County, CA &
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**MAP BOOK
COVER PAGE**








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






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How to Use This Map Book



This Map Book is intended as the pictorial reference for the construction and access for the Bordertown to California 120 kV Transmission Line Project. Each map sheet is the Centerline Construction and Access Map overlaid on an aerial and topographic photo background depicting Land Ownership, Access, and Construction Vehicle Travel.

-  Peavine\Poeville Alignment
-  90-ft ROW
-  Existing Substation
-  Addition to Substation
-  New Pole Structure
-  New Pole Structure/Existing Pole To Be Removed
-  Wire Set-up Site







Roads

-  USFS Roads
-  USFS Road (Designated Seasonal Use April 1 - November 18)
-  USFS Road Not Open to Public Motorized Travel
-  USFS Not Open to Public Motorized Travel (Designated Seasonal Use April 1 - November 18)
-  USFS Roads (Temporary Widening)
-  USFS Roads Used for Access (No Widening)
-  Public and Private Roads across Private Land (Temporary Widening; includes Dirt Roads)
-  Public and Private Roads Used for Access (No Widening)
-  Public and Private Road
-  Fence

Existing Transmission Routes

-  120 kV Transmission Line
-  345 kV Transmission Line

Land Ownership

-  U.S. Bureau of Land Management
-  U.S. Forest Service
-  California Department of Fish & Wildlife
-  Assessor's Parcel on Private Land
-  State Boundary
-  Staging Areas



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**Map Book
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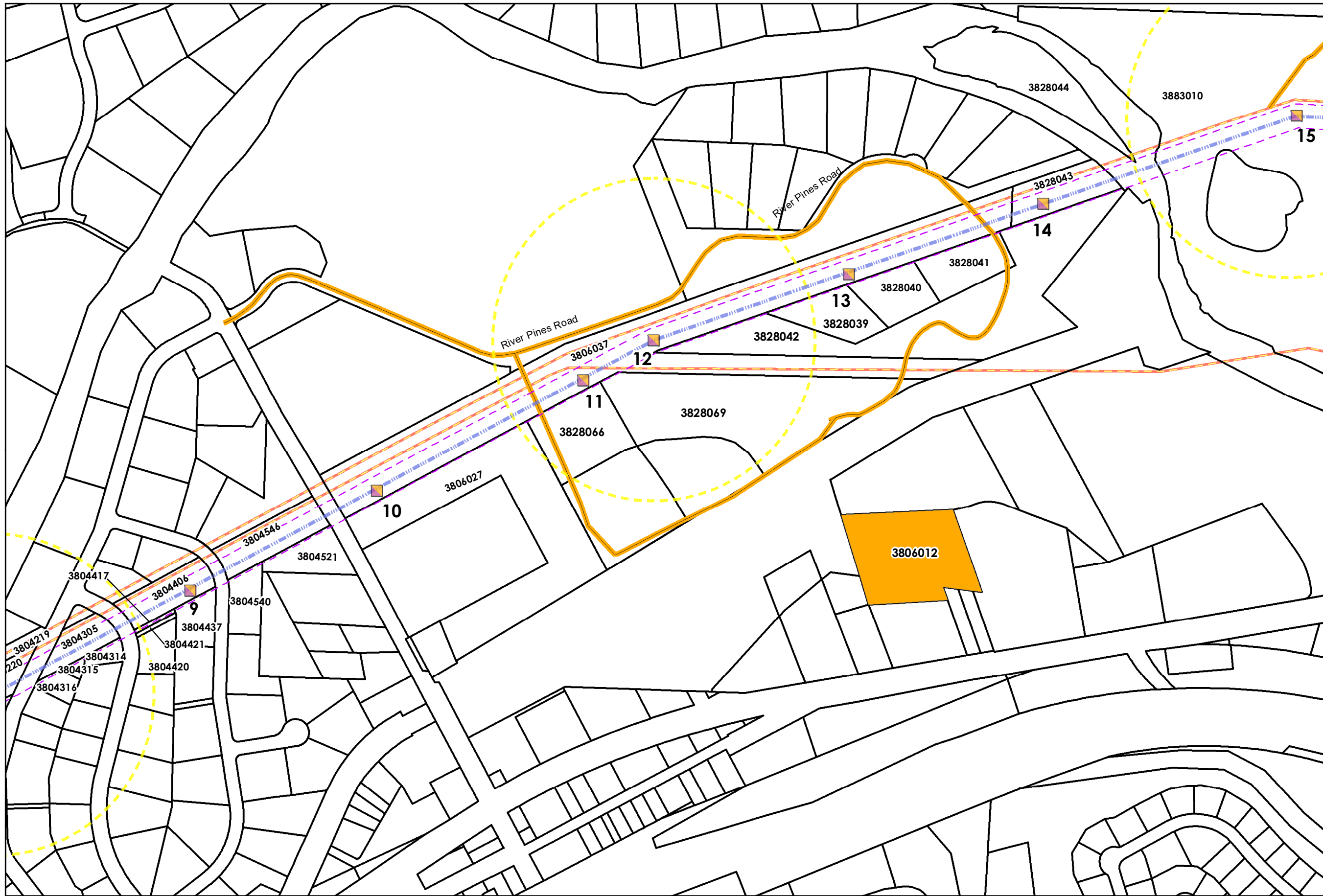
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2	8101010	UNITED STATES OF AMERICA
2	8111005	LIFESTYLE HOMES TND LLC
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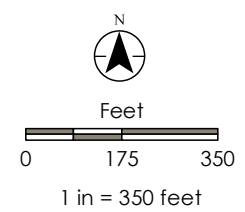
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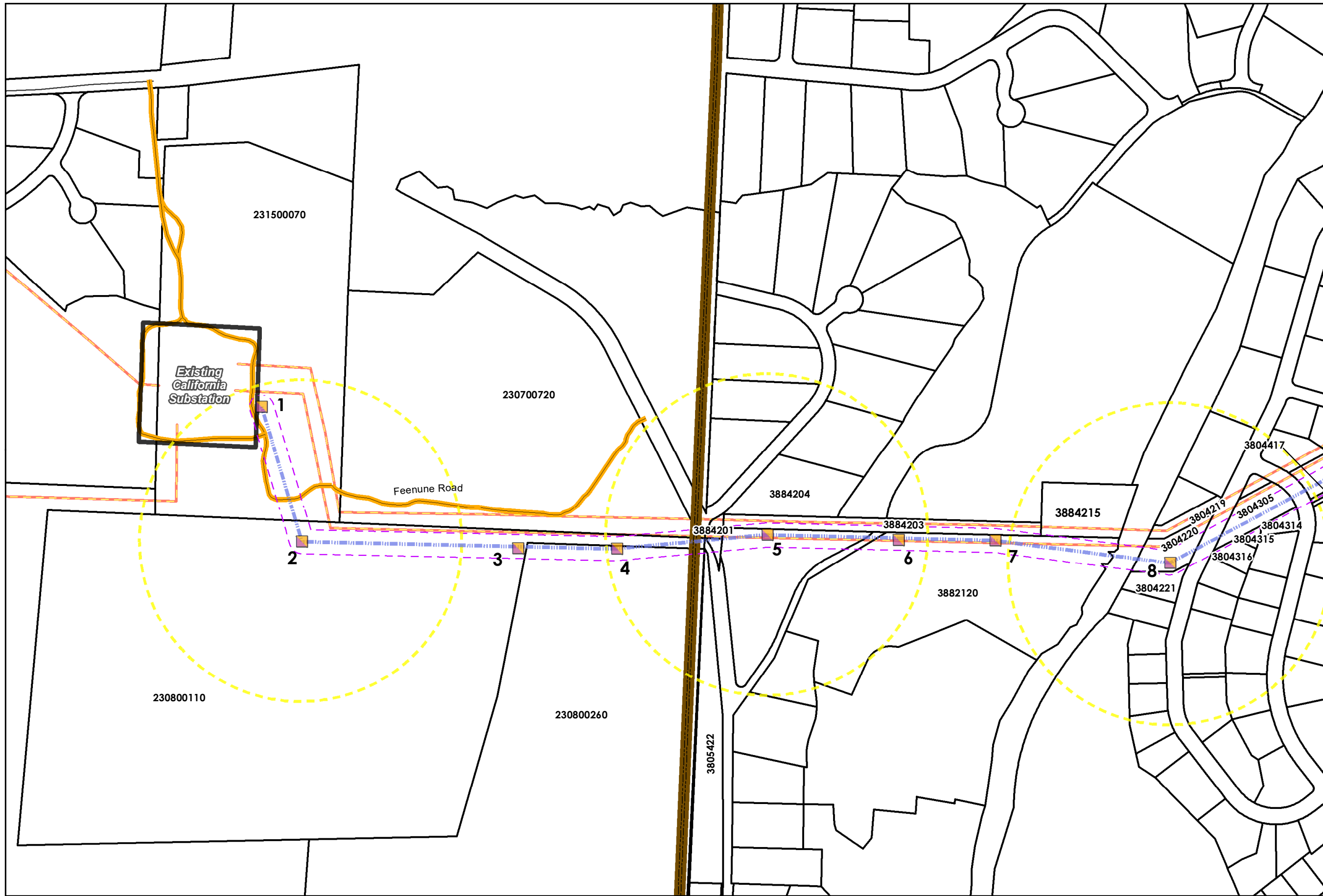


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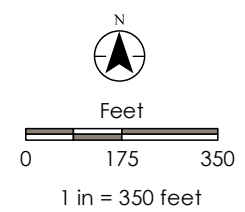
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2ND REVIEW: KC
DATE: 1/22/2020

Supplemental
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Page 1 of 2

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Transmission Line Project
Construction and Access Mapbook**

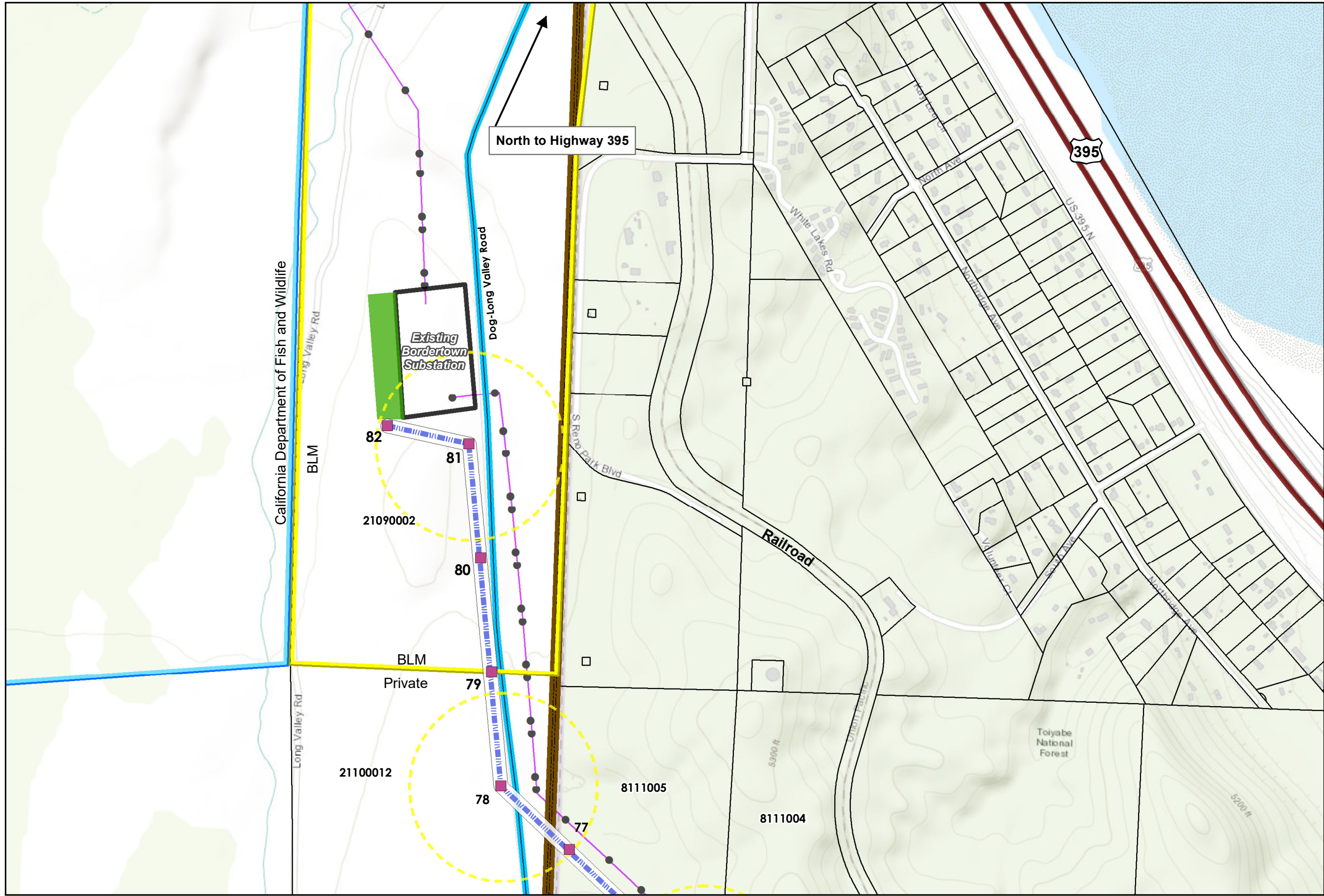


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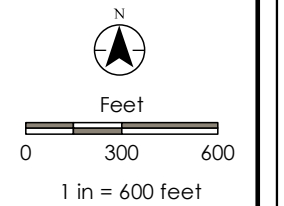
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DATE: 1/22/2020

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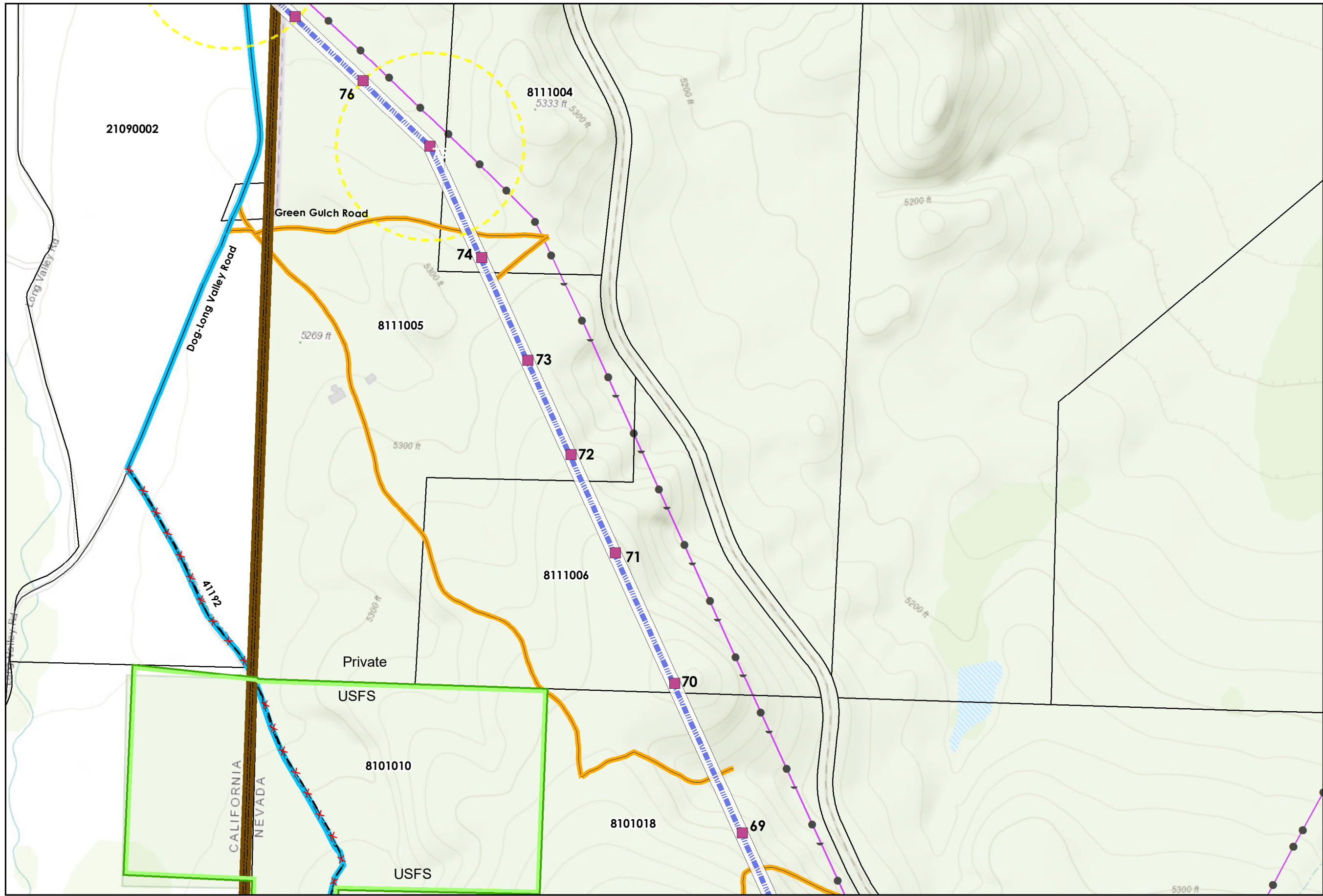


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NAD 1983 UTM Zone 11N

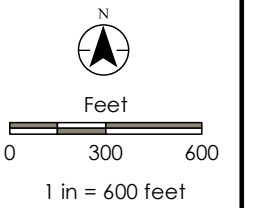
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DATE: 5/11/2020

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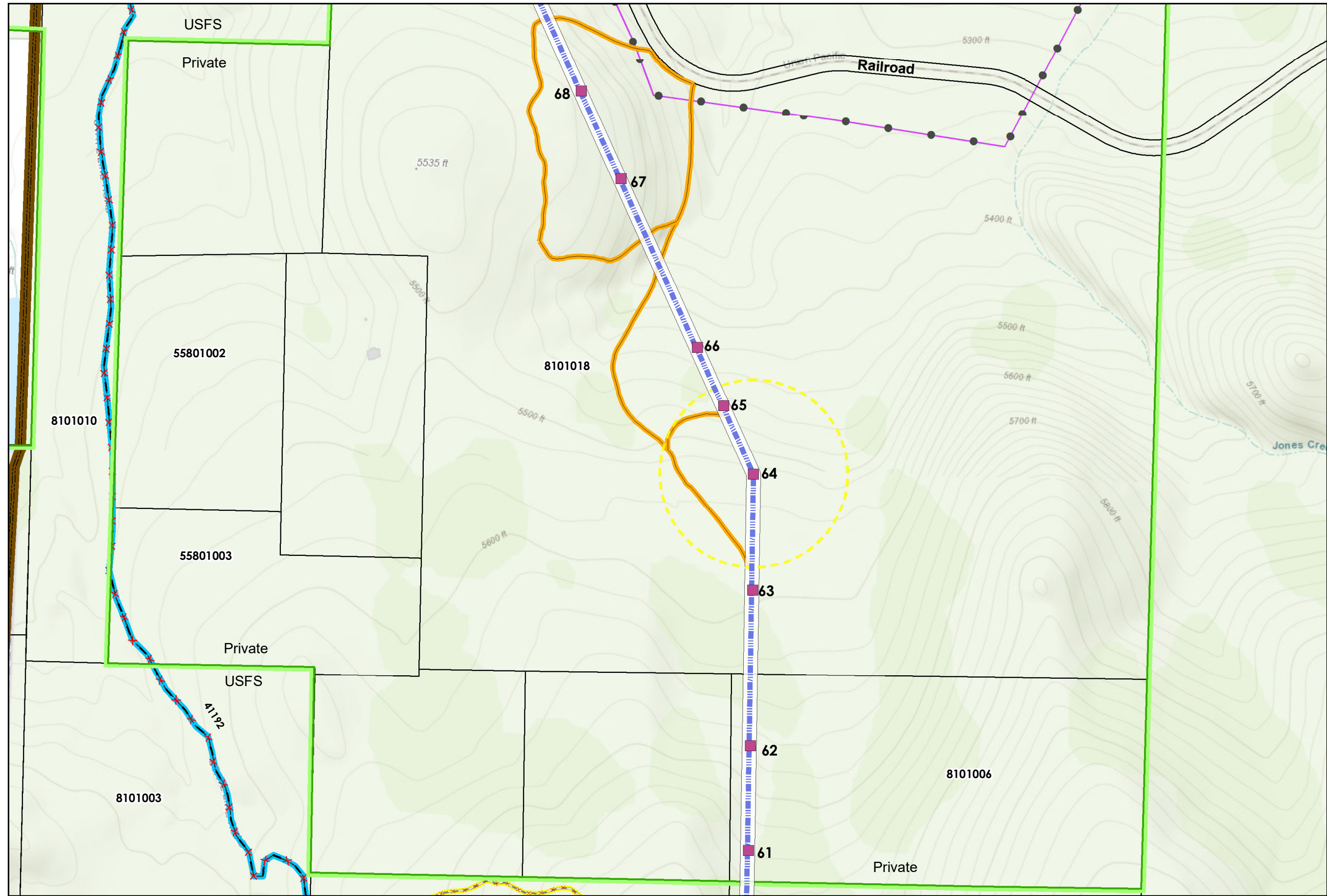
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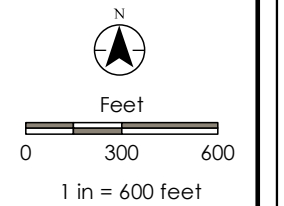
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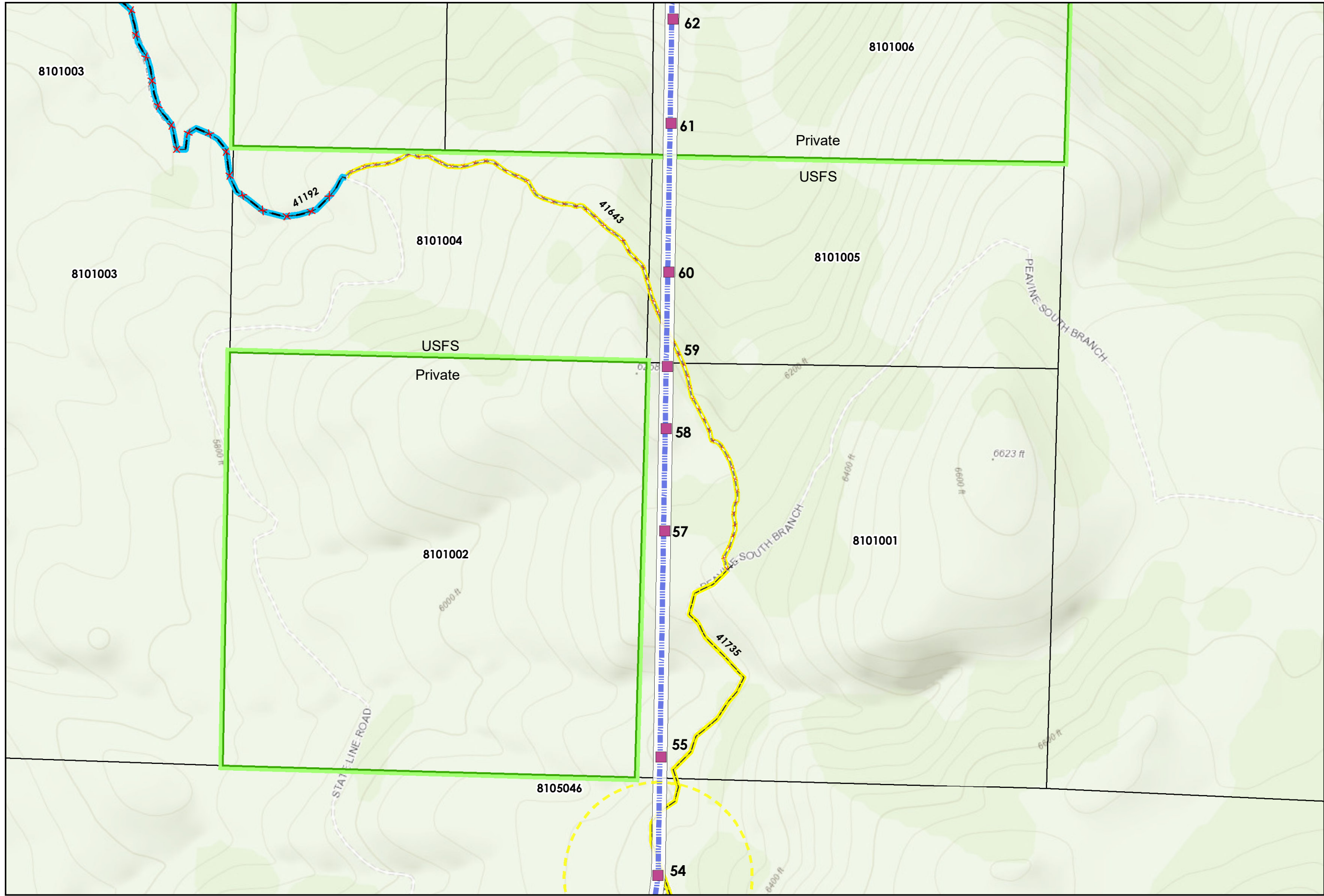
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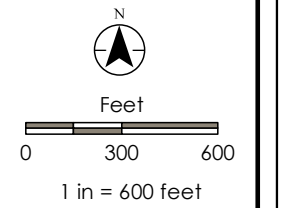
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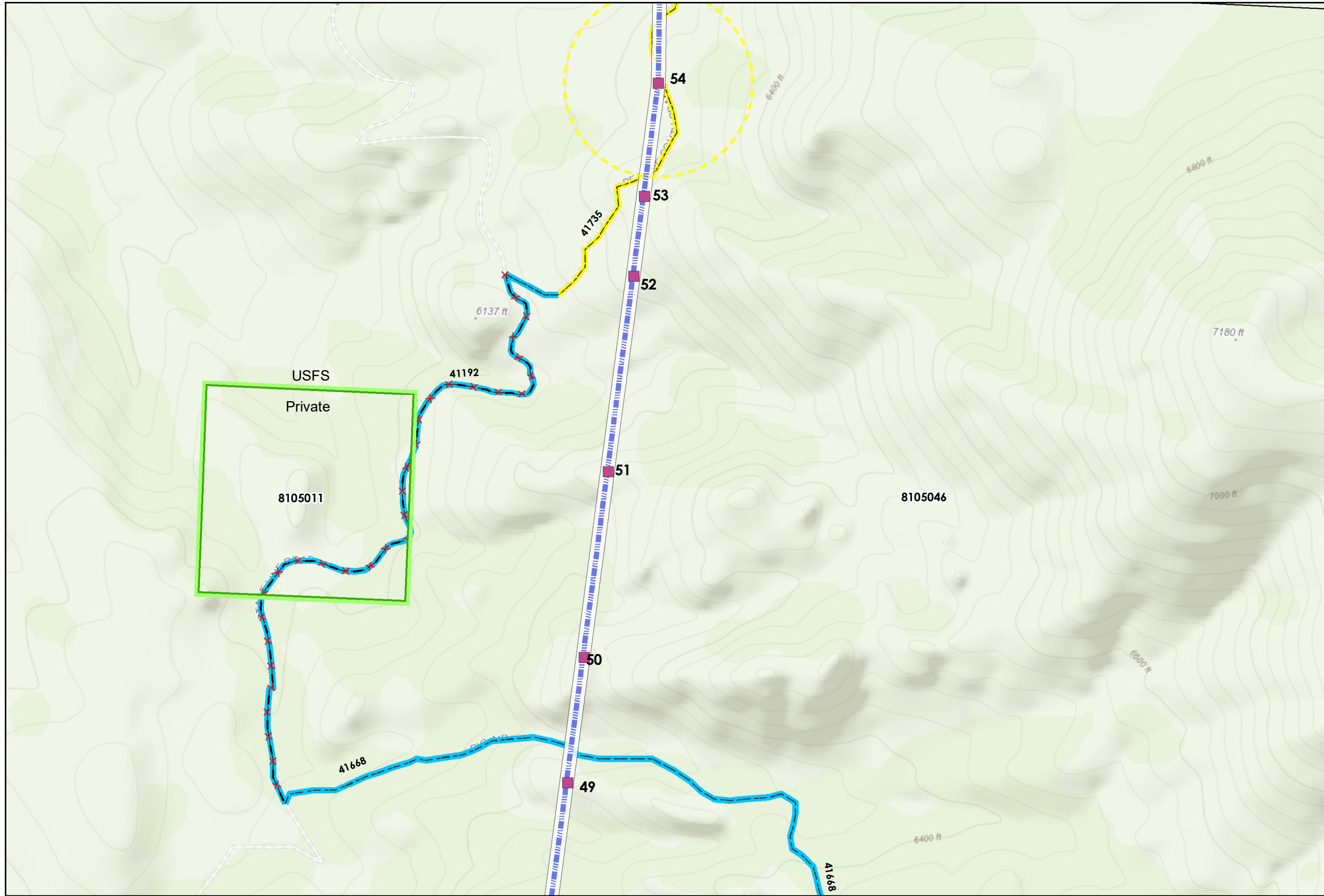


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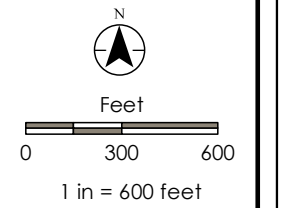
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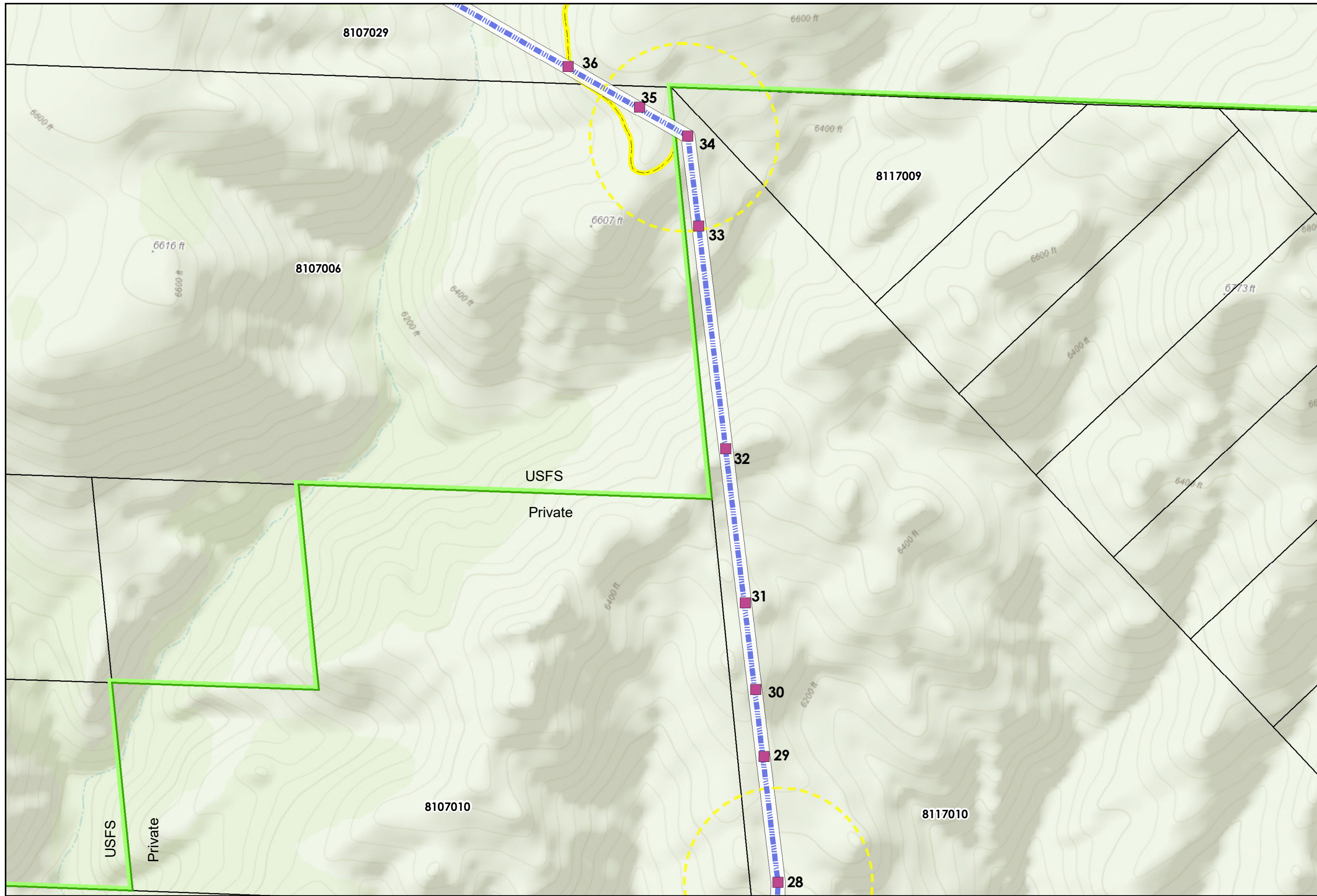


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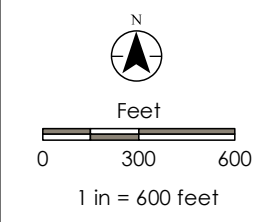
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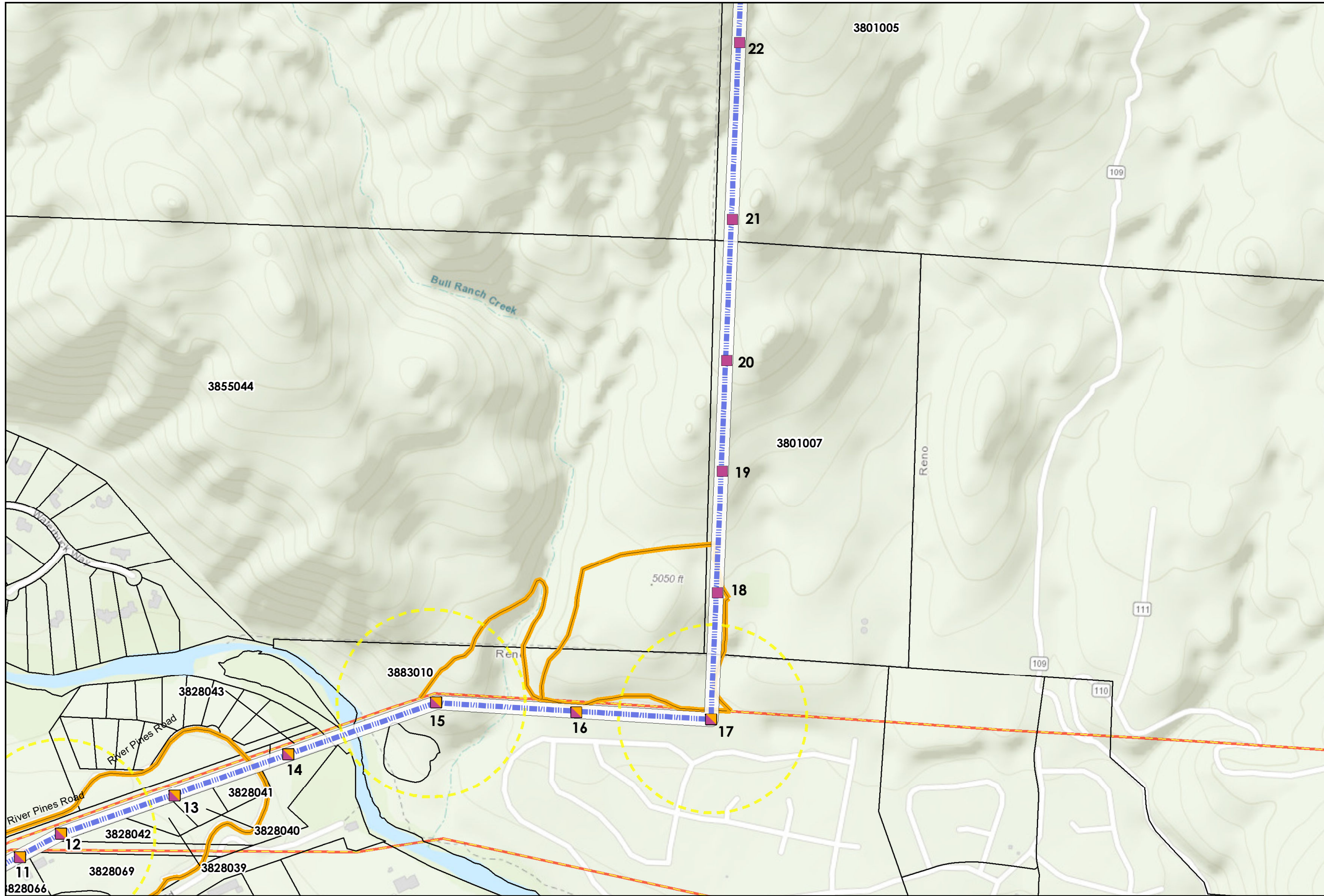
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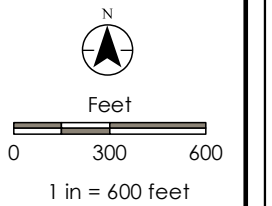
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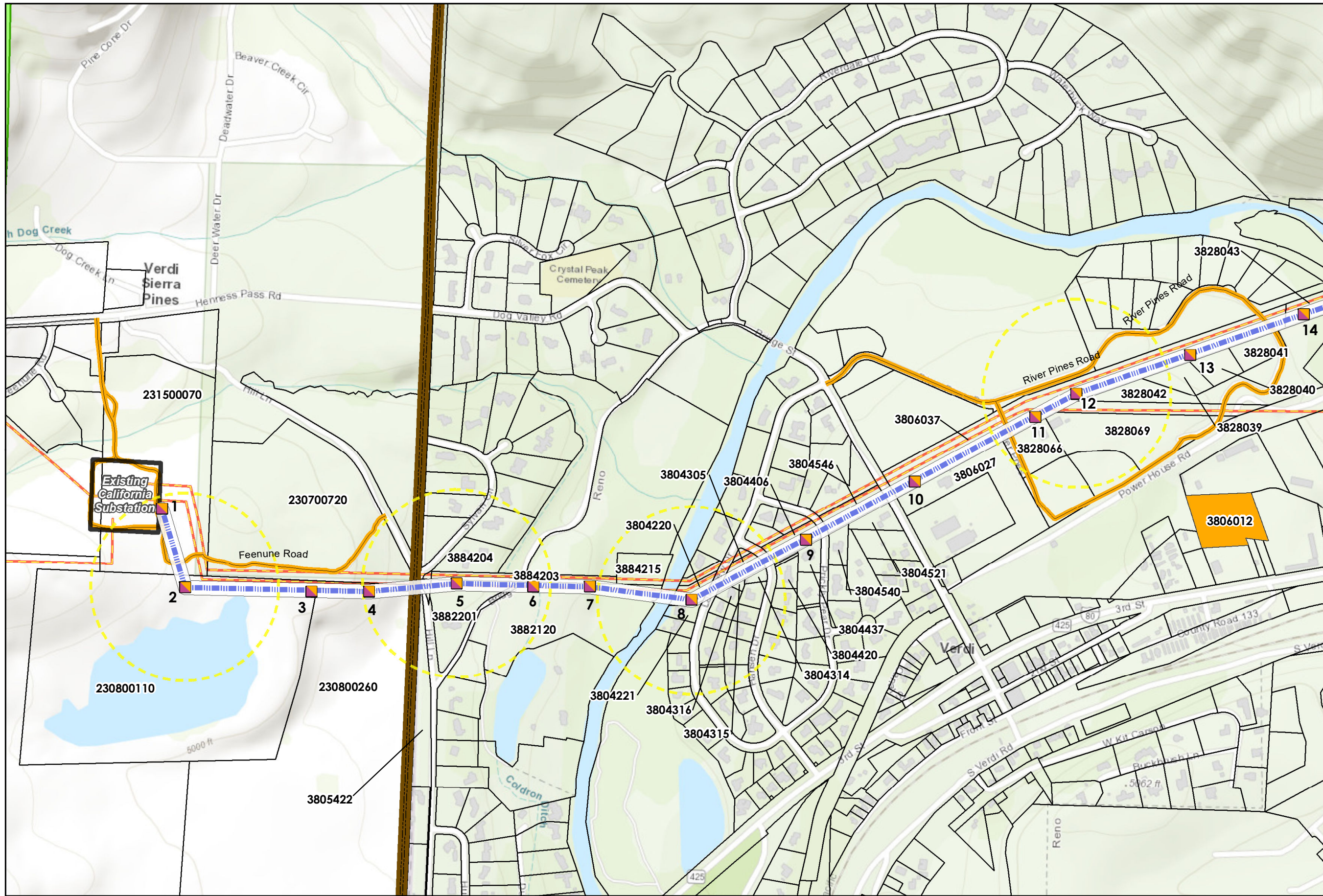


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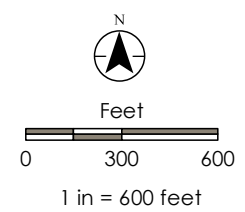
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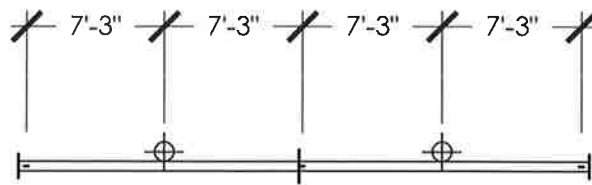
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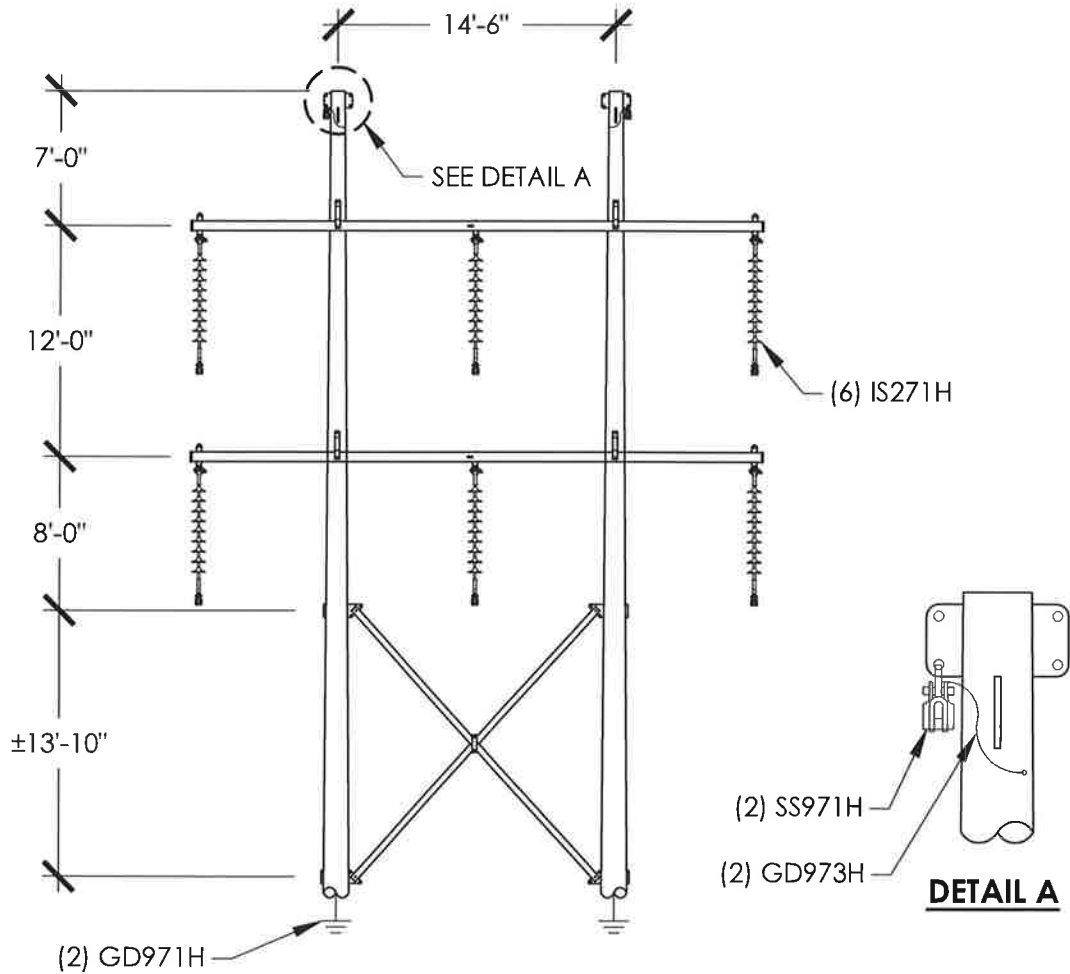
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TOP VIEW



FRONT ELEVATION

NOTES

1. REFERENCE MANUFACTURER DRAWINGS FOR STRUCTURE DETAILS

STRUCTURE LIST

6, 8, 9, 10

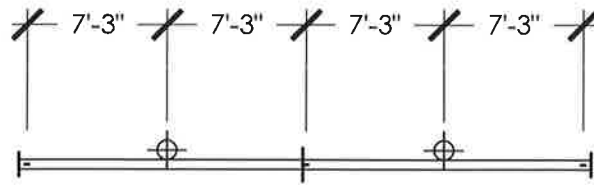


1104 LINE: CALIFORNIA TO BORDERTOWN
**DOUBLE-CIRCUIT H-FRAME TANGENT
 w/ STATIC WIRE, 14'-6" POLE SPACING
 STEEL POLE, POLYMER**

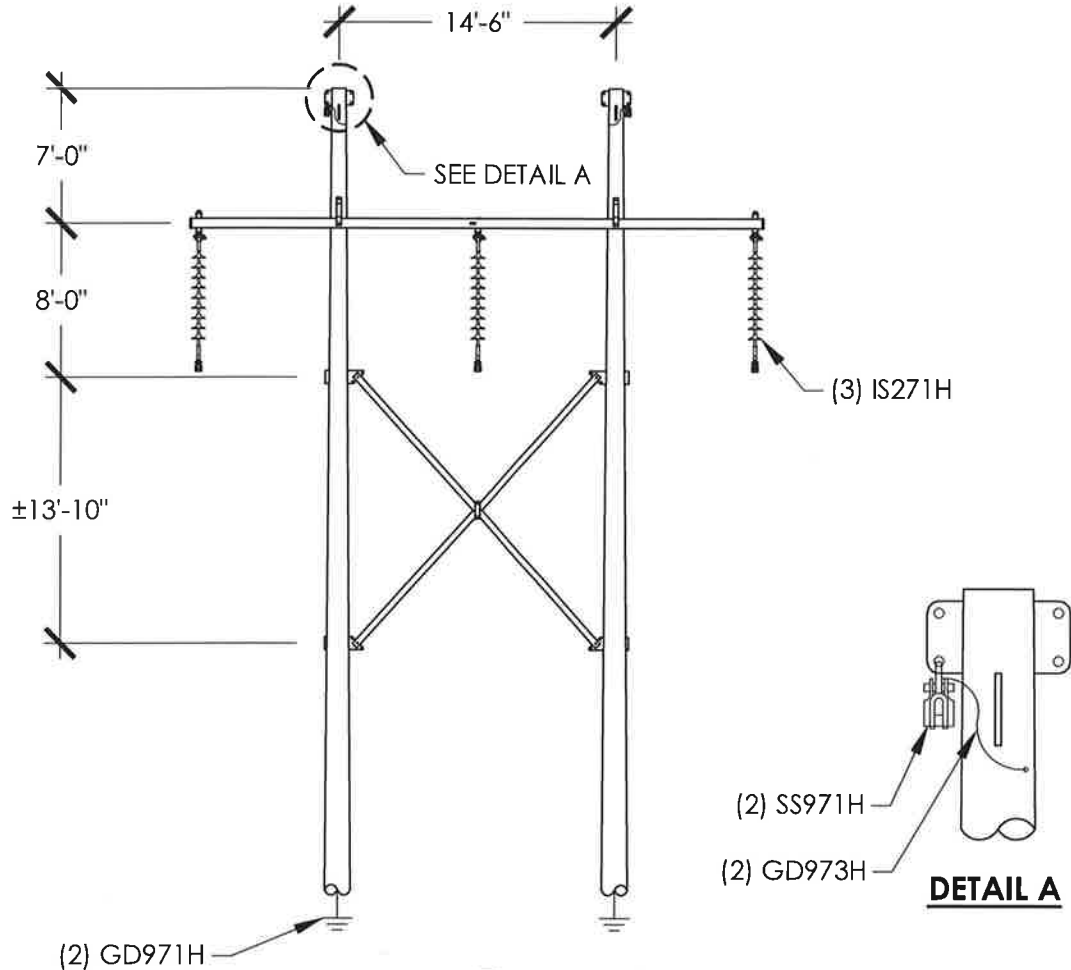
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DT276H

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CBT	CBT	---	04/2023



TOP VIEW



FRONT ELEVATION

NOTES

- 1. REFERENCE MANUFACTURER DRAWINGS FOR STRUCTURE DETAILS

STRUCTURE LIST

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21, 22, 26-29,
35-37, 40-43,
47-49, 51



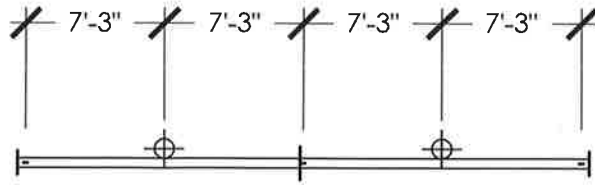
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PID: TL446V7BCS

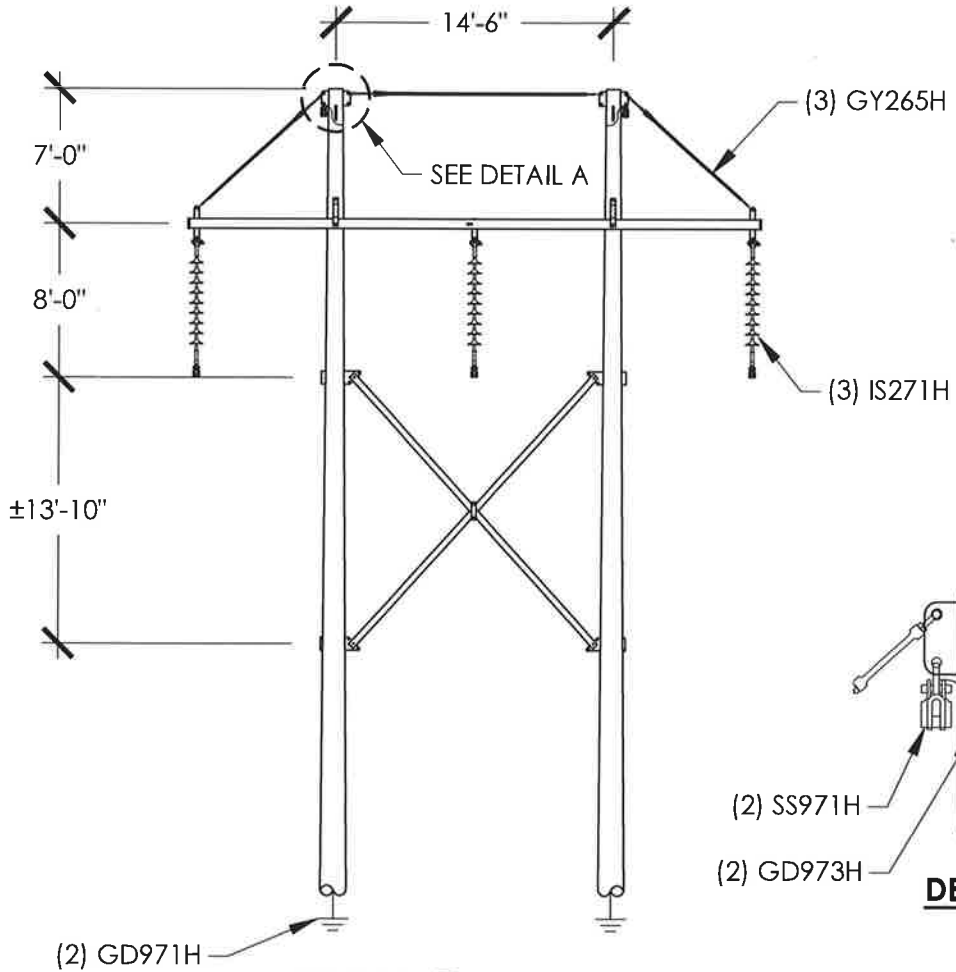
**H-FRAME TANGENT
w/ STATIC WIRE, 14'-6" POLE SPACING
STEEL POLE, POLYMER**

DT274H

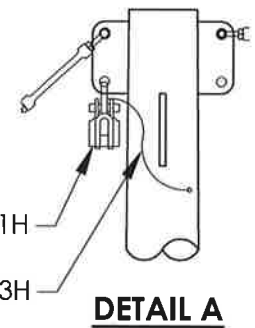
DRAWN:	ENG:	APPR:	DATE:
CBT	CBT	---	04/2023



TOP VIEW



FRONT ELEVATION



DETAIL A

NOTES

- 1. REFERENCE MANUFACTURER DRAWINGS FOR STRUCTURE DETAILS

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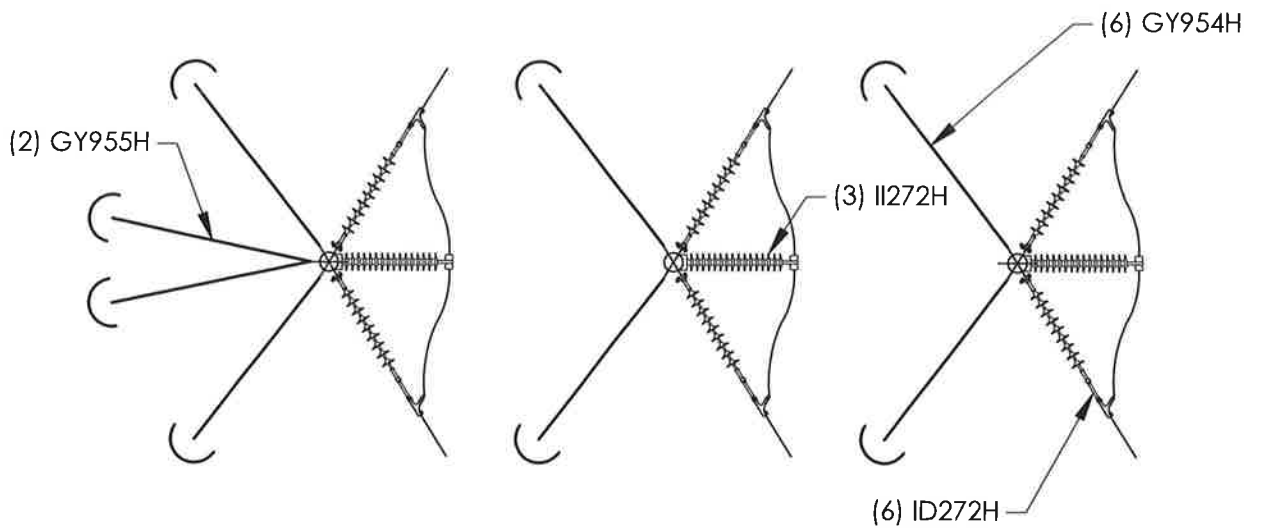
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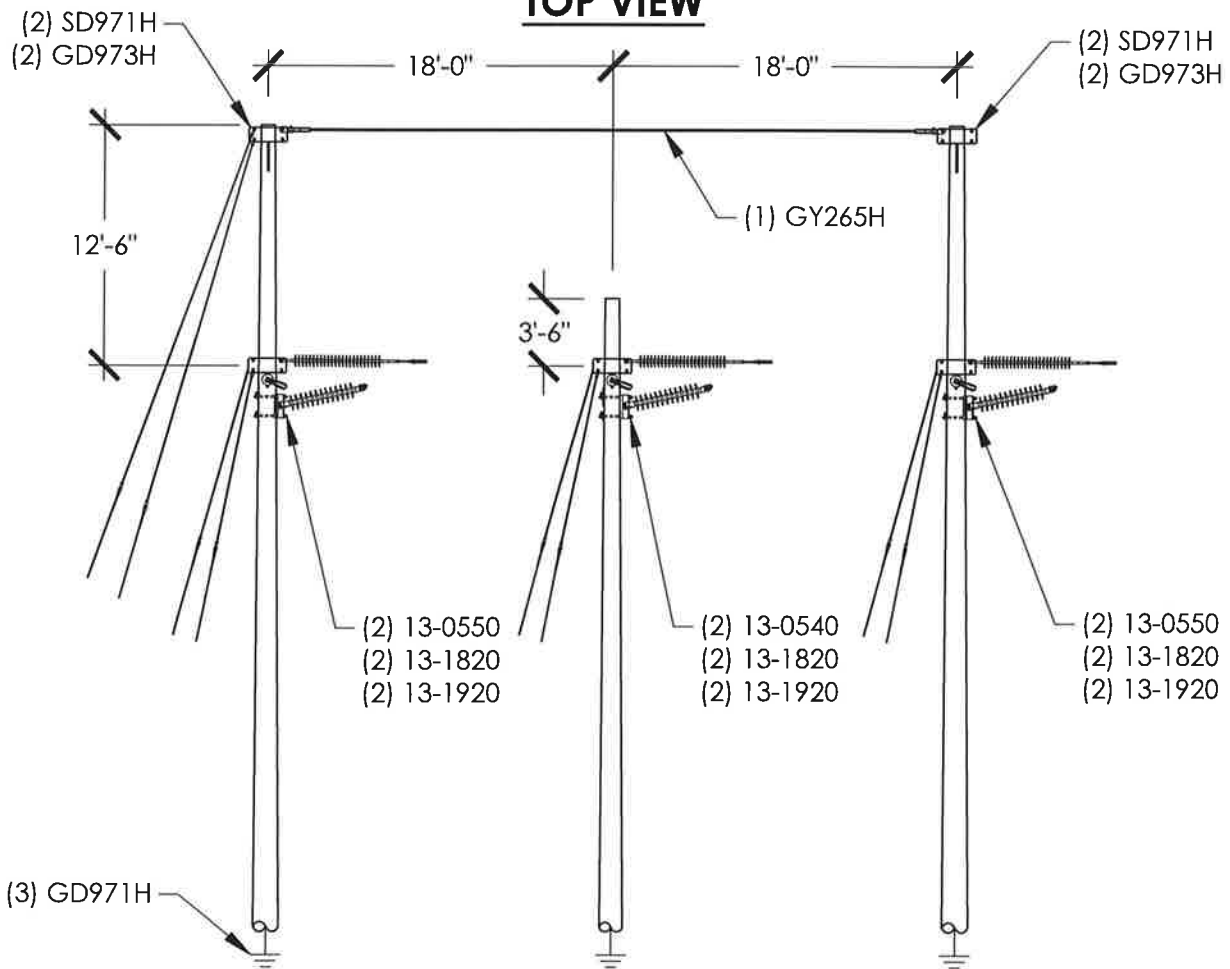
**HEAVY LOADING H-FRAME TANGENT
w/ STATIC WIRE, 14'-6" POLE SPACING
STEEL POLE, POLYMER**

**DT274H
HEAVY**

DRAWN:	ENG:	APPR:	DATE:
CBT	CBT	--	04/2023



TOP VIEW



FRONT ELEVATION

NOTES

1. REFERENCE MANUFACTURER DRAWINGS FOR STRUCTURE DETAILS

STRUCTURE LIST

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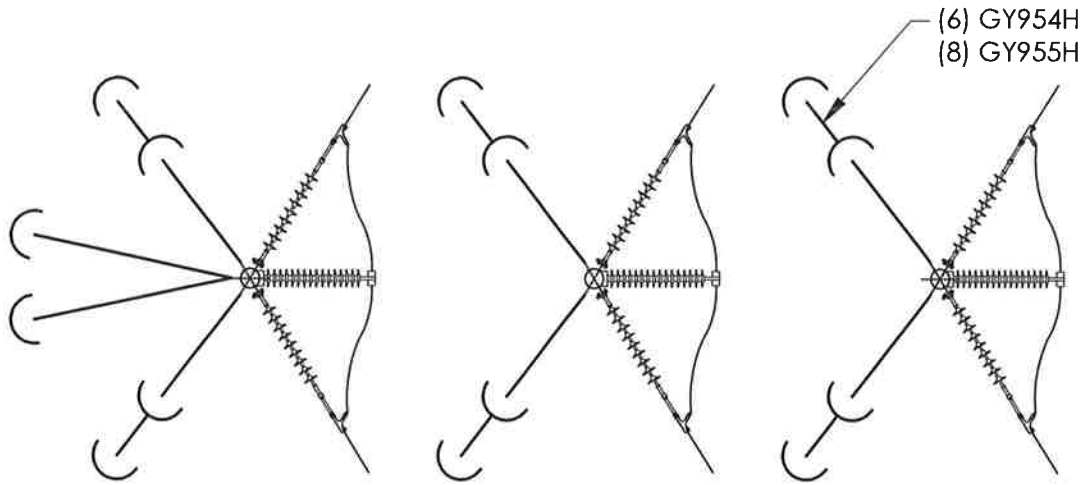
1104 LINE: CALIFORNIA TO BORDERTOWN

PID: TL446V7BCS

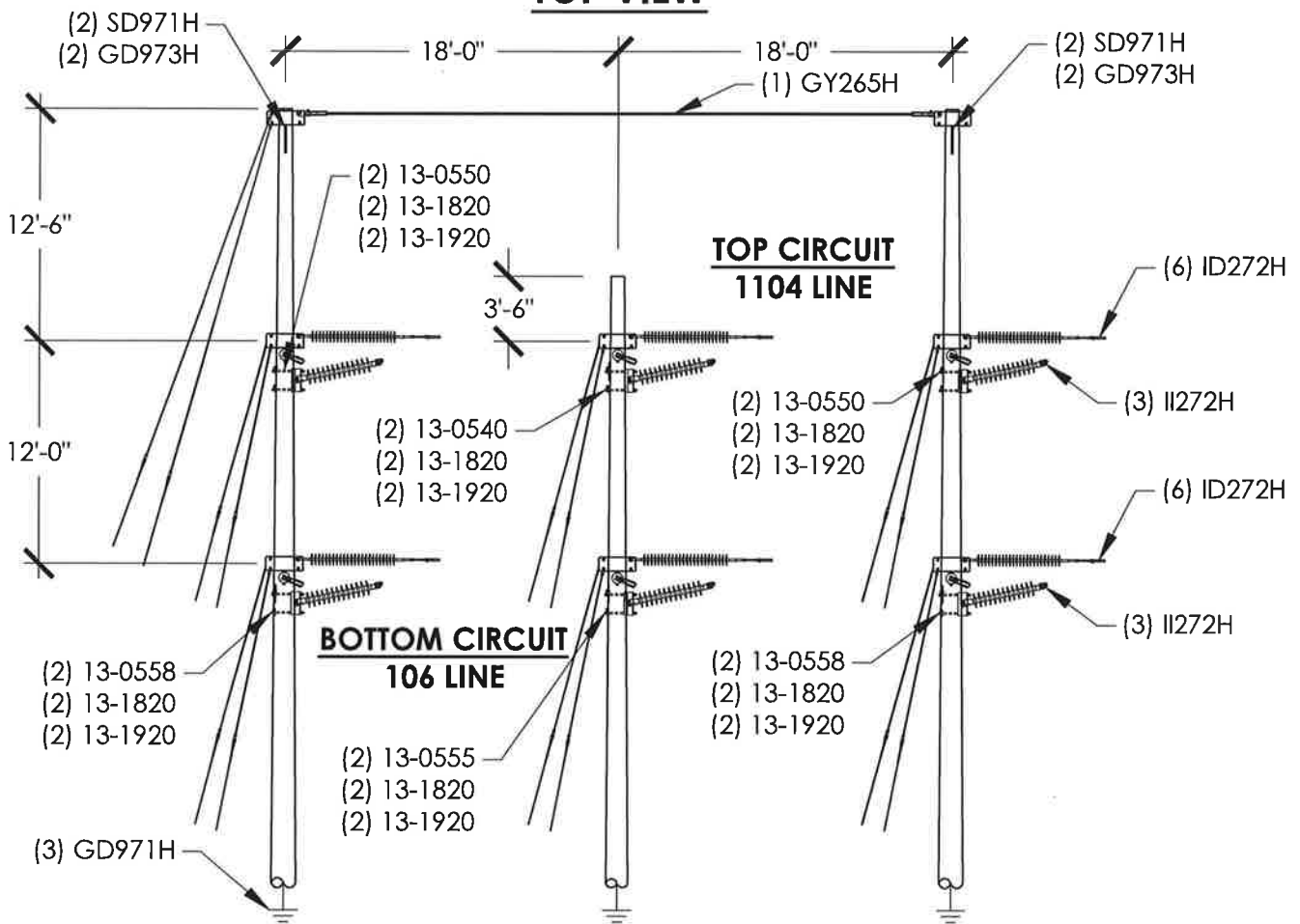
**3 POLE DEADEND ANGLE
w/ STATIC WIRE DEADEND
STEEL POLE, POLYMER**

HA274H

DRAWN:	ENG:	APPR:	DATE:
CBT	CBT	---	04/2023



TOP VIEW



FRONT ELEVATION

NOTES

1. REFERENCE MANUFACTURER DRAWINGS FOR STRUCTURE DETAILS

STRUCTURE LIST

8, 11



**1104 LINE: CALIFORNIA TO BORDERTOWN
DOUBLE CIRCUIT 3-POLE ANGLE
w/ STATIC WIRE DEADEND
STEEL POLE, POLYMER**

PID: TL446V7BCS

HA276H

DRAWN:	ENG:	APPR:	DATE:
CBT	CBT	---	04/2023

TAB C



**Bordertown to California
120 kV Transmission Line Project
Construction, Operation, and Maintenance (COM) Plan**

Prepared for:

NV Energy
6100 Neil Road
Reno, Nevada 89511

Prepared by:

Stantec Consulting Services Inc.
6995 Sierra Center Parkway
Reno, Nevada 89511

August 2020

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- A3 Emergency Preparedness and Response Plan
- A4 Blasting Plan

B. Logistics

- B1 Transportation Management Plan
- B2 Flagging and Fencing Plan

C. Environmental Resources

- C1 Noxious Species Abatement Plan
- C2 Streams, Wetlands, Wells, and Springs Protection Plan
- C3 Reclamation and Habitat Restoration Plan
- C4 Wildlife Protection Plan
- C5 Storm Water Pollution Prevention Plans *(to be completed when Construction Contractor is onboard)*

D. Historic Resources

- D1 Inadvertent Discovery Plan

E. Permits (to be added when obtained)



Maps (Bound Separately)

- Volume I Centerline Construction and Access Maps
Volume II Environmental Field Maps

LIST OF ABBREVIATIONS

AQ	Air Quality
ATV	All-Terrain Vehicle
BLM	Bureau of Land Management
BMPs	Best Management Practices
CE	Change Evaluation
CFR	Code of Federal Regulations
COM	Construction, Operation, And Maintenance
CPUC	California Public Utilities Commission
CU	Cultural Resources
dbh	Diameter at Breast Height
EIS	Environmental Impact Statement
FH	Forest Health
FP	Fire Prevention and Response
GP	General Practices
HE	Herbicide Use
HM	Hazardous Materials and Waste
kV	Kilovolt
MOA	Memorandum of Agreement
NAC	Nevada Administrative Code
NCR	Non-Compliance Report
NCRR	Non-Compliance Resolution Report
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NESC	National Electric Safety Code
NFS	National Forest System
NPDES	National Pollutant Discharge Elimination System
NRS	Nevada Revised Statutes
NW	Noxious Weeds
PAC	Protected Activity Center
Project	Bordertown to California 120 Kilovolt Transmission Line Project
ROD	Record of Decision
ROW	Right-of-Way
RT	Recreation/Roads/Transportation
SHPO	State Historic Preservation Office
SIP	Single Inspection Program
SPCC	Spill Prevention, Control, And Countermeasure Plan



SUP	Special Use Permit
SV	Plants and Sensitive Plant Communities
SWPPP	Storm Water Pollution Prevention Plan
U.S.	United States
USFS	United States Forest Service
VG	Vegetation
VI	Visual Resources
WA	Water Resources and Soil
WL	Wildlife and Sensitive Wildlife Species



KEY CONTACTS LIST

(This list will be updated by NV Energy and the Construction Contractor as needed during construction, operation and maintenance).

NV Energy

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nhastings@nvenergy.com

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dlarson@nvenergy.com

NV Energy – Prime Construction Contractor

TBD

NV Energy – Single Inspection Program (SIP) Team

Stantec- Ben Veach (main contact)
Phone: (775) 398-1257
Cell: (775) 750-3583
ben.veach@stantec.com

NV Energy – Quality Assurance Team

TBD

Emergency Contacts

Call 911 for emergency assistance.

County Sheriffs

Washoe County Sheriff's Office
(775) 328-3001

Sierra County Sheriff's Office
(530) 289-3700

Fire - Call 911 First.

Sierra Front Interagency Dispatch

(775) 883-3535 for Emergencies
(775) 883-5995 for Administration

USFS Humboldt-Toiyabe National Forest Carson Ranger District

(775) 882-2766
Supervisor's Office
(775) 331-6444

BLM

Eagle Lake Field Office
(530) 257-0456

Poison Control

(800) 222-1222



Hospitals

Saint Mary's Regional Medical Center
235 West 6th Street
Reno, Nevada 89503
(775) 770-3000

Renown Regional Medical Center
1155 Mill Street
Reno, Nevada 89502
(775) 982-4100

Hazardous Spill Response and Notification

Directly after 911 notification, the following mandatory notifications will be made by NV Energy's Environmental Manager or Field Supervisor. Select and notify the appropriate government agency(ies) based on the geographic location of the spill site. See Appendix A2 - Hazardous Materials Management and Spill Prevention Plan.

Call 911 First.

If after hours and the spill is located in Nevada, call the Nevada Highway Patrol Dispatch at:
(775) 687-5300.

National Response Center:
(800) 424-8802

Nevada Division of Environmental Protection:
(775) 687-9485

Sierra County, California Office of Emergency Services:
(530) 289-2850

If after hours and the spill is located in California, call the California Highway Patrol Dispatch at:
1-800-835-5247

Nevada Office of Emergency Management:
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TBD



1.0 INTRODUCTION

NV Energy has prepared this plan to guide the construction, operation, and maintenance of the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project). The 11.9-mile line will provide a connection between the Bordertown Substation north of Reno, Nevada to the California Substation located near Verdi, Nevada (**Figure 1**). The purpose of the Project is to provide a backup power line that will continue to serve the west side of Reno in the event that the existing power lines currently serving the area have an outage or other system interruption. Installing a power line between the Bordertown and California substations will allow NV Energy to provide the power needed to meet reliability requirements of their electrical system.

Approximately 10.8 miles of the transmission line will be constructed in Nevada and 1.1 miles in California. Approximately 4.3 miles of the transmission line will cross National Forest System (NFS) land, 0.4 mile will cross Bureau of Land Management (BLM) land, and 7.2 miles will cross private land (**Figure 2**). The Bordertown Substation will be expanded by approximately 3.7 acres on BLM land. The California Substation will not be expanded, as all needed modifications will be within the existing fenced area of the substation located on private land.

As the Project will cross NFS lands, an Environmental Impact Statement (EIS) was prepared to analyze the Project's environmental effects and identify appropriate mitigation measures, pursuant to the National Environmental Policy Act (NEPA). The United States (U.S.) Forest Service (USFS) served as the lead agency, in cooperation with the BLM Eagle Lake Field Office, Nevada Department of Wildlife (NDOW), Truckee Meadows Regional Planning Agency, Washoe County, Sierra County and the City of Reno. As lead agency, the USFS maintains the primary oversight responsibility to ensure that the EIS mitigation measures are carried out (USFS 2018 and 2019).

1.1 COM PLAN PURPOSE AND NEED

The purpose of this Construction, Operation, and Maintenance (COM) Plan is to present a clear set of guidelines and maps that describes to the transmission line contractor(s) how to successfully plan and build the Project. The COM Plan informs NV Energy and the construction contractor(s) personnel on the environmental requirements for constructing, operating, and maintaining the Project, in compliance with the Final Record of Decision (ROD), the USFS Special Use Permit (SUP), and other applicable permits (USFS 2019). It focuses on appropriate implementation of required environmental compliance measures and other related actions.

1.2 COM PLAN COMPONENTS

COM Plan

The COM Plan contains a general Project overview, followed by a discussion of the roles and responsibilities of NV Energy and the USFS, including communications, environmental monitoring, and reporting procedures. It also describes construction activities such as surveying and staking, transmission tower installation, line stringing, access roads, and substation expansion activities. Health and safety, emergency preparedness, training programs and workforce information are also discussed in the main body of the document. The following plans provide more detailed information on specific topics and are included as appendices to this volume:



Appendices

A. Health and Safety

- A1 Fire Prevention and Suppression Plan
- A2 Hazardous Materials Management and Spill Prevention Plan
- A3 Emergency Preparedness and Response Plan
- A4 Blasting Plan

B. Logistics

- B1 Transportation Management Plan
- B2 Flagging and Fencing Plan

C. Environmental Resources

- C1 Noxious Weed Species Plan
- C2 Streams, Wetlands, Wells, and Springs Protection Plan
- C3 Reclamation and Habitat Restoration Plan
- C4 Wildlife Protection Plan
- C5 Storm Water Pollution Prevention Plans

D. Historic Resources

- D1 Inadvertent Discovery Plan

The following volumes are bound separately but are essential parts of the COM Plan. They contain detailed maps and information that outline the location of the transmission line and associated Project components, protection of sensitive resources, and reclamation activities. The maps show locations of sensitive resources and identify design features, best management practices (BMPs) and construction details that correspond to the protection of those resources. The volumes are designed to be used together in the field by NV Energy, its construction contractor(s), and the environmental compliance team.

Volume I – Centerline Construction and Access Road Maps

These maps will be used to identify Project facilities along the Project centerline, including structure locations, pulling and staging areas, and private parcel information, including land status. These maps also show details for approved roads used to access the construction right-of-way (ROW). NV Energy, its contractor(s), and USFS will use these maps in conjunction with the Environmental Field Maps contained in Volume II, as tools to support the implementation of the design features and environmental commitments contained in this COM Plan.

Volume II – Environmental Field Maps

The environmental field maps will support the Centerline Construction and Access Road Maps by providing additional and more detailed information on resources in the areas, sensitive areas, seasonal restrictions, limited works areas, etc. based upon the design features approved for the Project.



2.0 MANAGEMENT

2.1 ROLES AND RESPONSIBILITIES

This section covers the roles and responsibilities of specific management and field staff personnel during construction, operation, and maintenance phases of the Project.

2.1.1 NV Energy

As the applicant and owner of the transmission line, NV Energy has the responsibility to construct, operate, and maintain the Project in compliance with all federal, state, and local regulations, and in accordance with NEPA, the EIS, the ROD, the USFS SUP, the BLM ROW Grant, and other applicable permits. NV Energy is responsible to oversee and manage the construction contractor(s) to make sure they comply with conditions contained within this COM Plan.

2.1.2 United States Forest Service (USFS)

In their role as Lead Agency, USFS has the oversight responsibility to ensure that this COM Plan includes the commitments required of NV Energy and their contractor(s) in accordance with NEPA, the EIS and ROD, and USFS SUP. The USFS a SUP for the use of a transmission line ROW. Temporary roads and construction access located outside of the transmission line ROW are authorized by a temporary SUP. The COM Plan includes USFS' and responsible parties' contact information, as well as a written process whereby the USFS will work and communicate with NV Energy compliance inspectors.

2.1.3 Bureau of Land Management (BLM)

The BLM has oversight responsibility on lands they manage, which is the land around the Bordertown Substation. The expansion of the Bordertown Substation is authorized by an amendment to NV Energy's existing ROW Grant.

2.1.4 Construction Contractors

One or more construction contractors may be contracted by NV Energy to construct the transmission line and the modifications to the existing substations. All of these contractors will need to be familiar with the conditions of the COM Plan. Contractor(s) will be legally bound to the requirements of the COM Plan through conditions included in bid documents. Specific information about contractor(s), their management, and staff will be incorporated in the COM Plan before the start of construction. The contractor(s) must comply with all permit requirements regarding the environment and compliance with environmental regulations will be a condition of the contract with NV Energy.

2.2 PERMITS AND APPROVALS

In addition to the USFS SUP, NV Energy has other federal, state, and local permits and approvals necessary for construction. The additional approvals contain specific conditions and requirements that are incorporated into the COM Plan. Applicable permits are listed in Table 2-1.



Table 2-1 Applicable Permits/Approvals that Might be Needed

Action	Permit/ Approval (if applicable)	Approving Agency
<p><i>Dredge or fill activities in Waters of the U.S. (i.e., construction of a road crossing for channels that drain to the Truckee River)</i></p> <p><i>Note: At this time, a 404 Permit is not anticipated to be needed.</i></p>	<p><i>Clean Water Act, Section 404 Permit, Nationwide Permit 12</i></p>	<p><i>U.S. Army Corps of Engineers</i></p>
<p><i>Facilities construction</i></p>	<p><i>Construction Permit</i></p>	<p><i>Nevada Division of Environmental Protection, Bureau of Air Pollution Control</i></p>
<p><i>Facilities construction</i></p>	<p><i>Clean Water Act, Section 402 National Pollutant Discharge Elimination System (NPDES) Notification for Stormwater Management during Construction</i></p>	<p><i>Nevada Division of Environmental Protection, Bureau of Water Pollution Control</i></p>
<p><i>Facilities construction</i></p>	<p><i>Clean Water Act, Section 402 NPDES Notification for General Permit for Discharges of Storm Water Associated with Construction Activity</i></p>	<p><i>Lahontan Regional Water Quality Control Board</i></p>
<p><i>Construction or operation of facilities (i.e., road crossings) resulting in discharge into Waters of the U.S.</i></p>	<p><i>Clean Water Act, Section 401 Water Quality Certification</i></p>	<p><i>Nevada Division of Environmental Protection, Bureau of Water Quality Planning</i></p>
<p><i>Tree removal and vegetation management activities</i></p>	<p><i>R6T-2009-0029 Timber Waiver</i></p>	<p><i>Lahontan Regional Water Quality Control Board</i></p>
<p><i>Tree removal in California</i></p>	<p><i>Public Agency, Public and Private Utility Right of Way Exemption (waives requirement to prepare a Timber Harvest Plan)</i></p>	<p><i>California Department of Forestry and Fire Protection</i></p>
<p><i>Surface disturbing activities in Nevada</i></p>	<p><i>Surface Area Disturbance Permit and Dust Control Permit; Waste Discharge Permit; Working in Waterways Permit</i></p>	<p><i>Nevada Division of Environmental Protection, Bureau of Air Pollution Control and Bureau of Water Pollution Control</i></p>
<p><i>Aerial crossing over the Truckee River</i></p>	<p><i>Easement</i></p>	<p><i>Nevada Division of State Lands</i></p>
<p><i>ROW/Land Use/Facilities Construction in California</i></p>	<p><i>Encroachment Permit/SUP</i></p>	<p><i>Sierra County Planning Commission</i></p>

Action	Permit/ Approval (if applicable)	Approving Agency
<i>ROW/Easement in Washoe County outside of City of Reno</i>	<i>SUP</i>	<i>Washoe County Board of Adjustment or Planning Commission</i>
<i>ROW/Easement in Washoe County</i>	<i>Plan Amendment</i>	<i>Truckee Meadows Regional Planning Agency</i>
<i>Facilities Construction, Grading, and/or Hillside Development</i>	<i>SUP(s)</i>	<i>City of Reno Planning Commission</i>
<i>ROW/Easement within City of Reno</i>	<i>SUP</i>	<i>City of Reno Planning Commission</i>

Source: USFS 2018

2.3 COMMUNICATIONS AND NOTIFICATION PROTOCOL

A communication and notification process is intended to keep NV Energy, their contractor(s), the USFS, BLM, and the public well informed of activities during construction. NV Energy will have primary responsibility for communicating with agency personnel regarding compliance with Project conditions and periodic agency compliance inspections. NV Energy will also have the primary responsibility for notifying property owners of upcoming construction activities and ensuring that construction contractor(s) are trained on how to interact with property owners and other members of the public during construction.

Additional details regarding emergency notification of agencies (e.g., in case of wildfire, spills, discovery of a burial site, or other unforeseen circumstances) are presented in various resource-specific plans attached as appendices to the COM Plan. The Key Contacts List is included as part of this COM Plan and will be updated by NV Energy as needed throughout the Project.

3.0 PROJECT OVERVIEW AND FACILITIES

The primary components of the Project include:

- Construction, operation, and maintenance of a 120-kV overhead transmission line;
- Expansion of the Bordertown Substation facility;
- Improvements within the California Substation facility;
- Widening existing roads for access;
- Construction of new temporary access roads; and
- Restoration of construction-related disturbance.

3.1 PROJECT FACILITIES

3.1.1 Transmission Line

The 120-kV transmission line will consist of three aluminum composite core conductors, one fiber optic shield wire cable, and one steel shield wire cable supported on single circuit pole structures. A combination of single-pole structures, two-pole H-frame structures, and three-pole dead end/angle structures will be used. Single-pole structures will be used less frequently where confined space prevents the use of two-pole H-frame or three-pole dead end/angle structures, which are



wider than the single-pole structures. The ROW/easement width will be reduced from 90 feet to 40 feet in constrained areas where single pole structures are used. The span distance between the poles will average 800 feet but could range from 200 feet to 2,000 feet depending on terrain or obstructions.

The transmission line is approximately 11.9 miles long. From the Bordertown Substation, it heads southwest, paralleling the west side of the Alturas 345-kV transmission line (**Figure 2**). It then generally parallels the California and Nevada state line, staying on the Nevada side by approximately 0.6 to 0.9 miles east of the state line for approximately 6 miles. The line then jogs another approximately 0.7 miles to the east, approximately 1.5 miles from the state line which it parallels for another 3 miles before turning due west.

The last approximately 2 miles will replace the existing H-frame pole structures of the inactive 60 kV #632 distribution line in its existing location, and parallel to the existing #114 and #106 lines through Verdi to the California Substation. A total of approximately 4.4 miles of transmission line route will be located within an existing power line corridor. **Table 3-1** summarizes the land status and length of ROW/easement in California and Nevada.

Table 3-1 Permanent ROW/Easement Requirements

Land Ownership	Miles in California	Miles in Nevada	Total Miles	Percent of Total	Acres of ROW/Easement ¹
<i>USFS</i>	<i>0</i>	<i>4.3</i>	<i>4.3</i>	<i>36.4</i>	<i>46.9</i>
<i>BLM</i>	<i>0.4</i>	<i>0.0</i>	<i>0.4</i>	<i>3.3</i>	<i>8.1</i>
<i>Private Land</i>	<i>0.7</i>	<i>6.5</i>	<i>7.2</i>	<i>60.2</i>	<i>78.5</i>
<i>Total</i>	<i>1.1</i>	<i>10.8</i>	<i>11.9</i>	<i>100</i>	<i>133.5</i>

¹ Includes proposed expansion area associated with the Bordertown Substation. In addition, requests from private landowners could result in revisions on private land.

3.1.2 Substation Facilities

The Bordertown Substation will be partially rebuilt and modified with the addition of new components in order to accommodate connection of the new transmission line. The Bordertown Substation will be expanded by 3.7 acres on BLM-administered public land. Proposed modifications to the Bordertown Substation will include vegetation clearing and grading; and expansion of the existing chain-link fence for security and to restrict unauthorized persons and wildlife from entering. The site will be graded to near level and surfaced with gravel. Noxious weeds will be treated and monitored to prevent spreading onto adjacent land.

The California Substation is located on private land owned by NV Energy. All needed modifications to accommodate connection of the new transmission line will be constructed within the existing fenced area of the substation. The footprint of the existing substation will not be expanded.

3.1.3 Roads

3.1.3.1 Existing Roads

Existing roads will be used for construction and maintenance access as much as possible; however, some existing roads will be widened up to 30 feet, including cut and fill slopes to accommodate construction equipment. Approximately 15.4 miles of existing roads will need to be widened for



construction access. The acres of surface disturbance associated with widening are presented in **Table 3-2**.

Table 3-2 Road Widening

Road/Route Type	Widening Required (Miles)	Surface Disturbance (Acres) ¹
<i>Designated NFS Roads on NFS Land</i>	4.4	10.7
Non-Designated Routes on NFS Land	0.7	1.7
<i>Existing Roads Across Private Land</i>	10.3	24.9
<i>Total (Roads/Routes on All Land)</i>	15.4	37.3

¹ Does not include existing road disturbance, which is assumed to be 9 feet wide.

3.1.3.2 New Temporary Access Roads

New temporary access roads (i.e., centerline travel road and spur roads) will be constructed to pole sites, transmission wire setup sites, and staging areas when there are no existing roads available. Access roads will be up to 30 feet wide and located within the 300- to 600-foot-wide corridor (variable-width corridor). The variable-width corridor will be centered on the transmission line and will measure 300 feet wide where slopes are 10 percent or less, and 600 feet wide where slopes are greater than 10 percent. Approximately 7.8 miles of new temporary centerline travel roads will be used for overland travel.

3.2 PROJECT DESIGN FEATURES

NV Energy has committed to the following Project Design Features to be implemented during construction, operation, and maintenance of the Project as part of the EIS ROD for the Project. The following Project Design Features are applicable to the selected alternative and the approved Project.

3.2.1 General Practices (GP)

- GP 1. All environmentally sensitive areas (i.e., culturally sensitive areas, meadows, and special status plant populations) will be temporarily fenced during construction for avoidance.
- GP 2. Prior to construction, all construction personnel will be instructed on the protection of sensitive biological and cultural resources that have the potential to occur on-site by qualified personnel.
- GP 3. Construction activities may require temporary access through existing fences and gates on public and private land. Fencing will be replaced when construction activities are completed. Replacement fencing will be built to agency or landowner specifications, consistent with the fencing that was removed. During construction, fences with open gates will remain open and fences with closed gates will remain closed. Fences crossed during construction will be braced and secured prior to cutting the fence to prevent slackening of the wire.
- GP 4. If blasting is required within proximity to the Kinder Morgan buried gas pipeline located next to Dog Valley/Henness Pass Road between Verdi and “Summit One”, NV Energy will coordinate with Kinder Morgan and use a qualified licensed blaster.



- GP 5. Concrete wash out stations will be pre-approved and the water will be captured and disposed off of NFS lands and at an approved facility.
- GP 6. Long-term equipment staging and storage areas will not be located on NFS land.
- GP 7. Near sensitive receptors (i.e., occupied residences), noise-generating activities (e.g., blasting) will be limited to Monday through Friday from 7:00 a.m. to 7:00 p.m. Otherwise, work may occur 12 hours per day any day of the week.
- GP 8. Annual inspection will be made via helicopter or from the ground by walking to pole structures from existing roads.
- GP 9. Signs, flagging, or other readily visible markings will be used to indicate the presence of guy wires to reduce the potential for people and wildlife to run into the wires.

3.2.2 Noxious Weeds (NW)

- NW 1. Noxious weeds occurring on either the Nevada or California State list will be mapped and the full extent of the population will be treated prior to and following construction. Inventory and treatment areas will extend 100 feet from the ROW/easement and all ground disturbed by Project activities. Project disturbances include roads proposed for widening, construction access roads, equipment and material staging areas, and vegetation removal, including skid trails and landings.
- NW 2. Monitoring and continued treatment in areas that were treated prior to construction will commence the first full growing season after Project implementation. Weed treatment will continue until disturbed areas are successfully restored (see restoration criteria). Weed treatment will continue during maintenance activities and within the ROW/easement.
- NW 3. All equipment utilized off of existing roads and motorized trails will be cleaned with a high-pressure power washer of all mud, dirt, and plant parts. Following cleaning, equipment will be inspected for plant parts (e.g., leaves, stems, seeds). Equipment will be cleaned and inspected again prior to re-entry if it leaves the Project site. Equipment will be inspected and cleaned again before moving from an area within the Project area with known noxious weed species. Inspections will be completed and documented by qualified personnel such as a USFS noxious weed specialist or USFS botanist.
- NW 4. When cut and fill is required to create log landings, topsoil will be stockpiled and covered to prevent weeds from establishing in the soil. This topsoil will be re-spread during restoration of the landings.
- NW 5. Staging areas and fly yards will not be located in weed infested areas. Staging areas will be inspected by qualified personnel for pre-approved use to reduce the risk of introducing noxious weeds into the Project area.
- NW 6. Construction of access roads will not occur in areas heavily infested with noxious or invasive weeds.
- NW 7. Restoration seed mixes will be certified as weed-free.
- NW 8. All gravel and/or fill material will be certified as weed-free.

- NW 9. NV Energy will coordinate with other county, state and federal agencies to address and treat landscape level infestations of invasive plant species.
- NW 10. For invasive plants that can be effectively controlled through grubbing or manual removal, methods that prevent seed spread or re-sprouting will be used. If flowers or seeds are present, the weed will be pulled carefully to prevent seeds from falling and will be placed in an appropriate container for disposal. If flowers and seedheads are not present or are removed and disposed of as described above, the invasive plant may be pulled and placed on the ground to dry out.
- NW 11. The appropriate method of control specific to the type of noxious weed will be used. Specific methods will be identified in a specific Noxious Weed Species Plan (Appendix C1).

3.2.3 Vegetation (VG)

- VG 1. Placement of the ROW/easement will avoid wherever possible, isolated groups of trees and/or groups of trees with an average diameter of dominant and co-dominant trees greater than 24 inches at breast height (dbh) as directed/approved by the USFS Forester or Silviculturist.
- VG 2. All trees measuring 8 inches or greater in dbh that need to be removed shall be identified and marked for removal by a USFS Forester or Silviculturist prior to felling on NFS land.
- VG 3. For trees measuring 8 inches or greater in dbh, stump height shall not exceed 12 inches above ground level on the uphill side or 12 inches above natural obstacles. Trees less than 8 inches in dbh, stump heights shall not exceed 6 inches above ground level on the uphill side or 6 inches above natural obstacles.
- VG 4. Trees identified for removal will be whole tree yarded to log landings for disposal. Permits and/or contracts shall be issued prior to felling any trees greater than 8 inches dbh. All logs and slash will be removed from NFS land within 6 weeks to reduce insect and disease infestations. Woodchips not needed for restoration will also be removed from NFS land within 6 weeks.
- VG 5. Where removal of vegetation other than trees is unavoidable, the vegetation will be cut at ground level to preserve the root structure and allow for potential sprouting.
- VG 6. All areas of temporary ground disturbance that result from the construction or maintenance of the Project will be restored as required by the land management agency and per any applicable permits. Restoration will include restoring contours to their approximate pre-construction condition, stabilizing the area through seeding, mulching, placement of erosion control fabric, and installing erosion control features. Erosion control includes installing cross drains and placing water bars in the road, as needed.
- VG 7. Successfully restored areas will be defined as:

Reference sites will be pre-established and approved by the USFS. Reference sites will include plant communities that are representative of the ecological site and must include plant communities that are in a late-seral and ecologically

functioning condition. Appropriate reference sites will be determined by collecting baseline cover data to indicate plant succession and community structure.

- VG 8. Project implementation will comply with conditions in Lahontan Water Quality Control Board timber harvest waiver.

3.2.4 Herbicide Use (HE)

- HE 1. Herbicides will be used in accordance with label instructions, except where Project design features describe more restrictive measures. As applicable, an herbicide use plan will be developed and included as part of the Noxious Weed Species Plan (Appendix C1).
- HE 2. Prior to the start of application, all spray equipment will be calibrated to ensure accuracy of the delivered amounts of herbicide. Equipment used during herbicide application will be regularly inspected to ensure it is in proper working order.
- HE 3. Herbicide spray applications will not occur when wind velocity is 5 miles per hour or greater to further minimize the potential for drift.
- HE 4. Herbicide applications will not be conducted during rain or immediately following rain when soil is saturated or runoff or standing water is present. Application will occur only under favorable weather conditions, defined as:
- a) 30% or less chance of precipitation on the day of application based upon National Weather Service weather forecasting for the Reno area;
 - b) If rain, showers or light rains are predicted within 48 hours, the amount of rain predicted shall be no more than ¼ inch of rain; and
 - c) Rain does not appear likely at the time of application.
- HE 5. Preparation of herbicides for application, including mixing, filling of wands and rinsing of spray equipment, will take place outside of wetlands, meadows, riparian zones, wells and springs, and other sensitive sites, and more than 300 feet from surface water. Herbicide preparation will occur only on level, disturbed sites such as the interior of landings.
- HE 6. A spill cleanup kit will be readily available whenever herbicides are transported or stored. A spill kit will be carried by the applicator at all times when using the wicking application method.
- HE 7. Low nozzle pressure (<25 pounds per square inch), and a coarse spray (producing a median droplet diameter of >500 microns) will be used in order to minimize drift during herbicide applications.
- HE 8. Prior to treatments in areas of concentrated public use, the public will be notified about upcoming herbicide treatments via posting signs.
- HE 9. The herbicide spray nozzle will be kept as close to target plants as possible (within 20 inches) while achieving uniform coverage in order to limit overspray and drift to non-target vegetation.
- HE 10. Where riparian vegetation communities occur, herbicide application will be limited to directed foliar spray or wiping methods and spray will be directed away from native vegetation.

- HE 11. Herbicide treatments will not occur within 500 feet of sensitive plant occurrences.
- HE 12. Herbicide application within wet meadows will be limited to treating invasive plant infestations that occupy less than 100 square feet. Herbicide applications will be limited to wiping techniques with aminopyralid, chlorsulfuron, and glyphosate and treatment of the following high priority species: Canada thistle (*Cirsium arvense*), yellow star thistle (*Centaurea solstitialis*), Russian knapweed (*Acroptilon repens*) or tall whitetop (*Lepidium latifolium*) which are difficult to eradicate with non-chemical means. Meadows will be surveyed for special status plant species prior to any chemical treatments and will be monitored post-treatment to determine effects to non-targeted vegetation.
- HE 13. Herbicide application will not occur within the established buffers for aquatic features shown in **Table 3-3**.

Table 3-3 Minimum Buffers (ft) for Herbicide Application Near Aquatic Features

Herbicide	Application Method	Dry Aquatic Features	Streams ¹ or Ditches with Water ²	Wetland or Meadow
Aminopyralid	Spot & directed foliar spray	25	25	100
	Wiping	15	150	15
Chlorsulfuron	Directed foliar spray	25	100	100
	Wiping	15	15	15
Glyphosate	Directed foliar spray or drizzle	0	25	25
	Cut stump or wiping	0	15	15
Imazapic	Directed foliar spray	25	75	75
Triclopyr (TEA)	Directed foliar spray	25	75	75
	Wiping or cut stump	15	15	15
Clopyralid	Spot & directed foliar spray	25	50	50
	Wiping	15	15	15

¹As measured from the edge of the stream channel. If a defined channel is not present (draws do not have defined channels), measurement is from the bottom of the feature.

²As measured from the edge of the wet area or the meadow vegetation, whichever is greater. Limited conditions allowing for herbicide application within meadows are described in HE 17.

- HE 14. Herbicide application is limited to targeted treatments directed at the plant (spot treatments of the immediate area surrounding the plant are allowed with aminopyralid and clopyralid, only) using a backpack sprayer; broadcast spray methods that dispense chemical over a non-localized area will not be used.
- HE 15. Avoid application of Aminopyralid and Clopyralid sprayed mulch materials on revegetation sites.

3.2.5 Forest Health (FH) - Insects and Disease

- FH 1. To reduce the build-up or residual tree mortality by pine engraver beetles (*Ips pini*), and reduce fuel loading the following measures shall occur:



- a) Trees greater than 3 inches diameter at breast height (dbh) (whether in accessible or inaccessible areas) shall be removed (after proper permitting) to established log landings. Slash shall be chipped and hauled off of NFS land for disposal. All logs and slash shall be removed from NFS lands within 6 weeks of cutting. Any incidental breakage during whole-tree yarding that is 3 inches in diameter or greater shall be lopped and scattered to within 18 inches of the ground in open areas.
- b) Timing: In areas where material 3 inches or greater in diameter is left on site, cutting shall only occur from August 1 through December 31. Material must be lopped and scattered to within 18 inches of the ground in open areas. There are no timing restrictions for dead trees or species other than pine.

3.2.6 Water Resources and Soil (WA)

- WA 1. As a part of this COM Plan, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared to minimize erosion from the Project construction worksites and to contain sediment (Appendix C5). The SWPPP will be prepared in accordance with the NPDES General Construction Stormwater Permit. At a minimum, it will identify the existing drainage patterns of the construction work sites and ROW/easement, nearby drainages and washes, potential pollutant sources other than sediment, and erosion and sediment control measures and BMPs that will be implemented to protect stormwater runoff. The SWPPP will include maps with locations for erosion and sediment control measures, and BMPs. The SWPPP will be kept on site throughout the duration of construction.
- WA 2. Erosion and stormwater controls will be inspected on the ground at least once every seven days and within 24 hours of a storm event of 0.5 inch or greater. Weather forecasts and data available from the National Weather Service in Reno will be used to determine total precipitation associated with a storm event. Qualified personnel of NV Energy or its contractors with specific training in erosion and sediment control will perform the inspections.
- WA 3. Construction equipment staging areas, and storage of equipment fuels will not be located within 300 feet of perennial streams or within 150 feet of intermittent and ephemeral streams. Staging areas and fuel storage will also not be located within 150 feet of wetlands or other water feature.
- WA 4. Pole sites and staging areas will not be constructed within the 100-year floodplain of any stream or within wetlands.
- WA 5. Construction equipment will not be operated on unstable soils or on soils too wet to adequately support equipment in order to prevent rutting, puddles on soil surface, or runoff of sediments directly into water bodies.
- WA 6. Topsoil removed from foundation holes will be separated and stockpiled at the edge of active work areas to salvage the seed bank.
- WA 7. Water drafting (i.e. water withdrawal) from streams will not be permitted. Water shall be provided by truck for dust abatement and other Project needs.

3.2.6.1 Temporary Stream Crossings

- WA 8. Improvements to any existing road crossing will be designed to minimize surface disturbance.
- WA 9. Crossings will be located where the stream channel is narrow, straight, and uniform, and has stable soils and relatively flat terrain. Stream crossings will be oriented perpendicular to the stream channel. All stream crossings will be designed and installed such that sufficient load-bearing strength for the expected equipment is provided.
- WA 10. Stream crossings will be designed for a normal range of flows for the site, and crossings that must remain in place during high runoff seasons will be stabilized. However, all crossings will be temporary and will be removed at the end of the construction season. The water body profile and substrate will be restored when the crossing is removed.
- WA 11. Stream crossings will be regularly monitored to evaluate the condition. Any repairs or improvements to the crossings identified during monitoring will be promptly addressed.
- WA 12. Surface drainage and roadway stabilization measures will be used to disconnect the access road from the stream in order to avoid or minimize water and sediment from being channeled into surface waters and to dissipate concentrated flows.
- WA 13. On perennial streams, existing crossings will be utilized and no new crossings will be constructed.
- WA 14. If it is determined that a stream crossing is needed and a Section 404 permit is needed an application for a permit will be completed at that time.
- WA 15. Perennial streams may have environmental resource designs which may include ramp crossings outside of ordinary high water mark.

3.2.7 Plants and Sensitive Plant Communities (SV)

- SV 1. If any USFS or BLM sensitive plant or federal- or state-listed species are identified during construction activities, the USFS will be contacted within 24 hours. Depending on the plant species appropriate protective measures will be implemented.
- SV 2. Prior to construction, once access roads and pole locations are known, the following tasks will be completed for areas where surface disturbance is planned:
 - a. Pre-construction surveys for jaw-leaf lupine, andesite popcorn flower, altered andesite buckwheat, and moonwort ferns;
 - b. Mapping and flagging of sensitive plant species, wetland areas, and noxious weeds; and
 - c. Noxious weed infestations will be treated according to design features NW1 and NW 2.
- SV 3. There will be no new access roads or widening of existing roads for construction access through meadows. This measure will also protect potential habitat for

special status plant populations that are found in wetland and meadow habitats, such as Dog Valley ivesia.

- SV 4. Poles, staging areas, and line clearance areas, and any Project-related ground disturbance will avoid all special status plant populations.
- SV 5. Where existing roads are used for travel to the Project site (but not widened), any road maintenance within 100 feet from special status plant populations will focus on avoiding impacts. A permanent physical barrier, such as lining the roads with rock or fencing the road corridor, will be constructed to prohibit vehicle access to sensitive plant populations and contain travel within the existing road corridor.

3.2.7.1 Webber Ivesia and Dog Valley Ivesia

- SV 6. Construction of new access roads (i.e., spur roads and centerline travel roads) and widening of existing roads and motorized trails will not occur within 500 meters (1,640 feet) of populations of Dog Valley ivesia (*Ivesia aperta* var. *canina*) and Webber ivesia (*Ivesia webberi*) occurring on NFS land. Allowable maintenance of roads within these habitat areas that do not require widening include blading and installation of erosion control measures. Construction of new temporary access roads and widening of existing roads and motorized trails will not occur within 200 feet of other special status plant populations that occur on NFS land. Within these buffer distances, travel and road maintenance on existing roads and motorized trails may be permitted but road improvements including widening of the existing travelled way are prohibited.
- SV 7. The transmission line will be excluded from the occupied habitat unit for Webber ivesia populations occurring on NFS land. (Occupied habitat includes the low sage habitat where the plants are present and a 500-meter buffer from the edge of the occurrence. The 500-meter buffer will include low sage and adjacent shrub steppe habitats to accommodate pollinators associated with the rare plant community).
- SV 8. Techniques to span over Webber ivesia potential habitat (i.e., unoccupied suitable habitat) will be evaluated with a USFS botanist. Unavoidable pole placement within habitat will require use of a helicopter. Access roads will not be constructed within potential habitat. Potential habitat includes low sage plant communities with specific habitat attributes: presence of a rocky pavement surface, presence of an argillic soil horizon, plant community composition and presence of associated plants, topographic position of the site, and, known elevation range. Areas defined as potential habitat will require the 500-meter buffer.
- SV 9. Placement of pole structures within the 500-meter buffer for Dog Valley ivesia may be unavoidable. The pole placement will be contained to the edge of the buffer to reduce potential impacts to the plant.

3.2.8 Wildlife and Sensitive Wildlife Species (WL)

- WL 1. If any USFS or BLM sensitive wildlife or plant species are identified during pre-construction surveys or during construction activities, work in the general area of the identified species will be halted until a USFS biologist or other qualified biologist is consulted to determine an appropriate buffer and other protective measures. The USFS will be notified within 24 hours of the discovery of the species. Buffer distance will be established in consultation with the USFS on a



case by case basis depending on species and type and magnitude of construction activity. If avoidance is infeasible, consultation with the USFS, and at its discretion, any cooperating agencies will be contacted prior to continuing work in the immediate area of the species. The same process will be implemented in the event that any federal- or state-listed species are discovered on public land, with the discovery being reported to the USFS or BLM, depending on the respective land administration.

- WL 2. If appropriate, additional surveys for northern goshawk and flammulated owl or other USFS sensitive species will be conducted prior to construction by a qualified biologist approved by the USFS. Coordination with the USFS will be conducted prior to commencing surveys to determine appropriate survey methodology, timing, and survey area. If nesting is detected the USFS will be contacted within 24 hours and Forest Plan standard and guidelines (USFS 2004) will be implemented. A designated Protected Activity Center (PAC) will be delineated around the nest site. Within the PAC no construction activities may occur during the "Limited Operating Period" April 15th - September 30th. Pole construction will need to be designed to span the PAC.
- WL 3. To reduce potential disturbance to migratory birds, construction will occur outside the typical avian breeding season (April 1 to July 31). If construction activities cannot be avoided during this time period, surveys will be conducted immediately prior to construction to locate active nesting areas.
- WL 4. If active avian nests are located on NFS land or BLM-administered public land, they will be flagged and avoided until after the breeding period. NV Energy will coordinate with the USFS or BLM biologist to determine appropriate time frames for resuming construction.
- WL 5. Excavations deep enough to potentially entrap wildlife species will be covered and fenced at night or when unattended to prevent livestock or wildlife from falling in. All covers will be secured in place and strong enough to prevent breakage by wildlife.
- WL 6. To avoid impacts to wintering mule deer, construction will not occur from November 25 through May 25 within areas mapped as crucial winter or winter-spring high deer use, including the Mitchell Canyon Deer Management Area. Non-ground disturbing activities, such as surveying, staking, or resource driven activities (e.g., cultural surveys, biological surveys), may occur within this time frame.
- Please note:** *This Design Feature does not apply to work within fenced and cleared areas associated with the existing California and Bordertown substations, including the Bordertown substation expansion area that needs to be cleared and fenced prior to November 25.*
- WL 7. To aid in providing browse for wintering mule deer, post construction revegetation in areas mapped as crucial winter and winter spring high use habitat will include seed mix of brush species preferred by mule deer (i.e., bitterbrush, mountain big sagebrush, mountain mahogany, serviceberry, snowberry, and Wyoming big sage) as well as appropriate forbs and grasses.
- WL 8. To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that will be permanently lost or temporarily disturbed from the

Project, will require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW or a Sierra Front Wildlife Working Group that will include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants.

- WL 9. To protect raptors such as hawks and eagles from electrocution, transmission line and pole structures will be constructed in conformance with the guidelines contained in Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006, prepared by the Avian Power Line Interaction Committee (2006).
- WL 10. To limit the potential for impacts to aquatic resources, particularly to Lahontan cutthroat trout, pole sites or roads will not be placed within the 100-year floodplain in Dog Creek, Bull Ranch Creek, and the Truckee River. During construction, no soil disturbing activities will occur within the 100-year floodplain of these streams.

3.2.9 Cultural Resources (CU)

- CU 1. Per Section 106 of the National Historic Preservation Act (36 CFR [Code of Federal Regulations] Part 800), cultural resources surveys will be necessary prior to any surface disturbance on lands not included in the baseline cultural resources analysis.
- CU 2. Cultural resources identified as eligible for the National Register of Historic Places (National Register) are considered Historic Properties. Adverse effects to Historic Properties are mitigated through approved treatment presented in the Project Historic Properties Treatment Plan, an appendix to the Memorandum of Agreement (MOA). Depending on approved treatment, some cultural resources will require the installation of avoidance fencing in addition to archaeological and Tribal monitoring during ground disturbing construction activity.
- CU 3. Cultural resources monitors (Archaeological and Tribal) will assess avoidance measures and monitor disturbance activities in culturally sensitive areas.
- CU 4. If previously unidentified cultural resources are discovered during mitigation, construction, monitoring, or reclamation, all work will cease immediately within a minimum distance of 100 feet from the discovery. All artifacts and materials will be left in place and measures to protect the discovery from further damage, theft, or removal will be implemented. The designated Project supervisor will notify the Forest Heritage Program Lead following “*Discovery of Cultural Resources*” outlined in the Inadvertent Discovery Plan, part of the MOA between identified parties and as provided in Appendix D1. The Forest Heritage Program Lead will ensure the proper Tribal representatives are notified.
- CU 5. If human remains or remains thought to be human, are discovered during construction activities, all work will cease and the area will be cordoned off with fencing or whatever means are available. No photos will be taken, and the USFS Heritage Program Lead will be notified immediately. The resulting work will follow “*Discovery of Human Remains*” outlined in the Inadvertent Discovery Plan as part of the MOA between identified parties and as provided in Appendix D1.



The USFS will fulfill the requirements of federal and state law by consulting with affiliated the State Historic Preservation Office (SHPO), Tribes, and other parties to determine whether the human remains are of recent age or criminal concern.

- CU 6. The USFS will ensure that employees or construction contractor(s) comply with federal and state laws. If the discovery is located on federal land, then the federal agency will take the lead on complying with the Native American Graves Protection and Repatriation Act (NAGPRA). If the discovery is located within any other jurisdiction, then state laws will be followed and the respective SHPO will take the lead. State laws include California Health and Safety Code 7050.5, California Public Resources Code 5097.98, and Nevada Revised Statutes 383.150 to 383.190 as amended by Senate Bill 244 in 2017.
- CU 7. Work in the immediate vicinity of the human remains may not resume until after the disposition of the human remains is determined and a written binding agreement is executed between the necessary parties in accordance with NAGPRA (43 CFR Part 10.4(e)). Resumption of work is USFS's decision. In most cases this will be the USFS District Ranger, but in the case where human remains are involved, it is recommended that the USFS Supervisor make this decision upon the advice of the USFS Heritage Program Lead and law enforcement officers.

3.2.10 Hazardous Materials and Waste (HM)

- HM 1. A Spill Prevention, Control, and Countermeasure Plan (SPCC) will be implemented during construction to prevent any spills. The SPCC will be developed by the construction contractor and submitted based on actual on-site needs. The SPCC, which will include cleanup procedures, will become part of this COM Plan (Appendix A2).

3.2.11 Recreation/Roads/Transportation (RT)

- RT 1. The use of any roads or trails will require compliance with the Carson Ranger District Motor Vehicle Use Map, including any restrictions for seasonal use.
- RT 2. All new temporary access roads and all improvements to existing roads will comply with: 1) The Forest Service National Supplements to the FP-03 (USFS, 2010); 2) the USFS Road Construction Handbooks (FSH 7709.56 and FSH 7709.57); and, 3) the Forest Plan.
- RT 3. All new access roads (i.e., spur roads and centerline travel roads) specifically constructed for this Project will be re-contoured and reclaimed and will have a physical closure installed to prevent motorized access immediately following the completion of construction and restoration. The types of closure and design specification used will be approved by the USFS prior to installation. Design specifications will be provided by the USFS.
- RT 4. Physical barriers such as boulders or natural features designed to harmonize with the natural environment of the surrounding area will be installed to prevent unauthorized vehicle use from occurring on restored roads. The use of gates or

other such structures for this purpose will be avoided unless determined necessary by the USFS. Design specifications will be provided by the USFS.

- RT 5. Maintenance activities which cause a road to be opened to unauthorized vehicles or damage to restoration improvements will need to be assessed and barriers reinstalled as needed at the expense of NV Energy.
- RT 6. Restored roads will require a signage and monitoring plan implemented by NV Energy for compliance with the closure which will include inspecting the barricade areas to determine the effectiveness of the blockades at preventing unauthorized motorized vehicle use of the restored access roads. Signs will notify the public that construction access roads are closed and are being restored. Signs will be replaced by NV Energy if vandalism occurs to the signs. Design specifications will be provided by the USFS.
- RT 7. If unauthorized vehicle use occurs on restored roads, barricades and reclamation will be monitored for effectiveness and remedial measures taken. Monitoring will continue until disturbed areas are successfully restored.
- RT 8. Public access will be maintained with minimal delays during the construction and maintenance of the Project. If there are traffic delays, NV Energy will post delay information at National Forest portals.
- RT 9. All construction vehicle movement will be restricted to the transmission line ROW/easement, pre-designated access roads, public roads, and private roads. All existing roads will be left in a condition equal to their preconstruction condition, according to the appropriate maintenance level including installation of water bars, and drainage features. The expectation is to return roads to preconstruction standards. High clearance roads will be returned to a state consistent with preconstruction conditions so as to not convey a false expectation to users.

3.2.12 Visual Resources (VI)

- VI 1. Non-specular conductors will be installed to reduce visual impacts.
- VI 2. The number of new poles will be minimized by increasing the pole span length on NFS land where the area is designated as Partial Retention for Visual Quality Objectives as terrain allows.

3.2.13 Fire Prevention and Response (FP)

- FP 1. Fire Prevention Plan will be implemented during construction activities to prevent and suppress fire. The Fire Prevention Plan will be included in this COM Plan (Appendix A1).

3.2.14 Air Quality (AQ)

- AQ 1. Vehicle and equipment speeds will be limited to 20 miles per hour on unpaved roads and on the ROW/easement.
- AQ 2. All areas subject to ground disturbance will be watered as needed to control dust.
- AQ 3. Paved roads will be swept if visible soil material is tracked onto them by construction vehicles.



- AQ 4. Excavation and grading activities will be suspended when winds (instantaneous gusts) exceed 50 miles per hour and visible dust persists that creates a health hazard to neighboring property owners and/or visibility impacts to vehicular traffic.
- AQ 5. In order to reduce construction equipment emissions, engines on construction-related vehicles will:
- a) Be tuned to the engine manufacturer's specification in accordance with an appropriate time frame;
 - b) Not be idle for more than five minutes (unless it is necessary for the operating scope of the equipment and operation);
 - c) Not be tampered with in order to increase engine horsepower;
 - d) Include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the Project site; and
 - e) Use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area.

4.0 CONSTRUCTION ACTIVITIES

This section contains an overview of construction activities associated with the transmission line and substation facilities. **Figure 2** provides an overview of the transmission line route. Maps in **Volume I** provide details of the route, including structure locations, the ROW, construction staging areas, access roads, parcel numbers, and land ownership.

4.1 CONSTRUCTION SCHEDULE

Construction of the Project will take 18 to 24 months. A detailed schedule will be determined after construction contracts are awarded. Work may occur 12 hours per day any day of the week, except near sensitive receptors (i.e., occupied residences), where noise-generating activities (e.g., blasting) will be limited to Monday through Friday from 7:00 a.m. to 7:00 p.m.

4.2 LAND AND ENVIRONMENTAL SURVEYING

4.2.1 Pre-Construction Surveys and Staking

Prior to construction and as applicable, detailed surveys of all areas that could be affected by Project activities will be completed for vegetation, wetland resources, water resources, and special status species (plants and wildlife). The status of the surveys for the Project are detailed in **Table 4-1**.

Table 4-1 Pre-Construction Surveys Status

Pre-Construction Surveys	Status (As of July 2020)
Special Status Wildlife Species Survey	Spring/Early Summer 2021
Special Status Plant Species Survey	Pending - To be completed prior to construction. 2020/2021, as applicable
Vegetation Community Survey (transects established)	Completed by Western Botanical in 2017



Pre-Construction Surveys	Status (As of July 2020)
Noxious Weeds Survey	Scheduled for summer 2020
Water Resources and Wetland Survey	Completed – Results in Appendix C2
Geotechnical Report	Initial study completed in 2019 on private land. Additional geotechnical studies could be conducted once a construction contractor is hired for the Project.

All identified environmentally sensitive areas (i.e., culturally sensitive areas, meadows, and special status plant populations) will be temporarily fenced during construction for avoidance.

An engineering survey and subsequent staking of Project facilities will also occur prior to construction. Staking of facilities will include marking pole locations, anchor sites, staging of materials yards, access roads, and wire pull sites. Specific details can be found in the Flagging and Fencing Plan (Appendix B2).

4.3 SUBSTATION CONSTRUCTION

4.3.1 Site Preparation

The Bordertown Substation will be partially rebuilt and modified with the addition of new components in order to accommodate connection of the new transmission line. Expansion of the Bordertown Substation will begin with clearing vegetation and organic material from the construction areas. The site will then be graded to subgrade elevation. The existing chain link fence will be extended to include the new substation perimeter for security and to restrict unauthorized persons and wildlife from entering the substation. The site will be finish graded and gravel surfaced. Noxious weeds will also be treated and monitored to prevent spreading onto adjacent land. **Figure 3** illustrates the changes that will occur at the Bordertown Substation.

Parts of the California Substation will be rebuilt, and new components will be added to accommodate connection of the new transmission line. A new section 120-kV bus-work will be constructed at the substation and a new 120-kV transmission line terminal, including all associated switches, telecommunications and protections will be installed. All needed modifications will be accommodated within the existing fenced area of the substation, and the footprint of the existing substation will not be expanded (**Figure 4**).

4.3.2 Structural and Electrical Construction

Steel structures will be erected on concrete footings to support switches, electrical bus-work, instrument transformers, lightning arrestors, and other equipment, as well as termination structures for incoming and outgoing transmission lines. Structures will be fabricated from tubular steel and galvanized or painted and will likely match the color of the existing structures. Structures will be grounded by thermally welding one or more ground wires to each structure.

Major equipment will be set by crane and either bolted or welded to the foundations to resist seismic forces. Oil spill containment basins will be installed around major oil-filled transformers and other equipment. Smaller equipment, including air switches, current and voltage instrument transformers, insulators, electrical bus-work, and conductors will be mounted on the steel structures.



Control cables will be pulled from panels to be installed in control enclosures, through the underground conduits and concrete trench system, to the appropriate equipment. After the cables are connected, the controls will be connected to a telecommunications network, set to the proper settings, and all equipment will be tested before the new 120-kV transmission line is energized.

4.4 TRANSMISSION LINE CONSTRUCTION

4.4.1 Existing Access Roads

Existing roads will be used for construction and maintenance access as much as possible; however, some existing roads will be widened up to 30 feet, including cut and fill slopes to accommodate construction equipment. Roads that will be widened include designated NFS roads and non-system roads. Road improvements will comply with: 1) The Forest Service National Supplements to the FP-03 (USFS 2010); 2) the USFS Road Construction Handbooks (FSH 7709.56 and FSH 7709.57); and, 3) the Toiyabe Forest Plan (USFS 1986). Several designated NFS roads have seasonal use restrictions from April 1 to November 18 that will be followed during construction (RT 1). All designated NFS roads widened for construction or maintenance access will be restored to the original roadbed. NV Energy will comply with the design features, specified in Section 3.2, for all existing roads.

4.4.2 New Access Roads

New temporary access roads (i.e., centerline travel road and spur roads) will be constructed to pole sites, transmission wire setup sites, and staging areas when there are no existing roads available. Access roads will be up to 30 feet wide and located within the 300- to 600-foot-wide corridor (variable-width corridor). The variable-width corridor will be centered on the transmission line and will measure 300 feet wide where slopes are 10 percent or less, and 600 feet wide where slopes are greater than 10 percent. Temporary roads will be constructed primarily by mowing or masticating vegetation in a manner that leaves root systems intact to encourage regrowth and minimize soil erosion.

Whole tree removal will be required where new access roads cross forested areas. NV Energy will comply with design features for tree removal as described in VG 1 through VG 4 (Section 3.2.3). Rocks or other obstructions will be bladed. If rocks cannot be removed with heavy equipment, explosives may be used. While new access roads wider than 30 feet will not be expected, occasional widening beyond 30 feet may be necessary in areas where extensive blading and side cuts are required. Erosion and sediment controls will be installed as identified in the Project SWPPP (Appendix C5).

Following construction, all temporary access roads will be recontoured and stabilized by seeding, mulching, placement of erosion control fabric, and installing erosion control features such as water bars. Where deemed appropriate by the USFS, roads near sensitive resources may not be recontoured in order to avoid inadvertent disturbance to resources. Barriers will be installed on all restored access roads located on NFS land to prevent unauthorized vehicle use.

Vehicle access for transmission line maintenance is expected to be rare as the poles will be made of fire resistant metal, and there will be minimal other hardware or other attachments to the poles. Access will be necessary approximately every 10 years for close visual inspections and tree removal within the line clearance area. There are no permanent roads proposed to be kept for maintenance access.



4.4.3 Stream Crossings

Road construction across perennial streams will be avoided. Where improvements are needed to cross ephemeral and intermittent streams, the side slopes of drainages will be reduced to a slope that will allow safe vehicle travel, and the slopes and drainage bottom will be rock armored. Once construction is complete, all drainage modifications will be recontoured and seeded based on existing site conditions. Temporary stream crossing design features are described in detail in Section 3.2.6.

4.4.4 ROW/Easement Preparation

Prior to construction, noxious weeds will be inventoried, mapped, and treated within the ROW/Easement and areas within 100 feet of Project ground disturbance. Treatment methods will include manual and mechanical methods and the use of herbicides. A five-gallon backpack sprayer will be the primary method of herbicide application, but large infestations may require a truck-mounted sprayer. NV Energy will comply with design features NW 1 through NW 11 (Section 3.2.2).

During construction, vegetation will be removed as needed at pole sites, staging areas, transmission wire setup sites, and access roads. Removal of vegetation will generally consist of mowing or masticating shrub and grass vegetation in a manner that leaves root systems intact to encourage growth and minimize soil erosion.

In forested areas and as needed, trees will be identified and cruised according to USFS standards. Once identified, applicable trees will be removed prior to construction activities using heavy equipment where terrain and slope stability permits and skidded to log landings for disposal. In areas that are not accessible with equipment or with excessive slopes and highly erodible soils, trees will be removed by helicopter. All slash will be chipped and removed from NFS land within six weeks to reduce insect and disease infestations.

Trees within the transmission line ROW/easement will be removed as necessary for compliance with National Electric Safety Code (NESC), North American Electric Reliability Corporation standards, California Public Utilities Commission (CPUC) regulations, Nevada Administrative Code (NAC), California Public Resources Code, California Code of Regulations, and Department of Forestry Fire Prevention standards. The NESC standards and the California and Nevada codes require that obstructions be no closer than 21 feet to an overhead transmission line. **Figure 5** shows the typical tree clearance distances that will be required for compliance with the aforementioned codes and regulations.

4.4.5 Power Pole Structures

Single pole structures will be approximately 65 to 90 feet tall, dependent on terrain and obstructions (**Figure 6**). The two-pole H-frame structures will consist of two poles connected by an "X-brace". A horizontal cross-arm member will be mounted above the "X-brace" and will support the electrical transmission conductors (**Figure 7**). The three-pole dead end/angle structures will consist of three inline poles. The electrical transmission conductors will connect to insulators attached directly to the pole structure and the conductor jumper around the poles on a horizontal cross-arm member mounted to the three poles (**Figure 8**). The two-pole H-frame structures and the three-pole dead end/angle structures will be approximately 50 to 90 feet tall, depending on terrain or obstructions. Support structures taller than 90 feet may be required at isolated locations to accommodate road crossings, unique geographical features, or other existing overhead utilities. Weathered steel,



characterized by a stable, rust- like finish that closely resembles the color of wood poles, will be used for all pole structures.

The pole structures will support three aluminum composite core conductors that are approximately 1.5 inches (1949 thousand circular mils) in diameter. All conductor wires will be at least 22 feet above the ground surface. A single fiber optic shield wire approximately 0.375 to 0.75 inch in diameter will be placed along the top of each pole to protect the transmission line from lightning. Two-pole H-frame and three-pole dead end/angle structures will also have second steel shield wire approximately 0.375 inch in diameter along the top of the second pole to protect the transmission line from lightning. Copper or copper alloy ground wires will be affixed to each pole and connected to ground rods that will be buried in the excavation for each pole. The ground wires and rods will enable all of the poles to be electrically grounded. The transmission line will be designed and constructed to meet or exceed the requirements of the NESC; NAC 704.450: Regulation of Public Utilities, which adopts NESC by reference; and CPUC General Order Number 95: Rules for Overhead Electric Line Construction (State of California, 1998).

4.4.5.1 Pole Sites

A pole site is the area needed for the construction and installation of the pole structure and could be 0.5 to 1 acre in size depending on the type of pole structure. Clearing of vegetation at pole sites will be limited to the area excavated for the installation of the pole structures and what is needed for safe operation of construction equipment. Pole sites in steeper terrain (greater than 10 percent to 12 percent slopes) will be graded level for safe operation of equipment. Equipment pads will not be recontoured, but reseeded so that the pad will be available for future maintenance of the pole, if needed.

4.4.5.2 Excavation and Pole Foundations

Excavation for poles set directly into the ground with no foundation will be approximately three feet in diameter and approximately 10 to 13 feet deep. Single and three-pole dead-end/angle poles will be secured (guyed) by anchors installed in the ground approximately 60 feet from the pole base. The anchors will require excavating a hole approximately three feet in width and 10 feet deep. A truck-mounted power auger is the preferred method of excavation. However, backhoe excavation and blasting may be used as alternative excavation methods as geological and site conditions require. Poles that will be set in the ground without a foundation will be backfilled with native or imported fill material. Final pole foundation requirements will be determined after design and permitting requirements are completed.

In places where guying single and three-pole dead-end/angle poles will not be feasible, self-supporting steel angle poles on foundations will be installed. Concrete foundations, where needed, will be cast-in-place and dimensions will vary from 12 to 40 feet below ground surface and three to 12 feet in diameter. Should rocky areas be encountered, foundation holes may be excavated using rock drills and blasting. Topsoil removed from foundation holes will be separated and stockpiled at the edge of active work areas to salvage the seed bank. All excavations will be covered and temporarily fenced during weekends, holidays, night hours, or to protect the public and wildlife from injury.



4.4.5.3 Power Pole Assembly

Materials, including the transmission poles, insulators, guy wire anchors, and all other associated hardware, will be delivered from staging areas to each of the pole sites. Assembly crews will build the structure and then attach insulators, travelers, and hardware to assemble a complete structural unit. Erection crews will follow and place the completed poles into the excavated holes using a large mobile crane or helicopter. Equipment pads will be established at the pole sites, where necessary, to support the equipment for the crew to erect the pole. Native soils previously excavated, imported backfill, and/or concrete will be placed around each pole and properly compacted. Guy wires to support the angle poles will be used to plumb the structure. Signs, flagging, or other readily visible marking will be used to indicate the presence of guy wires to reduce the potential for people and wildlife to run into the wires. Where self-supporting steel angle poles are required, anchor bolts will be used to secure the pole structure to the poured concrete foundation.

4.4.5.4 Transmission Wire Setup Sites

Conductor and shield wire installation will be performed from transmission wire setup sites. Transmission wire setup sites will be up to 600 feet in radius. Up to 14 wire setup sites have been initially identified as been needed. The number of sites is a function of wire reel span lengths and engineering requirements for conductor sagging.

4.4.5.5 Conductor and Shield Wire Installation

The installation of conductors and shield wires is a four-step process:

1. Install guard structures (where necessary);
2. Install sock line (wire pull ropes);
3. Pull conductors and shield wires; and
4. Sag conductors and shield wires to appropriate tension and connect to the insulators with clamps.

The temporary guard structures will be removed following the completion of conductor stringing operations and the holes will be backfilled with excavated soil. As an alternative to guard structures, flaggers may be used to temporarily hold traffic for brief periods of time while the overhead line is installed at road crossings.

Travelers or stringing blocks will be attached to the insulators prior to pole setting. The travelers allow the conductors to be pulled between poles until the entire line is ready to be clipped in and pulled up to the final tension position. Conductor stringing operations begin by pulling a sock line (a small cable or rope used to pull the conductor) onto the travelers from pole-to-pole using aerial manlifts, helicopter, or a construction vehicle traveling along access roads or the centerline travel route. Once the sock line is installed, it will be attached to reels of conductor or shield wire at the wire setup sites and pulled through in the reverse direction back through the travelers. During the pulling process, enough tension will be maintained to keep the wires above the ground, avoiding any damage to the conductors due to dragging. After the conductors and shield wires are strung, they will be sagged to the proper tension and clipped into the insulators.



4.4.6 ROW/Easement Restoration and Reclamation

All construction access roads constructed on NFS land will be recontoured and reclaimed. All existing authorized NFS roads and motorized trails that are widened for construction access will be reclaimed and returned to the original roadbed. Non-designated roads on NFS land that will be widened and used for construction access will be reclaimed and reseeded. Restoration will include recontouring roads, installing erosion control features such as drain dips, ripping, chipping, and seeding. Logs, branches, pine needles, brush, and rocks may be used to disguise the road for restoration purposes or other techniques approved by the USFS. Restoration success will be monitored until restoration is deemed successful by the USFS. Refer to the Reclamation and Habitat Restoration Plan (Appendix C3) for greater details on Project reclamation.

4.5 FENCES AND GATES

Construction activities may require temporary access through existing fences and gates on public and private land. Fencing will be replaced when construction activities are completed. Replacement fencing will be built to agency or landowner specifications, consistent with the fencing that was removed. During construction, fences with open gates will remain open and fences with closed gates will remain closed. Fences crossed during construction will be braced and secured prior to cutting the fence to prevent slackening of the wire.

4.6 STAGING AREAS

One staging area has been established to support construction activities for the Project. The location is shown on figures in Volumes I and II. The staging area will be needed to store construction materials, equipment, tools, fuel, service trucks, spare parts, and vehicles as well as house portable, self-contained toilets and possibly portable offices or serve as equipment maintenance areas. A staging area that was originally identified adjacent to the Bordertown Substation was eliminated from consideration following a noxious weeds survey that identified an abundance of noxious weeds in the area. A new staging area in the northern Project Area will be identified by NV Energy and surveyed for noxious weeds prior to construction, and if needed, appropriate noxious weed treatment would be implemented. The staging areas will measure approximately 500 feet in length by 500 feet in width and will use previously disturbed ground or areas immediately adjacent to existing disturbance. Any hazardous materials such as fuel, lubricants, and solvents, will be handled and stored in accordance with applicable regulations, including 40 CFR 262. Handling, storage, and clean-up of hazardous materials at the staging areas will be described in the Hazardous Materials Management and Spill Prevention Plan (Appendix A2). The staging areas will include secondary containment to capture and contain any potential spills or leaks.

4.7 HEALTH AND SAFETY

NV Energy has provided health and safety information for NV Energy employees and construction contractor crews, within the appendices to this COM Plan. Specifically, the Fire Protection and Suppression Plan (Appendix A1) contains fire safety information; the Hazardous Materials Management and Spill Prevention Plan (Appendix A2) contains information for spill prevention; the Emergency Preparedness and Response Plan (Appendix A3) details measures to deal with emergency situations including COVID-19; and the Blasting Plan (Appendix A4) contains safety information with regard to blasting procedures.



4.8 ACCIDENT REPORTING

The USFS will be notified by NV Energy of any accidents occurring on public lands during construction of the Project. Notification procedures for emergencies are described in the Emergency Preparedness and Response Plan (Appendix A3).

4.9 ENVIRONMENTAL COMPLIANCE PROGRAM

NV Energy has developed an Environmental Compliance Program that will be implemented throughout the duration of the Project to provide guidance and standardized procedures for Project compliance. NV Energy will use a designated Environmental Compliance Team to monitor construction activities and track compliance with the EIS design features, the USFS SUP, the BLM ROW Grant, and other applicable permits.

4.9.1 Roles and Responsibilities

4.9.1.1 NV Energy

NV Energy is responsible for establishing and implementing the Environmental Compliance Program to oversee construction by its contractor(s) from an environmental compliance viewpoint. NV Energy's Environmental Compliance Team is presented in **Table 4-2** below:

Table 4-2 NV Energy Environmental Compliance Team

Position	Responsibility
NV Energy Management Team	
Project Manager – Laura Clifford	Compliance Reporting
Environmental Compliance Manager - Lee Simpkins	Permits and Agency Coordination
ROW Agent - Nate Hastings	Property Owner Notification
Construction Manager - Terry Saunders	Oversees Construction Contractor(s) and Coordinates with Environmental Field Supervisor
Senior Construction Administrator - TBD	Administers Material and Construction Activities
COM Plan Liaison – Greg Brown (Stantec)	Provides input on design features and COM Plan
Resource Specialists (As Needed)	Provides guidance on implementing design features and identifying sensitive resources in the field
Single Inspection Program (SIP) Team	
Environmental Field Supervisor – Ben Veach	Directs team of Environmental Field Inspectors and coordinates with NV Energy Construction Manager, and Prime Construction Contractor
Environmental Field Coordinator – Mike Derby	Office support for SIP Team and coordinates all environmental compliance documentation
Environmental Field Inspectors – Mike Derby/Nancy Lightfoot and others as needed	Monitors construction activities in the field for environmental compliance. The number of positions will vary with construction requirements.



Position	Responsibility
Cultural Resources Team	
Senior Archaeologist – Albert Garner	Directs team of Cultural Resource Inspectors and coordinates with NV Energy Construction Manager, and Prime Construction Contractor
Principal Investigator – Vickie Clay	Senior oversight for cultural resources.

Key to the success of this compliance effort will be the use of an objective SIP team of consultants. The SIP team has been contracted by NV Energy and has experience conducting environmental field monitoring of large-scale construction Projects. The SIP team consists of an Environmental Field Supervisor, Environmental Field Coordinator, and Field Inspectors.

The SIP team leadership (Environmental Field Supervisor and Field Coordinator, at a minimum) and the NV Energy Project Manager, Environmental Compliance Manager, and Construction Manager will hold meetings, as appropriate, with the USFS before construction starts. The purpose of these pre-construction meetings is to establish the communication and reporting protocols that will be used during the construction phase, and eventually, during the operation and maintenance phase.

4.9.1.2 USFS

The USFS is the federal lead agency for the Project and has the primary authority for monitoring the performance and effectiveness of the environmental compliance program on federal lands as mandated under NEPA. The BLM will also be responsible for compliance with the BLM ROW Grant requirements.

4.9.2 Compliance Levels and Reporting

NV Energy will maintain a compliance documentation system describing the compliance levels and will use it as a tool to help explain, record, and enforce the compliance requirements. The following levels of compliance measurement will be used for the Project:

- Compliance - Used to identify an action in accordance with all project requirements;
- Notification - Used to identify an action approaching non-compliance. This is a "fix-it" notice;
- Non-Compliance - This term identifies an action that does not comply with a Project requirement. A Non-Compliance Report will be issued. A repeat Non-Compliance will be noted on a Non-Compliance Report as a second occurrence. A Non-Compliance Resolution Report must be approved by the USFS for each Non-Compliance Report to demonstrate compliance; and
- Stop Task Order – A third repeated Non-Compliance Report will result in a Stop Task Order. A Stop Task Order would require NV Energy to meet with the USFS to determine actions to correct or resolve the issue and resume activity in the problem area.

Compliance forms for Notification, Non-Compliance Reports, and Non-Compliance Resolution Reports are provided in **Tables 4-3, 4-4, and 4-5**, respectively.



Table 4-3 Notification Form

NOTIFICATION FORM	NV ENERGY
BORDERTOWN TO CALIFORNIA 120 KV TRANSMISSION LINE PROJECT	
Notification Number: <input style="width: 150px; height: 20px;" type="text"/>	Date: _____ Issued to: _____
Inspector: _____	Time: _____
Structure Number: _____	
Sheet Map Number: _____	
BE AWARE THAT THE FOLLOWING PROJECT CONDITIONS ARE NOT BEING MET:	
TO FIX OR CORRECT THE CONDITION YOU MUST:	
<p>If this condition is not resolved satisfactorily by _____, a non-compliance report will be issued.</p> <p>Your prompt attention to this matter is appreciated.</p>	
<p>Notification Resolved: _____</p> <p style="text-align: center; font-size: small;">(SIGNATURE)</p>	<p>_____</p> <p style="text-align: center; font-size: small;">(NAME—PLEASE PRINT)</p>
	<p>_____</p> <p style="text-align: center; font-size: small;">(DATE)</p>

The final format and content of this form is dependent upon the selection of the consultant for the SIP Team and is subject to approval by the USFS prior to the start of construction.

Table 4-4 Non-Compliance Report

NON-COMPLIANCE REPORT (NCR)	NV ENERGY
BORDERTOWN TO CALIFORNIA 120 KV TRANSMISSION LINE PROJECT	
NCR Number: <input style="width: 150px;" type="text"/>	Date: _____ Other Parties at Site: _____
Inspector: _____	Time: _____
Structure Number: _____	
Sheet Map Number: _____	
Non-Compliance Level: <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Stop Task Order	
Land Ownership: <input type="checkbox"/> Private <input type="checkbox"/> Federal	
In Non-Compliance With: <input type="checkbox"/> FEIS <input type="checkbox"/> COM Plan <input type="checkbox"/> State Permit <input type="checkbox"/> Federal Permit	
Mitigation Measure Number/Permit and Condition Number: _____	
Describe Resource Impact: _____	
Describe Activity That Resulted in Non-Compliance: _____	
Documentation: <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Drawing <input type="checkbox"/> Lab Sample <input type="checkbox"/> Other _____	
Communication: <input type="checkbox"/> USFS _____ <input type="checkbox"/> NV Energy _____ <input type="checkbox"/> BLM _____	
<input type="checkbox"/> Contractor _____ <input type="checkbox"/> Other _____	
Requirements for Resolution: _____	
Resolved by: _____ (SIGNATURE) _____ (NAME—PLEASE PRINT) _____ (DATE)	

The final format and content of this form is dependent upon the selection of the consultant for the SIP Team and is subject to approval by the USFS prior to the start of construction.

Table 4-5 Non-Compliance Resolution Report

NON-COMPLIANCE RESOLUTION REPORT (NCRR)	NV ENERGY
BORDERTOWN TO CALIFORNIA 120 KV TRANSMISSION LINE PROJECT	
NCR Number: <input style="width: 150px;" type="text"/>	Date: _____ NCR Number: <input style="width: 150px;" type="text"/>
Inspector: _____	Time: _____
Describe Affected Resources: _____	
Summary of Corrective Actions: _____	
Conditions of Approval: _____	
Approval: _____	_____
<small>(SIGNATURE)</small>	<small>(NAME—PLEASE PRINT)</small>

	<small>(DATE)</small>

The final format and content of this form is dependent upon the selection of the consultant for the SIP Team and is subject to approval by the USFS prior to the start of construction.



4.9.3 Project Changes

A certain amount of change during the course of any project is inevitable. Once Project construction begins, changing conditions or unforeseen situations may arise. These changes could be such that they were not specifically addressed in the EIS document and may require further environmental analysis and agency approval. To examine change to a Project design feature, construction activity or location, the SIP Environmental Field Inspector(s) will propose a Change Evaluation (CE).

The focus of a CE is a deviation from the Project described and evaluated in the USFS EIS. The CE process described below is designed to assure the USFS that any given change will avoid significant environmental impacts. It will be the responsibility of the Environmental Field Supervisor and the NV Energy Construction Manager to facilitate approval of Project changes.

Changes can fall into one of two categories: major or minor. A major change will require a CE Form to document responsible evaluation of the Project change and must be approved by the USFS. A minor change can be approved by a SIP Environmental Field Inspector, but it also must be documented with a CE Form that will be reported to the USFS weekly. **Table 4-6** provides examples of the types of Project activities that would constitute a major or a minor change.

Table 4-6 Examples of Major and/or Minor Changes

Activity	Major Change	Minor Change
Any change involving a cultural resource site.	X	
Any change involving a federally listed plant or animal species.	X	
Any Project activities outside of the 300-foot (600-foot wide corridor in areas of steep terrain) or expanded study corridor (except for "previously studied" access roads and material yards).	X	
Any design feature modification to an EIS design feature that is necessary due to infeasibility.	X	
Adding new helicopter fly-yard within an existing study corridor.		X
Cut a tree or trees not marked for removal.		X
Move a wire stringing area to another area without sensitive resources.		X
Change construction procedures. This could fall in the major or minor category, depending if the change is substantially different than discussed in the EIS.	X	X
Temporary use of a road in a buffer zone to access work zone.		X
Temporary encroachment in a buffer zone.		X
Perform improvements on access road previously described as requiring no improvement.		X
Refuel within 100 feet of water course with proper containment devices.		X
Waiver of design feature (because of error in resource identification or resource no longer in existence).		X
Work after designated/restricted construction hours.		X

A sample CE Form is provided in **Table 4-7**.

Table 4-7 Change Evaluation Form

CHANGE EVALUATION (CE) FORM		NV ENERGY
BORDERTOWN TO CALIFORNIA 120 KV TRANSMISSION LINE PROJECT		
Evaluation Number:	<input style="width: 150px; height: 20px;" type="text"/>	Date: _____ Phone: _____
Inspector:	_____	Time: _____
Structure Number:	_____	
Map Number:	_____	
Evaluation Type:	<input type="checkbox"/> Minor Change	<input type="checkbox"/> Major Change (Requires USFS or BLM Approval)
Land Ownership:	<input type="checkbox"/> Private	<input type="checkbox"/> Federal
Describe Change/Purpose:	_____	
Type of Resources:	_____	
Summary of Impacts:	_____	
Proposed Mitigation Measures:	_____	
Change From:		
<input type="checkbox"/> FEIS Mitigation or Design Feature	_____	
<input type="checkbox"/> COM Plan	_____	
<input type="checkbox"/> Project Description	_____	
<input type="checkbox"/> Permit Conditions (list permit number and condition/requires permitting agency approval):	_____	
Reviewed by:	_____	_____
	<small>(SIGNATURE)</small>	<small>(NAME—PLEASE PRINT)</small>
		<small>(DATE)</small>

The final format and content of this form is dependent upon the selection of the consultant for the SIP Team and is subject to approval by the USFS prior to the start of construction.



4.9.4 Communications

NV Energy will have the primary responsibility for communication with the USFS personnel regarding compliance with Project conditions and design features and regarding periodic compliance inspections. NV Energy will also have the primary responsibility for notifying property owners of upcoming construction activities and ensuring that construction contractor(s) are trained on how to interact with property owners and other members of the public during construction.

Additional details regarding emergency notification of agencies (e.g., in case of wildfire, spills, discovery of a burial site, or other unforeseen circumstances) are presented in the COM Plan appendices. The Key Contacts List at the beginning of this COM Plan will also be updated by NV Energy as needed to provide a convenient reference during such situations.

4.9.5 Environmental Training Program

NV Energy and the construction contractor(s) will conduct an environmental training program to educate managers and field crews on compliance with the COM Plan. The training will include but not be limited to:

- Role of the environmental compliance team;
- Individual responsibilities;
- Compliance monitoring and reporting process;
- Approval of Project changes;
- Discussion of pertinent requirements.

NV Energy will conduct a multi-hour training program for positions that are foremen level and higher and may conduct a less than one-hour training for construction crew workers. The training will be conducted before construction personnel begin work on the Project. Due to the high turnover rate associated with construction crews and foremen will be required to keep track of and require training of all construction personnel under their supervision. Additional training will be conducted as needed to inform new personnel brought on the job during the construction period. All training will be done by qualified personnel.

4.10 CONSTRUCTION WORKFORCE AND EQUIPMENT

The workforce will consist of approximately 50 to 100 workers for construction of the transmission line. The number of workers will vary depending upon the construction phase, and will include surveyors, construction inspectors, linemen, laborers, operators, supervisors and biological monitors, as required. The anticipated workforce for construction at the substations will consist of 10 to 20 people per substation, including surveyors, construction inspectors, journeyman substation electricians, relay technicians, telecommunication technicians, laborers, operators, and supervisors and biological monitors, as required.



4.11 WASTE DISPOSAL

For the purposes of this COM Plan, waste refers to all discarded matter, such as trash, sanitary waste, scraps, salvage materials, hazardous materials, and petroleum products, etc. Waste materials at construction sites will be disposed of appropriately and promptly, as described in the Hazardous Materials Management and Spill Prevention Plan (Appendix A2). All construction sites throughout the Project area will be maintained in a sanitary condition at all times, and waste will be disposed of frequently so as not to attract animals or create health or safety issues. Construction sites will be monitored daily to avoid the potential for air-blown refuse being scattered.

4.12 CLEANUP AND RESTORATION

This section summarizes cleanup and reclamation activities that NV Energy and its construction contractor(s) will implement during and upon completion of construction activities. Reclamation and reseeding activities are described in more detail in the Reclamation and Habitat Restoration Plan (Appendix C3).

4.12.1 ROW Cleanup

At structure sites in steep terrain, an approximate 0.25-acre level pad will be retained for equipment access to structures for 10-year inspection and repairs; the rest of the structure site disturbance will be recontoured. All structure site disturbance (including the equipment pads retained for future inspections) will be de-compacted, stabilized and reseeded with Agency-approved weed-free seed mixes. Different seed mixes and seeding rates will be required for various portions of the Project depending upon the vegetation community, substrate, and elevation.

4.12.2 Access Road and Centerline Travel Route Reclamation

NV Energy is not proposing a permanent access road along the entire length of the transmission line. Using as many existing access roads as possible, the minimum necessary number of new roads and spur roads will be constructed as needed. Existing access roads that have been widened to transport construction and equipment and materials will be returned to their preconstruction widths. Centerline travel routes and other areas within the ROW/easement disturbed by construction activities will be recontoured, de-compacted, and seeded. NV Energy will attempt to close or restrict vehicle access to areas that have been seeded until the reclamation success criteria have been met and issued the appropriate certificate of Project completion.

5.0 OPERATION AND MAINTENANCE ACTIVITIES

After construction is complete, NV Energy will implement the following operation and maintenance procedures.

5.1 STANDARD OPERATING PROCEDURES

The transmission line will be remotely operated from NV Energy's Electrical Control Center in Reno, Nevada. The Electrical Control Center will monitor voltage and power flow along the transmission line in accordance with NV Energy's standard operating procedures. If operations must be temporarily ceased and the transmission line de-energized to protect human life and property, NV Energy's headquarters in Reno must be contacted at (775) 834-3541 or (775) 834-4100 and informed of the specific situation and location of the problem. The transmission line can be remotely de-energized from NV Energy's Reno headquarters.

5.2 NEW OR RECONSTRUCTION ACTIVITIES AND STANDARDS

If during transmission line maintenance and monitoring, it is determined that new or reconstruction activities should be implemented, NV Energy will notify the USFS, BLM, property owners, and/or other regulatory agencies, and obtain proper approvals, as necessary.

5.3 MAINTENANCE ACTIVITIES AND STANDARDS

Once the transmission line is operational, NV Energy will conduct annual inspections of the line to check for maintenance needs. One close visual structure-climbing inspection is anticipated every ten years. NV Energy will also patrol the ROW/easement after unexplained outages or significant natural incidents (such as fires, earthquakes, floods, torrential rains, or extreme electrical storms) to observe the facility conditions and surrounding environment and to begin repairing any damages. The inspections will be conducted by one or more NV Energy workers by pickup trucks or all-terrain vehicles (ATVs) generally following the centerline travel route used for Project construction. In areas where the centerline travel route has been reclaimed or for other reasons there is limited or difficult access, or there is insufficient time to inspect the line by truck or ATV, one or more NV Energy workers in a helicopter will conduct inspections.

Trees that could interfere with the safe operation of the transmission line will be pruned or removed as needed over the life of the Project. It is anticipated that selective tree removal or pruning beneath the transmission line will be required every ten years. As previously described, hazard trees which may fall on the line or may come into contact with the line from the side will also be removed. Hazard trees include dead trees, old decadent or rotten trees, and trees weakened by disease. Removal of hazard trees and trimming or removal of trees to provide safe clearance distance between conductors and vegetation is required to meet national industry safety standards and federal and state regulations. (NESC requirements for safe clearance for electrical wires; Federal Energy Regulatory Commission-approved North American Electric Reliability Corporation Standard FAC-003-01 Transmission Vegetation Management Program; CPUC General Order No. 95 Rules for Overhead Electric Line Construction; California Public Resources Code 4293: Power Line Clearance; and California Code of Regulations Title 14 Sections 1250-1258: Department of Forestry Fire Prevention Standards for Electric Utilities.) NV Energy will obtain proper approvals, as necessary, to perform required maintenance activities.



5.4 RIGHT-OF-WAY OPERATIONS

The USFS has authorized the SUP for a transmission line ROW across NFS land in perpetuity.

The BLM has authorized a ROW Grant amendment for the substation expansion and section of transmission line across BLM-administered lands in perpetuity with the right of renewal.

5.5 EMERGENCY PROCEDURES

Detailed emergency response information is included in the Emergency Preparedness and Response Plan (Appendix A3). Emergency response procedures will be implemented for the following potential events, or other similar events:

- Downed transmission lines or structures;
- Discovery of human remains or cultural resources (Inadvertent Discovery Plan - Appendix D1);
- Fire (Fire Prevention and Suppression Plan-Appendix A1);
- Sudden loss of electrical power;
- Natural disaster; and
- Serious personal injury.

6.0 TERMINATIONS AND ABANDONMENT OF RIGHT-OF-WAY

Prior to the ultimate termination or expiration of the federal SUP, or any portion thereof, NV Energy will contact the USFS and BLM Authorized Officers to arrange for a pre-termination meeting and joint inspection of the ROW.

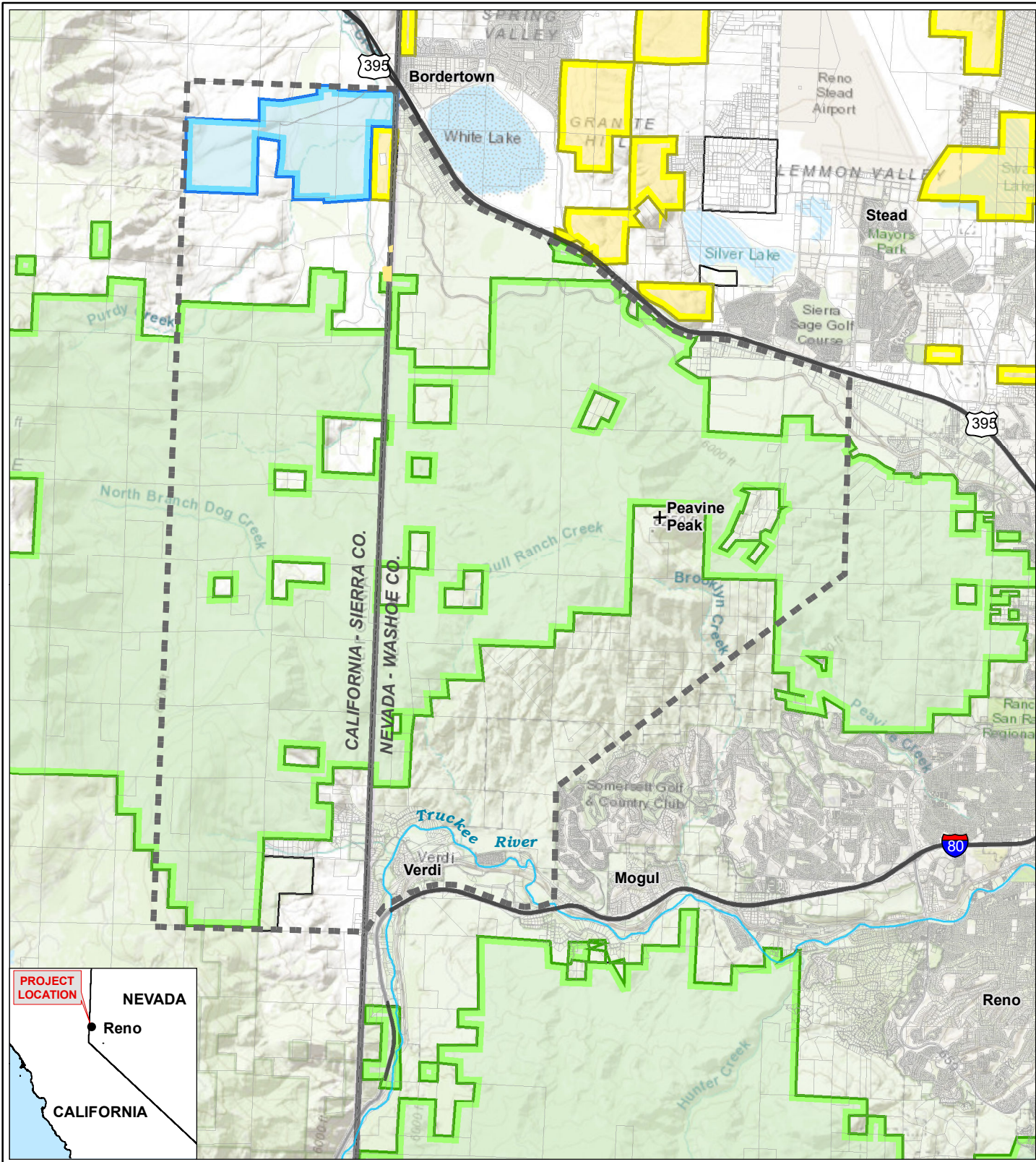
The meeting and inspection will be held to agree to an acceptable termination and rehabilitation plan. This plan will include, but not be limited to, removal of facilities and surface improvements, reclamation, reseeding, and monitoring. The Authorized Officer must approve the plan in writing prior to commencement of any termination activities. After completion of the termination activities and upon final inspection and approval by the USFS Authorized Officers, NV Energy will relinquish all, or those specified portions, of the SUP.

7.0 REFERENCES

- Avian Power Line Interaction Committee. 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art 2006. Washington, D.C., and Sacramento, California: Edison Electric Institute, Avian Power Line Interaction Committee, and the California Energy Commission.
- State of California. 1998. Rules for Overhead Electric Line Construction. Prescribed by the Public Utilities Commission of the State of California.
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<http://www.fs.fed.us/eng/transp/documents/doc/FSSSdirections091410.doc>.
- USFS 2018. Final Environmental Impact Statement. Bordertown to California 120 kV Transmission Line Project. Humboldt-Toiyabe National Forest. Washoe County, Nevada. Sierra County, California. June 2018
- USFS. 2019. Final Record of Decision. Bordertown to California 120 kV Transmission Line Project. Humboldt-Toiyabe National Forest. Washoe County, Nevada. Sierra County, California. June 2019.

FIGURES

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Legend

- Project Area
- Land Ownership**
- U.S. Bureau of Land Management
- U.S. Forest Service
- California Department of Fish & Wildlife



0 5,000 10,000 Feet
1 in = 10,000 feet

Sierra County, CA & Washoe County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT

1ST REVIEW: CJ

2ND REVIEW: KC

DATE: 3/4/2019

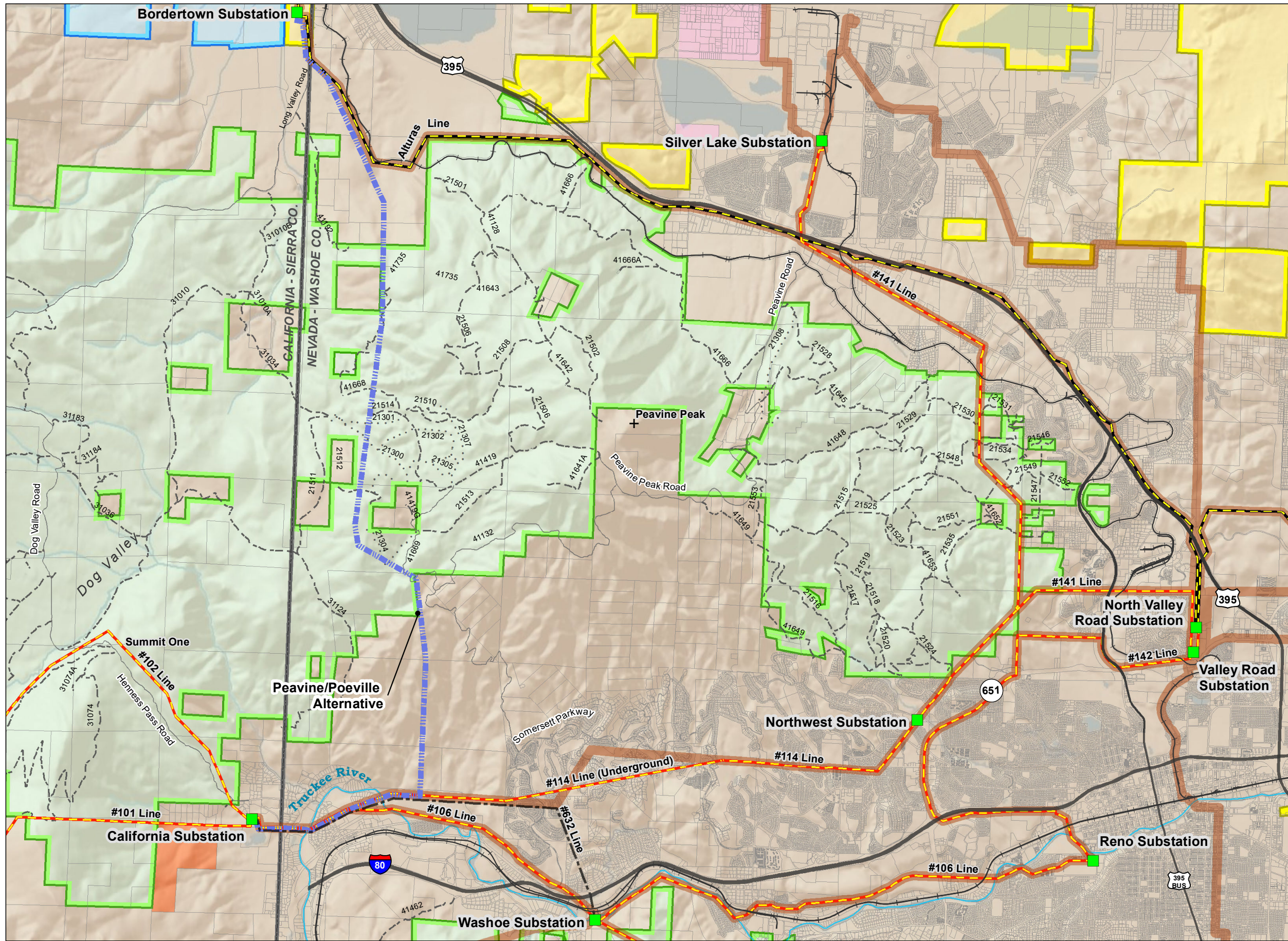
PROJECT NO: 203703160

NV Energy
Bordertown to California 120 kV
Transmission Line Construction,
Operation, and Maintenance (COM) Plan

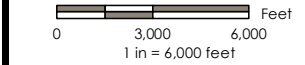
**Figure 1
General Location**

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- Legend**
- Bordertown to California 120 kV Transmission Line
 - Existing Features
 - 120 kV Transmission Line
 - 345 kV Transmission Line
 - 60 kV Transmission Line
 - Existing Transmission Line Corridors (TMRPA, 2012)
 - Substation
 - Railroads
 - NFS Roads**
 - NFS Roads
 - NFS Motorcycles Only
 - Public and Private Road
 - Land Ownership**
 - U.S. Bureau of Land Management
 - U.S. Forest Service
 - California Department of Fish & Wildlife
 - U.S. Bureau of Reclamation



Sierra County, CA & Washoe County, NV
 NAD 1983 UTM Zone 11N
 PROJECT NO: 203703160
 DRAWN BY: JT
 1ST REVIEW: CJ
 2ND REVIEW: KC
 DATE: 1/7/2020

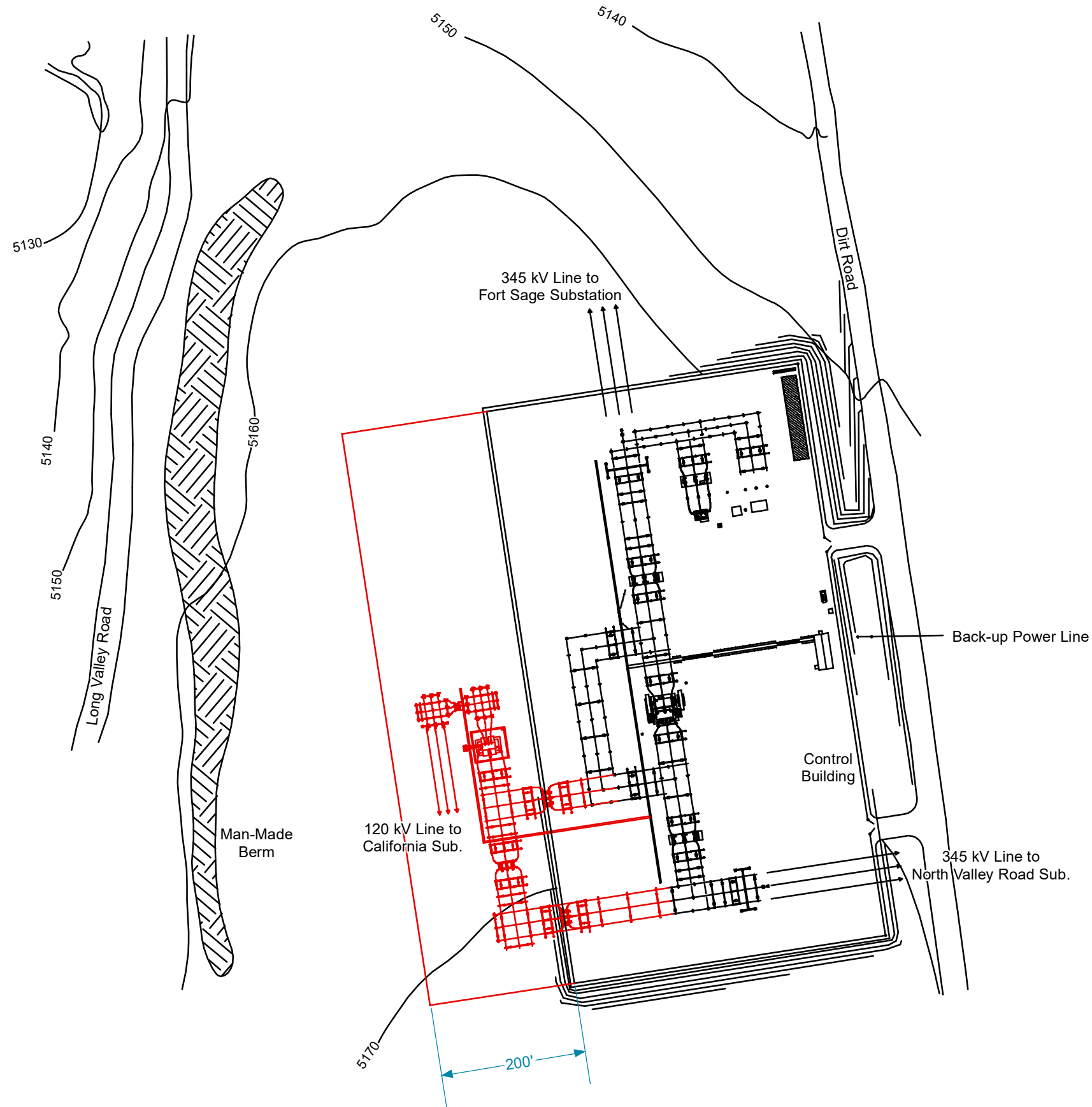
NV Energy
 Bordertown to California 120 kV Transmission Line Construction, Operation, and Maintenance (COM) Plan

Figure 2
Project Alignment

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Legend

- Existing
- Proposed

Not to Scale

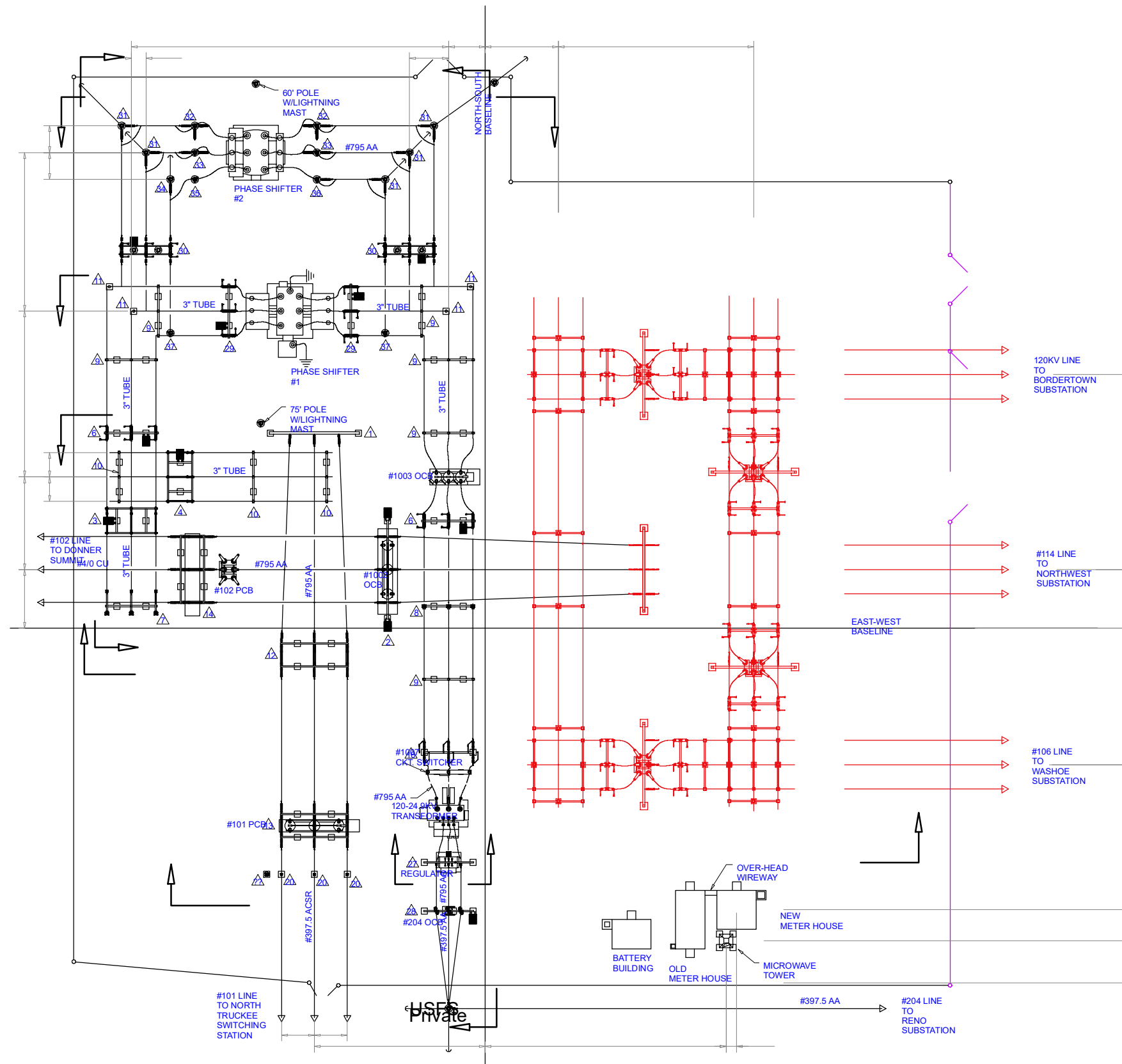


PROJECT NO: 203703160
 DRAWN BY: CJ
 1ST REVIEW: JT
 2ND REVIEW: KC
 DATE: 3/4/2019

NV Energy
 Bordertown to California 120 kV
 Transmission Line Construction,
 Operation, and Maintenance (COM) Plan

Figure 3
Bordertown Substation
Modification

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Legend

- Existing
- Addition
- Existing Fence to be Replaced

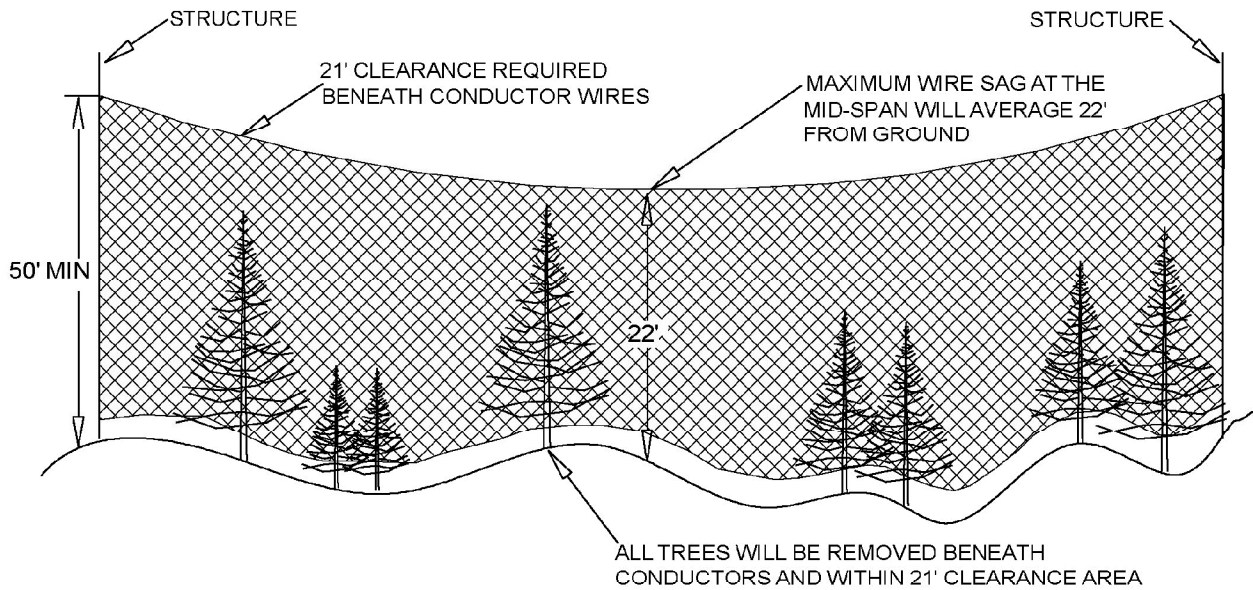
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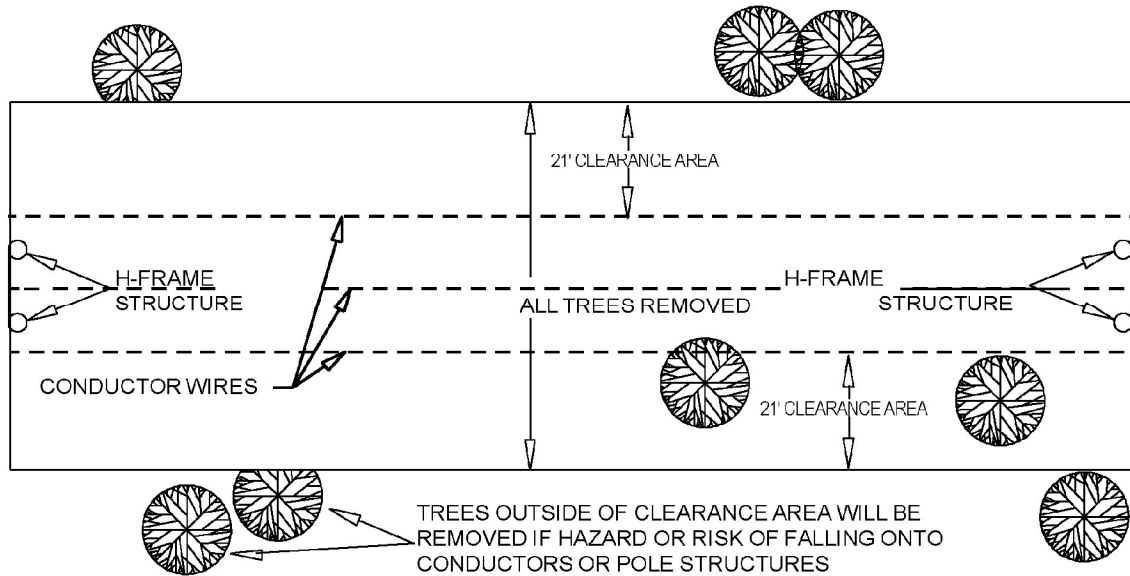
PROJECT NO: 203703160
 DRAWN BY: CJ
 1ST REVIEW: JT
 2ND REVIEW: KC
 DATE: 3/4/2019

NV Energy
 Bordertown to California 120 kV
 Transmission Line Construction,
 Operation, and Maintenance (COM) Plan

Figure 4
California Substation
Modification



SIDE VIEW



PLAN VIEW

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NV Energy
 Bordertown to California 120 kV
 Transmission Line Construction,
 Operation, and Maintenance (COM) Plan

Not to Scale

DRAWN BY: JT

1ST REVIEW: CJ

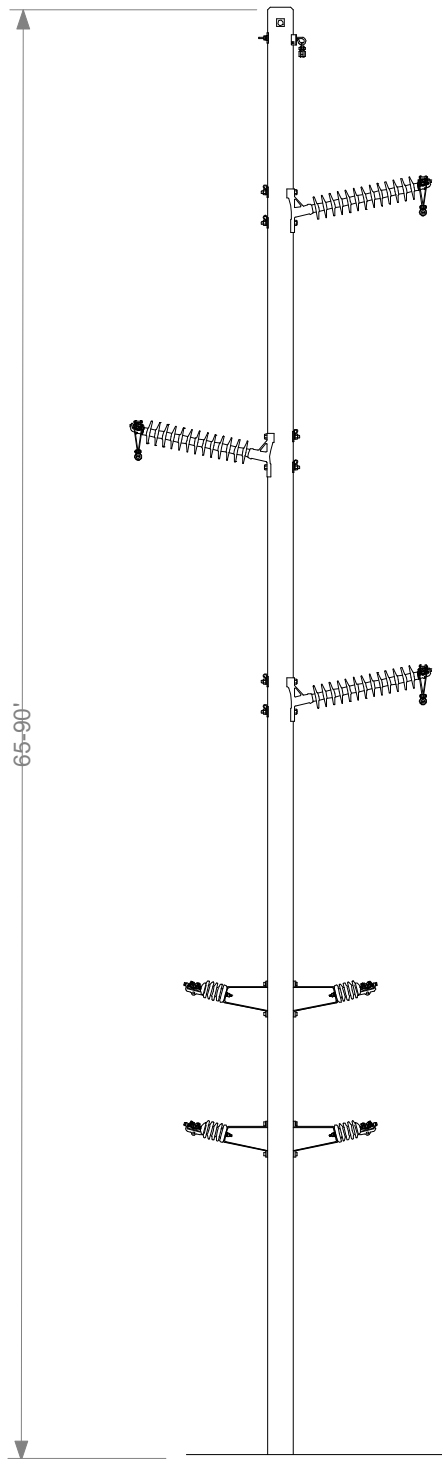
2ND REVIEW: KC

DATE: 3/4/2019

PROJECT NO: 203703160

Figure 5
Tree-Trimming and
Clearance Distances

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NV Energy
Bordertown to California 120 kV
Transmission Line Construction,
Operation, and Maintenance (COM) Plan

Not to Scale

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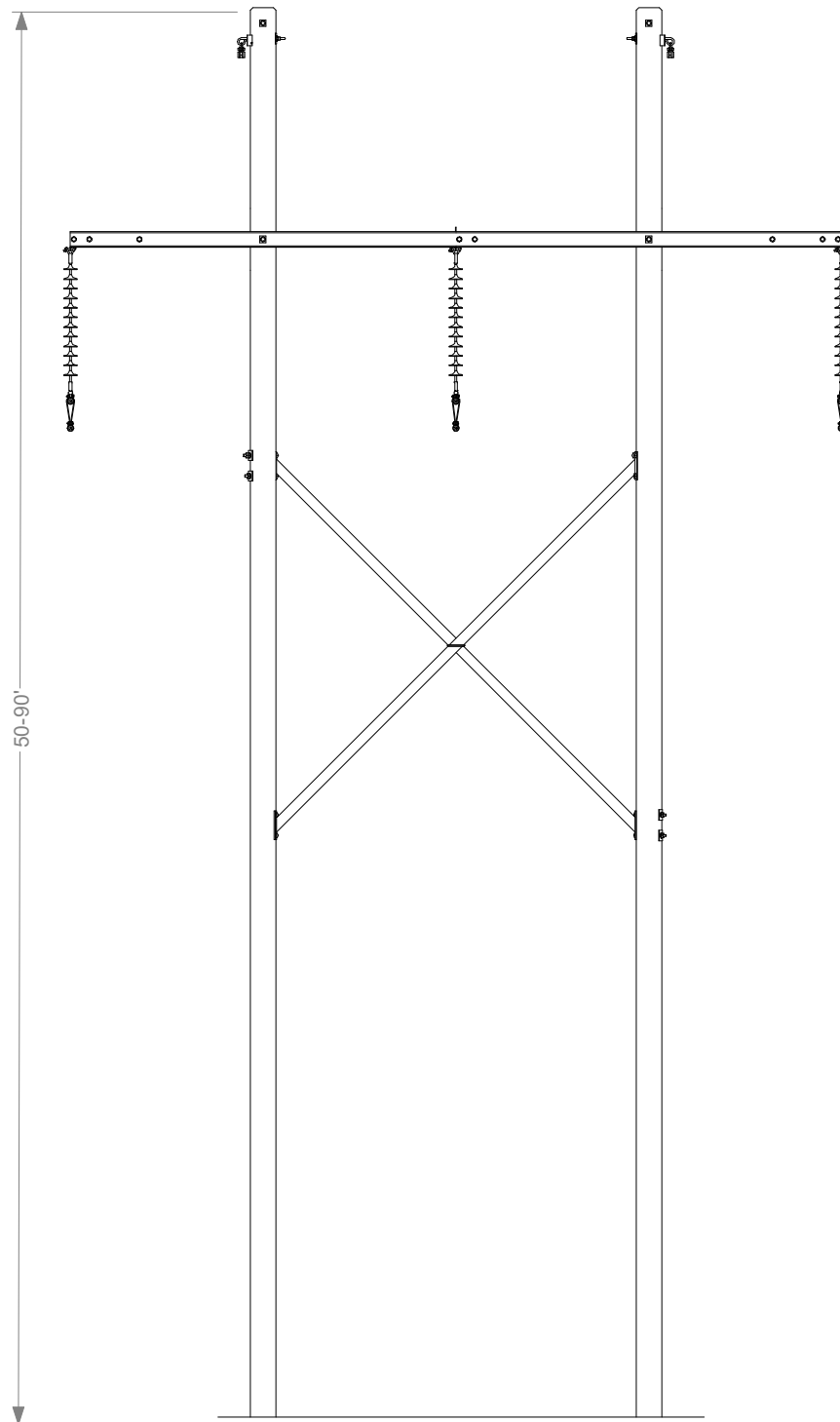
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2ND REVIEW: KC

DATE: 3/4/2019

PROJECT NO: 203703160

Figure 6
Single Pole Structure



50-90'

ELEVATION

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NV Energy
 Bordertown to California 120 kV
 Transmission Line Construction,
 Operation, and Maintenance (COM) Plan

Not to Scale

Figure 7
H-Frame Structure

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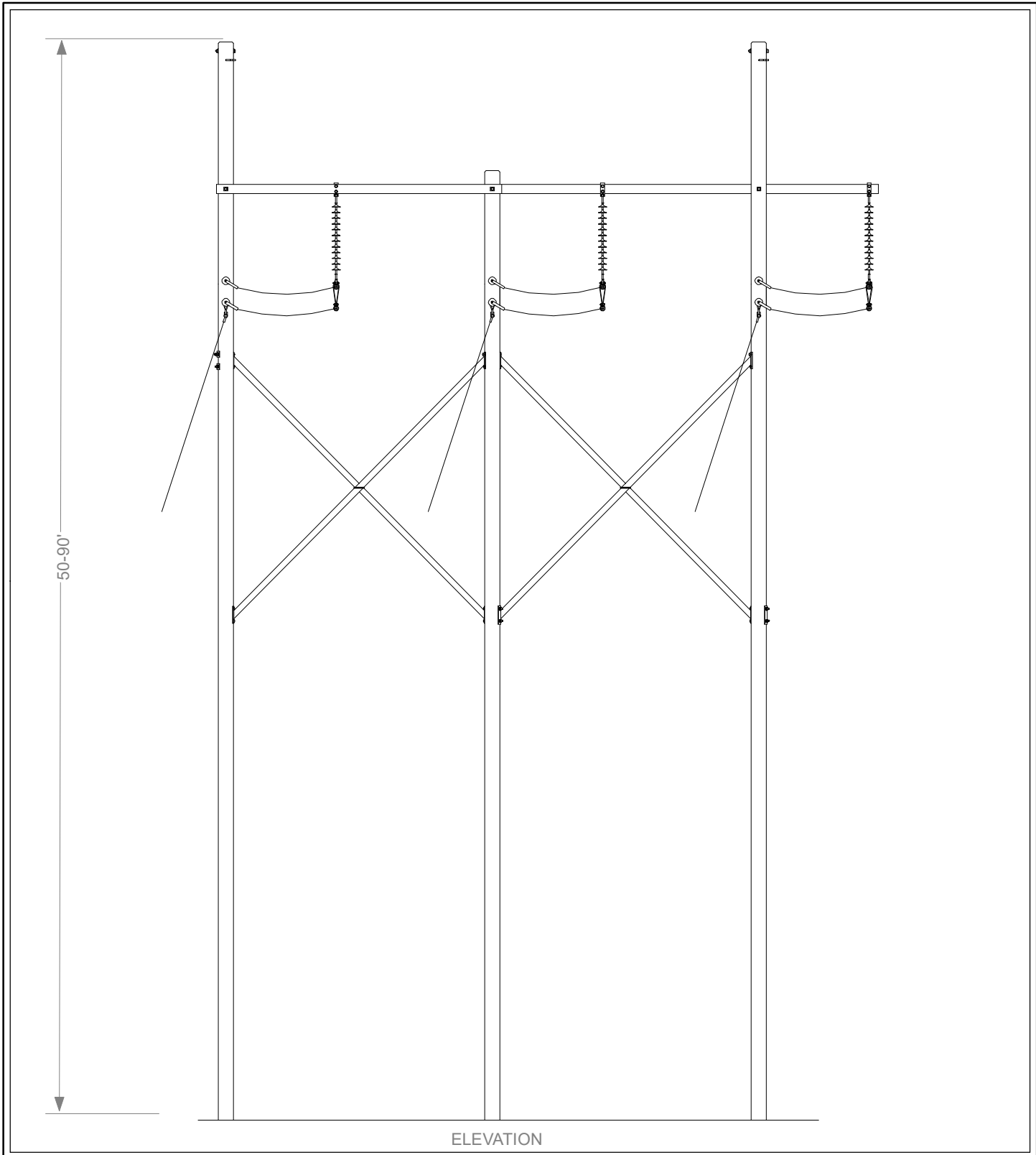
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2ND REVIEW: KC

DATE: 3/4/2019

PROJECT NO: 203703160

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			NV Energy Bordertown to California 120 kV Transmission Line Construction, Operation, and Maintenance (COM) Plan
	Not to Scale		
	DRAWN BY: JT	1ST REVIEW: CJ	2ND REVIEW: KC
	DATE: 3/4/2019		PROJECT NO: 203703160
			Figure 8 3-Pole Dead-end/Angle Structure

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APPENDIX A1

Fire Prevention and Suppression Plan

**Fire Prevention and Suppression Plan
Bordertown to California 120 kV Transmission Line
Construction, Operation, and Maintenance (COM) Plan**

Prepared for:

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Prepared by:

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August 2020

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LIST OF ABBREVIATIONS

BLM	Bureau of Land Management
CAL FIRE	California Department of Forestry and Fire Protection
COM	Construction, Operations, and Maintenance
CFR	Code of Federal Regulations
FMO	Fire Management Officer
kV	Kilovolt
Plan	Fire Prevention and Suppression Plan
Project	Bordertown to California 120 Kilovolt Transmission Line Project
ROW	Right-of-Way
U.S.	United States
USFS	United States Forest Service



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act, the Environmental Impact Statement and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Fire Prevention and Suppression Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. This Plan will be implemented throughout the Project, beginning with the construction period, and it details the measures to be taken during construction and operation of the Project to: 1) reduce the risk of starting a fire, and 2) suppress a fire in the event one occurs within the construction area. This Plan identifies fire-related risks inherent in this type of project and actions to reduce those risks. It describes the types of firefighting suppression equipment required during construction and the appropriate response if a fire occurs.

1.1 PURPOSE AND NEED

The risk of fire danger during construction of a transmission line is related largely to the use of vehicles and other motorized equipment operating off roadways, and the handling and use of explosive materials and flammable liquids.

The purpose of this plan is to outline responsibilities, notification procedures, fire prevention measures, fire suppression equipment, and post-fire rehabilitation strategies related to the needs of this Project. The Project will cross areas that support vegetation types that are susceptible to wildfire during dry seasons. The need is to minimize the risk of Project-related fires and, in case of fire, provide for immediate suppression within the construction area. Other plans containing information related to fires include: the Hazardous Materials Management and Spill Prevention, Control, and Countermeasure Plan (Appendix A2), the Emergency Preparedness and Response Plan (Appendix A3), and the Blasting Plan (Appendix A4).

1.2 REGULATORY OVERVIEW

This Project will be subject to state, county, and federally enforced laws, ordinances, rules, and regulations that pertain to fire prevention and suppression activities. Key local regulatory agencies include the USFS, Bureau of Land Management (BLM), Nevada Division of Forestry, California Department of Forestry and Fire Protection (CAL FIRE), Truckee Meadows Fire Protection District, and the Reno Fire Department.



2.0 RESPONSIBILITIES

2.1 UNITED STATES FOREST SERVICE

The USFS will oversee all fire control activities on their administrative unit. The designated USFS contact will discuss fire protection stipulations with the BLM and NV Energy's Project or construction manager concerning actions to be taken during fire control activities and will notify NV Energy when fire conditions warrant changes in fire plans. The designated USFS contact will designate an on-site USFS representative.

2.2 BUREAU OF LAND MANAGEMENT

The BLM Fire Management Officer (FMO) will oversee all fire control activities in their administrative unit. The FMO will discuss fire protection stipulations with the USFS and NV Energy's Project or construction manager concerning action to be taken during fire control activities and will notify NV Energy when fire conditions warrant changes in fire plans. The BLM FMO will designate the field monitor as their on-site representative.

2.3 NV ENERGY

NV Energy will be responsible for providing the necessary fire-fighting equipment for their employees and ensuring that all employees and contractors operate under the requirements of this Plan. NV Energy's Project manager will implement the following plan:

- NV Energy will designate a fire marshal from NV Energy to coordinate with the contractor(s)' designated fire marshal and with the USFS and BLM fire management personnel as necessary and who will also fulfill duties described in Section 2.4 for construction areas that are NV Energy's sole responsibility;
- If a fire starts in the Project area, initiate fire suppression activities on the Project until relieved by agency or local firefighting services;
- Comply with federal, state, and local laws, ordinances, rules, and regulations that pertain to prevention and suppression of fire activities;
- Ensure that the contractor(s)' fire marshal is performing regular fire inspections (see below) and takes appropriate protection measures in the event of non-compliance with this Plan;
- Notify the contractor(s) to stop or reduce construction activities that pose a significant fire hazard until appropriate safeguards are taken; and
- Coordinate with the USFS and BLM fire management representative regarding current fire conditions and fire safety warnings and communicate these to the contractor(s)' designated fire marshal (see below).



2.4 CONSTRUCTION CONTRACTOR(S)' DESIGNATED FIRE MARSHAL

NV Energy's prime construction contractor will designate a fire marshal who will be responsible for the following tasks:

- Conducting regular inspections of tools, equipment, and first aid kits for completeness;
- Conducting regular inspections of storage areas and practices for handling flammable fuels to confirm compliance with applicable laws and regulations;
- Posting smoking and fire rules at centrally visible locations on site;
- Coordinating initial response to contractor-caused fires within the easement/right-of-way (ROW);
- Conducting fire inspections along the easement/ROW;
- Ensuring that all construction workers and subcontractors are aware of all fire protection measures;
- Remaining on duty and on site when construction activities are in progress and during any additional periods when fire safety is an issue, or designating another individual to serve in this capacity when absent;
- Reporting all wildfires in accordance with the notification procedures described below;
- Initiating and implementing fire suppression activities until relieved by agency or local firefighting services in the event of a Project-related fire; and
- Coordinating with the NV Energy Construction manager regarding current potential fire conditions and fire safety warnings from the USFS or BLM, whichever is appropriate, and communicating these to the contractor's crews.

2.5 NOTIFICATION

The environmental field supervisor will immediately notify the USFS and/or BLM of a fire started in the Project area during construction, its location, and the corrective action taken. During operation and maintenance activities, NV Energy crews, or contract crews under its direction, will be responsible for the notification of a fire started in the Project area, its location, and the corrective action taken. Following verbal notification, NV Energy will provide written documentation. The construction contractor(s) will double-check the following emergency contact numbers for any changes prior to construction. All fires will be reported first to 911 then the Sierra Front Interagency Dispatch Center and if appropriate to the jurisdictional fire agency, regardless of size and actions taken. Table 1 provides a list of emergency fire contacts for the Project:



Table 1 Emergency Fire Contacts

CALL 911 FIRST	
Sierra Front Interagency Dispatch Center (775) 883-3535 for Emergencies (775) 883-5995 for Administration	
USFS Humboldt-Toiyabe National Forest Carson Ranger District (775) 882-2766	BLM Eagle Lake Field Office (530) 257-0456
Nevada Division of Forestry All Fires: (775) 883-3535 State Forest Fire Warden: (775) 684-2501 Eastlake-Washoe Valley Office: (775) 849-2500	CAL FIRE Headquarters: (916) 653-5123 State Fire Marshall (916) 568-3800 Nevada-Yuba-Placer Unit: (530) 823-4270
Truckee Meadows Fire Protection District Fire Chief: (775) 325-6000	Reno Fire Department Reno Fire Chief: (775) 232-0031 Administrative Offices: (775) 334-2300

3.0 FIRE PRECAUTION MEASURES

NV Energy will perform a preconstruction field review prior to commencing operations. The review will use the provisions set forth below to outline the channels of responsibility for fire prevention and suppression activities and establish an attack procedure for fires within the project area. NV Energy will cooperate with local fire prevention authorities and the USFS in eliminating hazardous fire conditions by implementing the following fire plan under the direction of the environmental field supervisor.

During operations that utilize helicopters or air support, daily communication with the Sierra Front Interagency Dispatch Center Aircraft Desk will occur. Contact information including a phone number will be provided in the event of the need to clear airspace for firefighting operations.

NV Energy and its contractors will immediately report all fires to the nearest fire suppression agency by calling 911. If a fire is unmanageable, field crews will evacuate. All fires will be reported to the Sierra Front Interagency Dispatch Center (775) 883-3535 (emergency line), regardless of size and actions taken.

When reporting a fire, the following information will be provided:

- Your Name
- Call back telephone number
- Project Name
- Location: Legal description (Township, Range, Section or Latitude/Longitude); and Descriptive location (Reference point)
- Fire Information: Including Acres, Rate of Spread and Wind Conditions



Additionally, NV Energy and its contractors will comply with the following requirements:

- a) Notify Sierra Front Interagency Dispatch Center daily by phone (775) 883-5995 (non-emergency line) with the scheduled work activities including hours of operation and request that the Fire Duty Officer is notified with this information. Obtain the daily fire danger rating for the Front Valleys and follow the required mitigation measures according to the adjective ratings in Section 3.1 of this document.
- b) At least one radio, cellular telephone, and/or satellite phone will be available to contact fire suppression agencies or the Project management team. Smoking shall not be permitted, except in a barren area or in an area cleared to mineral soil at least three feet in diameter. All burning tobacco and matches will be completely extinguished and discarded in ash trays, not on the ground.
- c) Briefing all employees on the fire precaution plan and associated requirements.
- d) If a fire does start by accident, immediate steps will be taken to extinguish it (if it is safe to do so) using available fire suppression equipment and techniques. Fire suppression activities will be initiated by NV Energy and/or its contractor(s) until relieved by agency or local firefighting services.
- e) All vehicles will contain a fire extinguisher.
- f) NV Energy and its contractors will provide continuous access to roads for emergency vehicles during construction.
- g) "NO SMOKING" signs and fire rules will be posted at construction staging areas, helicopter fly yards, and key construction sites during the fire season.
- h) The use of torches, fuses, highway flares, or other warning devices with open flames will be prohibited. NV Energy and its contractors will only use electric or battery-operated warning devices on site.
- i) No blasting will be performed without the notification of NV Energy's construction manager and/or the Project environmental manager. Blasting operations will follow the requirements described in the Blasting Plan (Appendix A4).
- j) No open burning, campfires, or barbeques will be allowed along the ROW, at construction staging areas, helicopter fly yards, substations, on access roads, or in any other Project-related construction areas.
- k) Back-pumps filled with water (two at each wood-cutting site, one at each welding site, and two at each tower installation or construction site, or any activity site at risk of igniting fires) will be supplied.



- l) Vehicles will not be driven on dry grass or brush.
- m) Proper vehicle maintenance will be implemented, including:
 - a. Securing trailer chains, ensuring they don't drag on the ground;
 - b. Checking tire pressure to avoid underinflated tires, exposed wheel rims can throw sparks;
 - c. Brakes will be properly maintained to avoid metal on metal contact.

3.1 FIRE RESTRICTIONS

If Fire Restrictions are in effect the following prohibitions will be abided by, pursuant to 36 Code of Federal Regulations (CFR) 261.50(a) and (b) until further notice unless approved in writing by the District Ranger and District Fire Staff with the Forest Supervisors approval.

- a) Building, maintaining, attending, or using a fire, campfire, or stovefire.
[36 CFR 261.52(a)]
- b) Smoking, outside an enclosed vehicle or building.
[36 CFR 261.52(d)]
- c) Welding or operating an acetylene or other torch with open flame.
[36 CFR 261.52(i)]
- d) Using an explosive.
[36 CFR 261.52(b)]
- e) No chainsaw use after 1:00 PM, when fire restrictions are in effect. If a Red Flag warning or fire weather watch is in effect, all wood cutting is prohibited until the warning is lifted.

The wildland fire danger rating system established by the USFS is designed to estimate the relative effect of weather on several aspects of fire behavior, such as spread, intensity, and ignition. The combination of these effects makes up the fire danger rating, the severity of which is as follows: Low, Medium, High, Very High, Extreme.

Low Fire Danger Rating Restrictions

All activities at the Project site will include the following safeguards and restrictions no matter the level of fire restrictions in place:

1. Except for motor trucks, truck tractors, buses and passenger vehicles equipped with a maintained muffler, equip all hydro-carbon fueled engines, both stationary and mobile, including off-highway vehicles and motorcycles, with spark arresters that meet



U.S. Forest Service Standards as specified in the Forest Service Spark Arrester Guide and maintain the spark arresters in good operating condition. The Forest Service Spark Arrester Guides are available at the https://www.fs.fed.us/t-d/programs/fire/spark_arrester_guides/.

2. Equipment service areas, parking areas and gas and oil storage areas shall be located so that there is no flammable material within a radius of at least 50 feet of these areas. Keep work areas clear of flammable material such as oily rags and waste, paper, cartons, and plastic waste and utilize proper containers for material storage. "NO SMOKING" signs will be posted in these areas at all times.
3. All stationary fuel tanks will be grounded.
4. Small mobile or stationary engine sites shall be cleared of flammable material for a radius of at least 16 feet from the engine.
5. Confine welding and grinding activity to cleared areas having a minimum radius of 10 feet measured from the place of welding or grinding. Welding or cutting activities will cease one hour before all fire response personnel leave a construction area to reduce the possibility of welding activities smoldering and starting a fire.
6. Each piece of equipment will be furnished with the following:
 - a) Each truck, personnel vehicle tractor, grader or other heavy equipment with one shovel, one axe or pulaski, and one fully charged fire extinguisher UL rated at 2-A:10-B:C, or larger
 - b) Each welder will have two shovels, one fire extinguisher and one back-pack filled with five gallons of water or other extinguishing solution with a hand pump.
 - c) Each gasoline-powered tool such as chain saws, soil augers and rock drills require two shovels and two fully charged chemical pressurized fire extinguisher. The required fire tools shall, at no time, be farther than 26 feet from the point of operation of the power tool.
 - d) Equip each mechanized machine that have hydraulic systems with at least two 4A:80-B:C fire extinguishers, or equivalent for each powered by an internal combustion engine (chipper, feller/buncher), except tractors and skidders. In addition, concentrations of wood dust and debris shall be removed from such equipment daily.
 - e) Hardhat, work gloves, and eye protection
 - f) All shovels shall be size "O" or larger and shall be not less than four feet in length.



7. Fuel service trucks will contain one 35-pound capacity fire extinguisher charged with the necessary chemicals to control electrical and fuel fires.

Moderate Fire Danger Rating Restrictions

When the fire danger rating reaches "**Moderate**" the following precautions shall be taken in addition to the conditions specified above:

1. Provide water tank truck or trailer on or in proximity to the Project area for fire control during all working hours and as specified herein.
 - a. Equip truck with fire tools (shovel, axe or pulaski's) to provide for one tool per person, two backpack five gallon water-filled tanks with pumps, and one chainsaw of 3.5 (or more) horsepower with a cutting bar of at least 20 inches in length.
 - b. In addition to being available at the work site, the truck and operator shall patrol the area of construction for at least 1 hour after shutdown.

High Fire Danger Rating Restrictions

When the fire danger rating reaches "**High**", the following precautions shall be taken in addition to the conditions specified above:

Provide water tank truck or trailer on or in proximity to the Project area for fire control during all working hours and as specified herein.

- a. Equip truck with a 500-gallon or greater tank of water with a gasoline motor powered pump and 250 feet of 3/4 inch hose on a reel with a pump capacity of 150 psi or greater and fuel sufficient for 2 hours of operation.
- b. All welding and grinding shall be discontinued except in an enclosed building or within an area cleared of all flammable material for a radius of 16 feet and must be pre-wet.
- c. No welding or grinding, unless it is in an enclosed building during the time frame designated as **Red Flag Warning**. Burning or blasting shall not be permitted. At Project access points provide a sign to notify workers of the time the restriction becomes effective.

Very High Fire Danger Rating Restrictions

When the fire danger rating reaches "**Very High**", the following precautions shall be taken in addition to the conditions specified above:



- a. Chainsaw and mastication operations shall be discontinued after 1:00 PM.
- b. All welding and grinding shall be discontinued except in an enclosed building or within an area cleared of all flammable material for a radius of 16 feet and must be pre-wet for a radius of at least 40 feet.
- c. All blasting shall be discontinued unless the area has been previously cleared from all flammable materials.
- d. Smoking will be permitted only in an enclosed vehicle equipped with an ashtray or in an enclosed building.
- e. Except in case of emergency, vehicular travel will be restricted to cleared areas or areas which have been pre-wet and are accessible by pressurized water hose or pressurized water tank.
- f. In areas not cleared for a radius of 16 feet, pre-wet the area before beginning operations. Maintain the area in a wet condition and provide one lookout with fire-fighting equipment.
- g. During the time frame designated as **Red Flag Warning**, no welding or grinding, unless it is in an enclosed building. Burning or blasting shall not be permitted. At Project access points provide a sign to notify workers of the time the restriction becomes effective.

Extreme Fire Danger Rating Restrictions

When the Fire danger Rating reaches "**Extreme**", the following precautions shall be taken in addition to the conditions specified above:

- a. A special written authorization from the District Ranger in consultation with the District Fire Management Officer must be obtained in advance of any welding, grinding, blasting or cutting metal. All other activities are prohibited.
- b. Any work that could start a fire shall require properly equipped fire personnel to be assigned to an operation for the duration of the work to provide for immediate fire response.
- c. No welding, blasting or grinding of any kind shall be permitted unless it is in an enclosed building or within an area cleared of all flammable material for a radius of 32 feet and must be pre-wet for a radius of at least 60 feet.



- d. In areas not cleared for a radius of 32 feet, pre-wet the area before beginning operations, for example but not limited to mastication or mowing. Maintain the area in a wet condition and provide a lookout with fire-fighting equipment.
- e. During the time frame designated as **Red Flag Warning**, no welding or grinding, unless it is in an enclosed building. At Project access points provide a sign to notify workers of the time the restriction becomes effective.

4.0 IN CASE OF FIRE - INITIAL RESPONSE

If a fire does start in the Project area during construction, operation, or maintenance, and if the fire is manageable, safely attempt to control it with a fire extinguisher or other available equipment.

As part of the environmental compliance training program, the contractor(s) will receive training on the following:

- Initial fire suppression techniques;
- Fire event reporting requirements;
- Methods to determine if a fire is manageable;
- Fire control measures to be implemented by field crews on site;
- When the worksite should be evacuated;
- How to respond to wildfires in the vicinity; and
- How to maintain knowledge of, and plans for, evacuation routes.

If a fire is unmanageable, field crews will evacuate and immediately call "911" or the district dispatch for the area (see emergency fire contacts listed in Table 1). All fires will be reported to the jurisdictional fire agency, regardless of size and actions taken.

5.0 POST-FIRE REHABILITATION STRATEGIES

If the cause of a fire is determined to be the result of the Project, NV Energy will implement rehabilitation measures to support the following goals:

- Restoration of high-quality wildlife habitat and various vegetation types;
- Restoration of range value;
- Suppression of invasive weeds;



- Prevention of increased fire hazard; and
- Prevention of increased erosion.

The following post-fire rehabilitation measures will be implemented by NV Energy:

After a fire has been extinguished, the burn areas will be reclaimed in accordance with agency and landowner requirements. Small fires will be revegetated to the native vegetation using appropriate seed mixtures. Larger fires may require restoration plans. Coordination with the applicable agencies would be necessary to determine requirements for each particular area, depending upon the size and location of a fire, and the location of sensitive resources. For more details, refer to the Reclamation and Habitat Restoration Plan (Appendix C3).

To prevent the spread of invasive weeds during post-fire rehabilitation, the following measures will be implemented by NV Energy and/or its contractors:

- Off-road vehicles and all-terrain vehicles will be inspected and will receive high pressure air or water cleaning on the undercarriage if necessary, with special emphasis on axles, frame, cross members, motor mounts, underneath the steps, running boards, and front bumper/brush guard assemblies;
- Clean off-road equipment (power or high-pressure cleaning) of all mud, dirt, and plant parts before moving into weed-free areas;
- NV Energy and the contractor employees working in the field will receive basic weed identification training;
- NV Energy will implement a Noxious Species Abatement Plan (Appendix C1) and a Reclamation and Habitat Restoration Plan (Appendix C3); and
- Reclamation activities will use certified weed free seed.



APPENDIX A2

Hazardous Materials Management and Spill Prevention Plan

**Hazardous Materials Management and
Spill Prevention Plan
Bordertown to California 120 kV Transmission Line
Construction, Operation, and Maintenance (COM) Plan**

Prepared for:

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August 2020

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LIST OF ABBREVIATIONS

BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COM	Construction, Operations, and Maintenance
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ID	Identification
kV	Kilovolt
MSDS	Material Safety Data Sheets
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NRC	National Response Center
OSHA	Occupational Safety and Health Act
Plan	Hazardous Materials Management and Spill Prevention Plan
Project	Bordertown to California 120 Kilovolt Transmission Line Project
RCRA	Resource Conservation and Recovery Act
U.S.	United States
U.S. DOT	U.S. Department of Transportation
U.S.C.	United States Code
USFS	US Forest Service



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act, the Environmental Impact Statement (EIS) and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Hazardous Materials Management and Spill Prevention Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. The intent of this Plan is to reduce the risks associated with the use, storage, transportation, production, and disposal of hazardous materials (including hazardous substances and wastes). This plan also outlines the required spill prevention, response, and clean-up procedures for the Project.

1.1 OVERVIEW OF THE PLAN COMPONENTS

The goals of this plan are to: (1) minimize the potential for a spill of fuel or other hazardous substance; (2) contain any spillage to the smallest possible area; and (3) protect areas that are environmentally sensitive. This plan includes the following components:

- Guidelines for developing this Plan;
- Spill prevention procedures related to the transportation, storage, and disposal of hazardous materials;
- Spill control, response, and clean-up methods;
- An overview of the notification and documentation procedures to be followed in the event of a spill; and
- Vehicle refueling and servicing procedures.

In general, hazardous materials, hazardous wastes, and clean-up equipment will be stored at construction staging areas.

1.2 REGULATORY OVERVIEW

The leading legislation pertaining to hazardous materials includes the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), the Clean Air Act, and the Clean Water Act.



Numerous other federal, state, and local regulations also govern the use, storage, transport, production, and disposal of hazardous materials. Some of the key requirements of these laws are outlined in:

- Occupational Safety and Health Act (OSHA), 29 United States Code (U.S.C.) § 651 et seq.;
- Clean Water Act, 33 U.S.C. § 1251 et seq.;
- Safe Drinking Water Act, 42 U.S.C. § 300f et seq.;
- Clean Air Act, 42 U.S.C. § 7401 et seq.;
- Toxic Substances Control Act, 15 U.S.C. § 2601 et seq.;
- CERCLA, 42 U.S.C. § 9601 et seq.;
- RCRA, 42 U.S.C. § 6901 et seq.;
- Hazardous Materials Transportation Act, 49 U.S.C. 5101 § et seq.; and
- Hazardous Materials, The Nevada Administrative Code (NAC) 445A.345 - 348.

Person(s) responsible for handling hazardous materials for this Project will be trained in the proper use/management of the materials and should be familiar with all applicable laws, policies, procedures, and best management practices (BMPs) related to them.



2.0 GUIDELINES FOR DEVELOPING THE HAZARDOUS MATERIALS MANAGEMENT AND SPILL PREVENTION PLAN

2.1 CERTIFICATIONS, ACKNOWLEDGEMENTS AND DESIGNATION OF COORDINATOR/RESPONSIBLE PERSON

2.1.1 Certifications

The construction contractor(s) shall certify that all of the information provided in this Plan is accurate and complete to the best of their knowledge (as detailed in Appendix A, Table A1). The construction contractor(s) shall also certify that they are committed to implementing the Plan as written.

2.1.2 Amendments

In completing this certification, the construction contractor(s) shall agree to make all necessary and appropriate amendments to the plan and submit any and all such amendments to NV Energy and the appropriate federal, state, and county (if required) authorities within six months following preparation of the amendment. Examples of changes that require Plan amendments include, but are not limited to:

- Commissioning or decommissioning containers;
- Replacement, reconstruction, or movement of containers;
- Reconstruction, replacement, or installation of piping systems;
- Construction or demolition that might alter secondary containment structures;
- Changes of product or service; and
- Revision of standard operation or maintenance procedures at the facility.

2.1.3 Responsible Persons

The construction contractor(s) shall identify a primary responsible coordinator for hazardous materials management and emergency response (Appendix A, Table A3). Two alternative emergency response coordinators shall also be identified. Business, residential, and cellular telephone numbers shall be provided for all three persons as necessary to allow for contact on a 24-hour basis. Primary and alternate emergency response coordinators shall be knowledgeable of the chemicals and processes involved in the construction contractor's operation. They shall have full access to the staging areas, including locked areas, and must have the authority to commit company resources. They shall also have stop task authority in case of non-compliance or environmental danger.



2.2 FACILITIES DESCRIPTION AND INVENTORY OF MATERIAL

2.2.1 Site Map

The construction contractor(s) shall complete Table A1 in Appendix A. The construction contractor(s) shall also provide a site map/facility map for their staging areas indicating storage and safety precautions for hazardous materials and hazardous wastes. The construction contractor(s)' site map shall, at a minimum, indicate the following:

- Orientation and scale;
- Total land area in square-feet;
- Access and egress points;
- Buildings and/or temporary trailers;
- Parking areas;
- Adjacent land uses (if business, indicate business name);
- Surrounding roads, storm drains and waterways (including streams and wetlands);
- Locations of hazardous materials and hazardous waste storage;
- Underground and aboveground tanks;
- Containment or diversion structures (dikes, berms, retention ponds);
- Shutoff valves and/or circuit breakers;
- Location of emergency response materials and equipment;
- Location of material safety data sheets (MSDS) and Hazardous Materials and Spill Prevention Plan; and
- Location of emergency assembly area.

All maps must be provided on standard 8½-by-11-inch paper.

2.2.2 Inventory

The construction contractor(s) shall provide a complete inventory of all hazardous materials that meet reportable quantities. A complete list of hazardous substances and reportable quantities are defined under 40 Code of Federal Regulations (CFR) 302.4. All inventory forms shall be provided to NV Energy by the construction contractor(s) as a part of this Plan.

Reportable quantities for acutely hazardous materials and/or wastes may differ from the reportable quantities identified under 40 CFR 302. The construction contractor(s) shall be



responsible for consulting with the relevant agencies if they handle acutely hazardous materials as defined under 40 CFR 260.10.



3.0 HAZARDOUS MATERIALS MANAGEMENT

Construction, operation, and maintenance of the Project will require the use of certain potentially hazardous materials such as fuels, oils, explosives, and herbicides. By definition, hazardous materials (substances and wastes) have the potential to pose a significant threat to human health and the environment based upon their quantity, concentration, or chemical composition. When stored, used, transported, and disposed of properly as described below, the risks associated with these materials can be reduced substantially.

3.1 OVERVIEW OF HAZARDOUS MATERIALS PROPOSED FOR USE

The following Project-specific measures pertain to all vehicle refueling and servicing activities as well as the storage, transportation, production, and disposal of hazardous materials/wastes. These measures are intended to prevent the discharge of fuels, oils, gasoline and other harmful substances to waterways, groundwater aquifers, and/or other sensitive resource areas during Project construction and maintenance.

Hazardous materials used during Project construction may include petroleum products such as gasoline, hydraulic fluid, lubricating oils and solvents, and other substances. Some of these materials will be used in relatively large quantities at the staging areas and in rare instances on the right-of-way to operate and maintain equipment during construction. Explosives may be used for blasting rock where needed to install power pole structures. The use of explosives for this Project is discussed in detail in the Blasting Plan (Appendix A4 of the COM Plan).

Smaller quantities of other materials such as pesticides and fertilizers, paints, and chemicals, will be used during Project operation and maintenance. Table 1 provides a list of materials anticipated for use during construction, operation, and maintenance of the Project. NV Energy will update the inventory of hazardous materials used/stored on-site as needed throughout the life of the Project. NV Energy has a well-developed Hazardous Material Program in place and works to use non-hazardous substances in routine construction and maintenance activities to the extent possible.

Table 1 Hazardous Materials Proposed for Project Use

Hazardous Materials	
2-Cycle Oil	Lubricating Grease
ABC Fire Extinguisher	Mastic Coating
Acetylene Gas	North Wasp and Hornet Spray (1,1,1-Trichloroethane)
Air tool Oil	Oxygen8\78
Antifreeze	Paint
Automatic Transmission Fluid	Paint Thinner
Battery Acid	Petroleum Products
Bee Bop Insect Killer	Prestone II Antifreeze
Canned Spray Paint	Puncture Seal Tire Inflator
Chain Lubricant (Methylene Chloride)	Safety Fuses
Connector Grease	Safety Solvent
Contact Cleaner 2000	Starter Fluid



Hazardous Materials	
Eye Glass Cleaner (Methylene Chloride)	Trichloroethane
Gas Treatment	Wagner Brake Fluid
Gasoline	WD-40
Insulating and Hydraulic Oil	

3.2 REFUELING AND SERVICING

Construction vehicles (trucks, bulldozers, etc.), and equipment (pumps, generators, etc.) generally will be fueled and serviced in designated upland areas at 300 feet away from perennial streams and 150 feet of all other streams. Refueling locations generally should be flat to minimize the chance of a spilled substance reaching a stream. In most cases, rubber-tired vehicles will be refueled and serviced at local gas stations or staging areas. Tracked vehicles typically will be refueled and serviced at designated staging areas.

All construction vehicles will be maintained in accordance with the manufacturers' recommendations. All vehicles will be inspected for leaks prior to entering the jobsite. All discovered leaks will be contained with a bucket or absorbent materials until repairs can be made.

3.3 TRANSPORTATION OF HAZARDOUS MATERIALS

Procedures for loading and transporting fuels and other hazardous materials will meet the minimum requirements established by the U.S. Department of Transportation (DOT) and other pertinent regulations (49 CFR 100-185). Prior to transporting hazardous materials, appropriate shipping papers shall be completed. Vehicles carrying hazardous materials will be equipped with shovels, barrier tape, absorbent socks or pads, four- to six-millimeter plastic bags or heavy-duty trash bags, personal protective clothing (e.g., gloves), and spill pads to contain a small spill should one occur during transport. In addition, vehicles transporting such materials will be properly signed (placard) and/or marked. Prior to transporting hazardous materials, vehicles will be inspected for leakage and other potential safety problems. The construction contractor(s) will ensure that vehicle drivers are trained to properly respond to and report spills, leakage, and/or accidents involving hazardous materials (Section 4.2).

All hazardous materials used for the Project will be properly containerized and labeled at all times, including during transportation. Smaller containers will be used on-site to transport needed amounts of hazardous materials to a specific location. Transfer of materials from large to small containers will not be done by hand pouring but will be accomplished using appropriate equipment including pumps, hoses, and safety equipment. These smaller ("service") containers will also be clearly labeled. Labeling will be in accordance with 40 CFR 262. Special provisions apply to the transportation of explosives and are further discussed in the Blasting Plan (Appendix A4).

3.4 STORAGE OF HAZARDOUS MATERIALS

Hazardous materials will be stored only in designated staging areas. Long-term equipment staging and storage areas will not be located on National Forest System lands (Design Feature GP 6 from the Project EIS and further described in Section 3.2 of the COM Plan). In addition, construction equipment staging areas, and storage of equipment fuels will not be located within



300 feet of perennial streams or within 150 feet of intermittent and ephemeral streams. Staging areas and fuel storage will also not be located within 150 feet of wetlands or other water feature (Design feature WA 3 from the Project EIS and described in Section 3.2 of the COM Plan).

Any hazardous materials such as fuel, lubricants, and solvents, would be handled and stored in accordance with applicable regulations, including 40 CFR 262.

3.4.1 Physical Storage Requirements

- **Storage Containers:** Containers shall be compatible with the wastes stored. If the container is damaged or leaks, the waste must be transferred to a container in good condition. The construction contractor(s) shall inspect containers at least weekly to discover any leaks in the containers or the containment systems (Appendix A, Table A4). Containers used for transportation must comply with the U.S. DOT requirements.
- **Incompatible Wastes:** Wastes that are incompatible with other wastes shall not be placed in the same container or in an unwashed container that previously held an incompatible material.
- **Ignitable or Reactive Wastes:** Wastes that may ignite or are reactive must be located at least 50 feet from the material yard's property line. "NO SMOKING" signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.
- **Container Management:** Containers holding hazardous waste shall be kept closed during transfer and storage, except when it is necessary to add or remove waste.
- **Secondary Containment:** Secondary containment for bulk containers and oil filled equipment will consist of bermed or diked areas that are lined and capable of holding 110 percent of the volume of the stored material and shall be provided for fuel and oil tanks stored on-site, as needed.
- **Security:** Hazardous materials will be stored in secure areas to prevent damage, vandalism, or theft. All storage containers shall remain sealed when not in use and storage areas shall be secured (gated, locked, and/or guarded) at night and/or during non-construction periods.
- **Explosives:** Storage of explosives is discussed in Appendix A4—Blasting Plan.

3.4.2 Container Labeling Requirements

The construction contractor(s) shall comply with the following labeling requirements for any container (including tanks) used on-site to store accumulated hazardous wastes. Figure 1 shows an example of a hazardous waste label for on-site storage. The containers shall be labeled with the information below and as required in 40 CFR 262:

- The words: "Hazardous Waste";
- Generator's name and address;
- The accumulation start date and/or the date the 90-day storage period began;



- The composition and physical state of the wastes; and
- Warning words indicating the particular hazards of the waste, such as: flammable, corrosive or reactive.

Figure 1 Sample Hazardous Waste Label for On-Site Storage

HAZARDOUS WASTE	
Contents:	_____
Physical State (gas, liquid, solid):	_____
Accumulation Start Date:	_____
Hazards:	_____
Name and Address of Generator:	_____
Contact Person:	_____
Telephone:	_____
HANDLE WITH CARE!	
CONTAINS HAZARDOUS OR TOXIC WASTES	

3.5 DISPOSAL OF HAZARDOUS WASTES

All wastes generated, including trash, sanitary waste, scraps, salvage materials, hazardous materials, and petroleum products will be disposed of in accordance with applicable local, state, and federal regulations. This includes hazardous wastes, which will be collected regularly and disposed of in accordance with all applicable laws. The construction contractor(s) shall determine details on the proper handling and disposal of hazardous waste and shall assign responsibility to specific individuals prior to construction of the Project.

Hazardous wastes typically include used oil, used oil filters, used gasoline containers, spent batteries, and other items. Every effort will be made to minimize the production of hazardous waste during the Project. NV Energy maintains a list of products and wastes that it recycles. This list shall be provided to the construction contractor(s) prior to construction of the Project.

Any generator of hazardous waste (except households) must apply for an Environmental Protection Agency (EPA) Identification (ID) Number. A generator can store hazardous wastes on-site for a period of up to 90 days without having to obtain a permit as a storage facility. The ID number is needed to complete the Uniform Hazardous Waste Manifest to ship wastes off-site.

3.6 CONTAMINATED CONTAINERS

Containers that once held hazardous substances as products or which held hazardous wastes must be considered as potential hazardous wastes due to the possible presence of residual hazardous contents. Regulations specify an essentially empty container and certain handling

requirements for the empty container, for the container to be handled as a non-hazardous waste, as listed below.

- The containers must be empty, which means as much of the contents has been removed as possible so that none will pour out in any orientation.
- If the empty containers are less than five gallons, they may be disposed of as a non-hazardous solid waste or scrapped.
- If the empty containers are greater than five gallons, they must be handled in the following manner:
 - Returned to the vendor for re-use;
 - Sent to a drum recycler for reconditioning; or
 - Used or recycled on-site.

All these actions must occur within one year of the container being emptied.

3.7 WASTE OIL FILTERS

Used, metal canister oil filters can be managed as non-hazardous wastes if:

- They are thoroughly drained of “free flowing” oil (oil exiting drop-by-drop is not considered “free flowing”);
- The filters are accumulated, stored, and transferred in a closed, rainproof container; and
- The filters are transferred for purposes of recycling.

3.8 USED LUBRICATING OIL

Used lubricating oil is defined as:

- Any oil that has been refined from crude oil, and has been used, and as a result of use, has been contaminated with physical or chemical impurities.
- Any oil that has been refined from crude oil and, as a consequence of extended storage, spillage, or contamination with non-hazardous impurities such as dirt, rags, and water, is no longer useful to the original purchaser.
- Spent lubricating fluids that have been removed from a bus, truck, automobile, or heavy equipment.

4.0 SPILL CONTROL AND COUNTERMEASURES

This section describes measures that are intended to prevent the spill of hazardous materials during normal Project construction, operation, and maintenance activities. Table A2 (Appendix A) should be filled out by the construction contractor(s) to identify all sources of potential spills, including tank overflow, rupture or leakage for the Project.

However, not all potential spill situations can be foreseen. The physical and procedural steps to be taken in the event of a spill are detailed in Section 4.1. In general, NV Energy's construction contractor(s) will oversee all clean-up activities including providing necessary materials and labor, and performing all reporting and documentation as required. Notification and documentation of spills is discussed in greater detail in Section 5.0.

4.1 PHYSICAL AND PROCEDURAL RESPONSES MEASURES

Physical response actions are intended to ensure that all spills are promptly and thoroughly cleaned up. However, the first priority in responding to any spill is personal and public safety. Construction personnel will be notified of evacuation procedures to be used in the event of a spill emergency, including evacuation routes. In general, the first person on the scene will:

- Attempt to identify the source, composition, and hazard of the spill;
- Notify appropriately trained personnel immediately;
- Isolate and stop the spill if possible and begin clean-up, if it is safe;
- Initiate reporting actions; and
- Initiate evacuation of the area, if necessary.

Persons should only attempt to clean-up or control a spill if they have received proper training and possess the appropriate protective clothing and clean-up materials. Untrained individuals should notify the appropriate response personnel. In addition to these general guidelines, persons responding to spills will consult the Emergency Preparedness and Response Plan (Appendix A3 of the COM Plan) and the U.S. DOT Emergency Response Guidebook (USDOT 2016) (to be maintained by the construction contractor(s) on site during all construction activities), which outlines physical response guides for hazardous materials spills. A list of hazardous materials that may be used during Project construction are detailed in Table 1.

In general, expert advice will be sought to properly clean-up major spills. For spills on land, berms will be constructed to contain the spilled material and prevent migration of hazardous materials toward waterways. Dry materials will not be cleaned up with water or buried. Contaminated soils will be collected using appropriate machinery, stored in suitable containers, and properly disposed of in appropriately designated areas off-site. After contaminated soil is recovered, all machinery utilized will be decontaminated, and recovered soil will be treated as hazardous waste (see Section 3.5). Contaminated clean-up materials (absorbent pads, etc.) and vegetation will be disposed of in a similar manner. For major spills, clean-up will be verified by sampling and laboratory analysis.



4.1.1 On-Site Equipment

The following equipment will be maintained on-site at each material yard, staging area, and substation site (in at least two spill kits [55-gallon drums]) for use in clean-up situations:

- Shovels;
- Absorbent pads/materials;
- Personal protective gear;
- Medical first-aid supplies;
- Bung wrench (non-sparking);
- Phone list with emergency contact numbers;
- Storage containers; and
- Communications equipment.

In addition, radios or other communication equipment will be maintained in construction vehicles and other easily accessible locations.

4.2 EMPLOYEE SPILL PREVENTION/RESPONSE TRAINING AND EDUCATION

The prime construction contractor(s) and subcontractors shall provide spill prevention and response training to appropriate construction personnel (refer to OSHA requirements in Nevada [29 CFR 1910.1200]). Persons accountable for carrying out the procedures specified herein will be designated prior to construction and informed of their specific duties and responsibilities with respect to environmental compliance and hazardous materials. The training shall inform appropriate personnel of site-specific environmental compliance procedures. At a minimum, this training shall include the following:

- An overview of regulatory requirements;
- Methods for the safe handling/storage of hazardous materials;
- Spill prevention procedures;
- Emergency response procedures;
- Use of personal protective equipment;
- Use of spill clean-up equipment;
- Procedures for coordinating with emergency response teams;
- Procedures for notifying agencies;



- Procedures for documenting spills; and
- Identification of sites/areas requiring special treatment, if any.

5.0 NOTIFICATION AND DOCUMENTATION PROCEDURES

Notification and documentation procedures for spills that occur during Project construction, operation, or maintenance will conform to applicable federal, state, and local laws. Adherence to such procedures will be the top priority once initial safety and spill response actions have been taken. The following sections describe the notification and documentation procedures and should be implemented in conjunction with the response procedures listed in other sections of this Plan.

5.1 REQUIRED NOTIFICATION

Notification will begin as soon as possible after discovery of a spill. The individual who discovers the spill will contact the Environmental Field Supervisor. If the Environmental Field Supervisor determines that the spill may seriously threaten human health or the environment, he/she will orally report the discharge as soon as possible, but no later than 24 hours from the time they become aware of the circumstances, as directed below. An online form to report the spill must be submitted to the Nevada Division of Environmental Protection (NDEP) within one working day. Prior to initiating notification, the Environmental Field Supervisor (or individual initiating notification) should obtain as much information as possible. Table 2 provides standard information requested by agencies.

The following mandatory notifications will be made by the Environmental Field Supervisor. Select and notify the appropriate government agency(ies) based on geographic location of the spill site.

- NDEP, in-state (888) 331-6337 or out-of-state (775) 687-9485.
- If spill threatens human health, call the Nevada Highway Patrol Headquarters Dispatch at (775) 687-5300.
- California Governor's Office of Emergency Services State Warning Center at (800) 852-7550.
- Sierra County, California Office of Emergency Services at (530) 289-2850.
- National Response Center (NRC) (800) 424-8802. The NRC should be notified if a spill is a listed RCRA substance and of a reportable quantity, or if waters of the U.S. are impacted.

The construction contractor(s) will verify and update these emergency phone numbers before and during construction. The construction contractor(s)' foreman (or other person in charge) will notify the on-site Environmental Field Supervisor or the Environmental Field Coordinator of all spills or potential spills within construction areas. In addition, he/she will notify NV Energy's Construction manager so that the NV Energy Corporate Emergency Operations Center may be activated if necessary (Appendix A3).

When a spill poses a direct and immediate threat to health and safety and/or property, the landowners potentially affected by a spill will be notified directly by NV Energy. Immediate notification of landowners is required for all situations in which the spill poses a direct and immediate threat to health and safety and/or property.



Table 2 Standard Spill Information Requested by Agencies

<p>When notifying a regulatory agency, the following information should be provided:</p> <ul style="list-style-type: none"><input type="checkbox"/> Current threats to human health and safety, include known injuries, if any;<input type="checkbox"/> Spill location, including landmarks and nearest access route;<input type="checkbox"/> Reporter's name and phone number;<input type="checkbox"/> Time the spill occurred;<input type="checkbox"/> Type and estimated amount of hazardous materials involved;<input type="checkbox"/> Potential threat to property and environmental resources, especially streams and waterways; and<input type="checkbox"/> Status of response actions.
--

Failure to report a spill could result in substantial penalties of \$25,000 per day (Nevada Revised Statutes 445A.700). On-site personnel should always consult the Environmental Field Supervisor to clarify regulatory requirements.

5.1.1 Reporting Criteria

The prime construction contractor(s) and subcontractors are required to report all hazardous materials spills to the Environmental Field Supervisor, who will determine if the spill meets the following criteria for immediate agency notification. The NDEP must be notified as soon as possible but no later than the end of the first working day of the release. The following reporting criteria apply for petroleum products:

- Greater than 25 gallons of petroleum products released to land surface;
- Any petroleum release to groundwater;
- Greater than three cubic yards of petroleum contaminated soil discovered during any subsurface activity; and
- Any release to surface water.

5.2 DOCUMENTATION

The construction contractor(s) will maintain records for all spills. State and federal agencies that have been verbally notified of a spill will be informed in writing within one day for state agencies and within 30 to 60 days for federal agencies.

The construction contractor(s) shall record spill information in a daily log. The following is a list of items that should be included in the daily log (as appropriate, based on the spill incident):

- Time and date of each log entry;
- Name of individual recording log entry;
- List of all agencies notified, including name of individual notified, time and date;
- Type and amount of material spill;



- Resources affected by spill;
- List of response actions taken, including relative success;
- Copies of letters, permits, or other communications received from government agencies throughout the duration of the spill response;
- Copies of all outgoing correspondence related to the spill; and
- Photographs of the response effort (and surrounding baseline photographs, if relevant).

Maintaining detailed and organized records during a spill incident is an important and prudent task. An individual construction contractor(s) representative should be designated to manage the records for an incident. If extensive spill response and clean-up operations are required, the construction contractor(s) may choose to assign a bookkeeper to assist in the documentation process. An on-site bookkeeper will track and manage all expenditures (i.e., equipment, personnel/labor hours, and associated resources) and will help supplement the information provided in the daily log book.

6.0 OPERATIONS AND MAINTENANCE

During the Project's operation and maintenance phase, NV Energy will ensure that its facilities, personnel, and contractors comply with federal, state and local laws regulating the use, storage, transport and disposal of hazardous materials and adhere to required emergency response and clean-up procedures in the event of a hazardous spill.

7.0 REFERENCES

U.S. Department of Transportation (USDOT). 2016. Emergency Response Guidebook: Guidebook Intended for use by First Responders during the Initial Phase of a Transportation Incident Involving Dangerous Goods/Hazardous Materials.

APPENDIX A

**Certifications, Acknowledgements, and Designation of
Emergency Coordinator**

The construction contractor(s) responsible for managing the material yards shall complete and submit the following information listed in Tables A1 through A4.

Table A1 Certifications, Acknowledgments and Designation of Emergency Coordinator

General Information			
Business Name:	_____		
Facility Street Address:	_____		
City:	_____		
County:	_____		
Zip Code:	_____		
Phone:	_____		
Mailing Address (if different):	_____		
City:	_____		
County:	_____		
Zip Code:	_____		
Emergency Coordinator			
Primary Emergency Coordinator: ()	()	()	_____
	Business Phone	24-hour Phone	Cellular Phone
1st Alternate: ()	()	()	_____
	Business Phone	24-hour Phone	Cellular Phone
2nd Alternate: ()	()	()	_____
	Business Phone	24-hour Phone	Cellular Phone
Owner/Operator Certification			
I certify under penalty of law that I have personally examined and am familiar with the information submitted in the Hazardous Materials Management and Spill Prevention Plan and believe the information is true, accurate, and complete.			
_____	_____	_____	
Print Name of Owner/Operator	Signature of Owner/Operator	Date	

The construction contractor(s) shall identify all sources of potential spills, including tank overflow, rupture or leakage.

Table A2 Spill Prevention, Control, and Countermeasure

Material:	_____	Total Quantity:	_____
	Location of Use:		_____
	Potential Direction of Flow:		_____
	Maximum Rate of Flow:		_____
Structures or Equipment to Contain Spill:			_____

Material:	_____	Total Quantity:	_____
	Location of Use:		_____
	Potential Direction of Flow:		_____
	Maximum Rate of Flow:		_____
Structures or Equipment to Contain Spill:			_____

Material:	_____	Total Quantity:	_____
	Location of Use:		_____
	Potential Direction of Flow:		_____
	Maximum Rate of Flow:		_____
Structures or Equipment to Contain Spill:			_____

Material:	_____	Total Quantity:	_____
	Location of Use:		_____
	Potential Direction of Flow:		_____
	Maximum Rate of Flow:		_____
Structures or Equipment to Contain Spill:			_____

Table A3 Emergency Checklist

<u>DIAL 911 FOR EMERGENCY RESPONSE</u>		
Emergency Coordinator:	()	()
Name	(Day Phone)	(Night Phone)
First Alternate:	()	()
Name	(Day Phone)	(Night Phone)
Second Alternate:	()	()
Name	(Day Phone)	(Night Phone)
Contractor	Telephone Number	
Address		
Emergency Numbers		
Emergency Response: (Ambulance, Fire, Police, Sheriff, Nevada Highway Patrol) 911		
Sierra County Sheriff: (530) 289-2850	Washoe County Sheriff: (775) 328-3001	
Poison Control Center: (800) 222-1222		
Nearest Hospitals (2):	Saint Mary's Regional Medical Center	Phone: (775) 770-3000
	Renown Regional Medical Center	Phone: (775) 982-4100
Cleanup Contractor	_____	Phone: _____
Other (specify)	_____	Phone: _____
Other (specify)	_____	Phone: _____
Agency Notifications		
Nevada Division of Emergency Management	Phone: (775) 687-0400	
Nevada Division of Environmental Protection	Phone: (775) 687-9485	
California Governor's Office of Emergency Services State Warning Center	Phone: (800) 852-7550	
Sierra County, California Office of Emergency Services:	Phone: (530) 289-2850	
Washoe County, Nevada Risk Management Division:	Phone: (775) 328-2665	
National Response Center	Phone: (800) 424-8802	

Note: The construction contractor(s) shall verify and update the emergency numbers on this page before and during Project construction.

Table A4 Weekly Hazardous Materials/Waste Inspection Log

<p>For each item listed below, the construction contractor(s) shall indicate whether existing conditions are acceptable (A) or unacceptable (U). Resolution of all unacceptable conditions must be documented. The construction contractor(s) shall inspect all storage facilities on a regular basis, but not less than weekly. The construction contractor(s) shall keep records of all inspections on file.</p>	
<p>I. Storage Areas for Fuels, Lubricants and Chemicals</p>	
<p>General (A/U)</p>	
<input type="checkbox"/>	Material yard and storage areas secured.
<input type="checkbox"/>	National Fire Protection Association symbol posted in storage area or at material yard entrance.
<input type="checkbox"/>	Storage areas properly prepared and signed.
<input type="checkbox"/>	No evidence of spilled or leaking materials.
<input type="checkbox"/>	Incompatible materials separated.
<input type="checkbox"/>	All containers labeled properly.
<input type="checkbox"/>	All containers securely closed.
<input type="checkbox"/>	All containers upright.
<input type="checkbox"/>	No evidence of container bulging, damage, rust or corrosion.
<input type="checkbox"/>	Material Safety Data Sheets available.
<input type="checkbox"/>	Hazardous Materials Management and Spill Prevention Plan available.
<p>Secondary Containment Areas (A/U)</p>	
<input type="checkbox"/>	Containment berm intact and capable of holding 110% of material stored.
<input type="checkbox"/>	Lining intact.
<input type="checkbox"/>	No materials overhanging berms.
<input type="checkbox"/>	No materials stored on berms.
<input type="checkbox"/>	No flammable materials used for berms.
<p>Compressed Gases (A/U)</p>	
<input type="checkbox"/>	Cylinders labeled with contents.
<input type="checkbox"/>	Cylinders secured from falling.
<input type="checkbox"/>	Oxygen stored at least 25 feet away from fuel.
<input type="checkbox"/>	Cylinders in bulk storage are separated from incompatible materials by fire barriers or by appropriate distance.

II. Hazardous Waste Management

Waste Container Storage (A/U)

- No evidence of spilled or leaking wastes.
- Adequate secondary containment for all wastes.
- Separate containers for each waste stream (e.g., no piles).
- Waste area not adjacent to combustibles or compressed gases.
- All containers securely closed.
- Bungs secured tightly.
- Open-top drum hoops secured.
- All containers upright.
- No evidence of container bulging, corrosion.
- No severe container damage or rust.
- Containers are compatible with waste (e.g., plastic liner for corrosives, metal liner for solvents).
- No smoking and general danger/warning signs posted.

Waste Container Labeling (A/U)

- Containers properly labeled.
- Name, address and EPA ID number or ID Number listed.
- Accumulation start date listed.
- Storage start date listed.
- Chemical and physical composition of waste listed.
- Hazardous properties listed.

Nonhazardous Waste Areas (A/U)

- No litter in material yard.
- No hazardous wastes with trash (e.g., contaminated soil, oily rags, or other oily materials).
- Empty oil and aerosol containers for disposal as non-hazardous waste are completely emptied.

III. Emergency Response Equipment (A/U)

_____ Shovels.

_____ Absorbent material.

_____ Personal protective equipment (Tyvek suit, gloves, goggles and booties, as appropriate).

_____ Fire-fighting equipment.

_____ First aid supplies (e.g., medical supplies, squeeze bottle eye wash).

_____ Communication equipment.

_____ Bung wrench (non-sparking).

IV. Corrective Actions Taken

(Required for all unacceptable conditions)

Date: _____

Company (print): _____

Inspected by (print): _____

Signature: _____

APPENDIX A3

Emergency Preparedness and Response Plan

Emergency Preparedness and Response Plan Bordertown to California 120 kV Transmission Line Construction, Operation, and Maintenance (COM) Plan

Prepared for:

NV Energy
6100 Neil Road
Reno, NV 89511

Prepared by:

Stantec Consulting Services Inc.
6995 Sierra Center Parkway
Reno, NV 89511

August 2020

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LIST OF ABBREVIATIONS

CEOC	Corporate Emergency Operations Center
COM	Construction, Operations, and Maintenance
kV	Kilovolt
NFS	National Forest System
Plan	Emergency Preparedness and Response Plan
Project	Bordertown to California 120 Kilovolt Transmission Line Project
U.S.	United States
USFS	United States Forest Service



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act, the Environmental Impact Statement and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Emergency Preparedness and Response Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. It is intended to provide an overview of NV Energy's methods of emergency management and the existing support structure, chain of command, communication plans, and focus awareness for significant hazards specific to the construction of the Project. More specific emergency procedures for fire, hazardous materials, and blasting are included in Appendices A1, A2, and A4, respectively.

The following NV Energy plans contain greater detail on NV Energy policy and instructions on how to handle specific situations. Due to the nature of the contents of these plans, they will only be available upon request from NV Energy.

- Corporate Emergency Response Plan (March 2018)
- Wildland Fire Plan (February 2019 – Appendix C)
- Gas Operations Emergency Plan (March 2015)

1.1 PURPOSE

The purpose of this Emergency Preparedness and Response Plan is to provide clear procedures and information that will enable NV Energy's Project team, contractors, other environmental inspectors, and agency monitors to prepare for and effectively respond to emergency situations. The primary objective of this Plan is to prevent adverse impacts to human health and safety, property, and the environment that could potentially result from the construction, operation and maintenance of the Project.

1.2 REGULATORY OVERVIEW

Health and safety guidelines related to high-voltage transmission lines are provided in a number of sources, including the National Electric Safety Code, American National Standards Institute,



American Medical Association Council on Scientific Affairs, American Conference of Governmental Industrial Hygienists, various state regulations, and other organizations. The Occupational Safety and Health Administration also provides regulations for construction activities.

2.0 NV ENERGY'S EMERGENCY CHAIN OF COMMAND

NV Energy is responsible for the effective response to any emergency situation or event related to the construction, operation, and maintenance of the Project. In order to ensure a coordinated and responsible corporate response, the following chain of command will be adhered to.

Control Center(s): Any NV Energy team leader, area manager, Project or plant superintendent or their alternates can activate their own organization to the level of support required to respond to any level event.

Coordination Center(s): Any NV Energy director, manager or alternate with responsibilities to support operations level control centers has the authority to activate coordination center resources to the level necessary to respond to control center(s) or emergency event needs.

Corporate Emergency Operations Center (CEOC): Only the NV Energy director of CEOC, vice president of distribution services or their alternates may authorize the activation of the CEOC. This activation will also engage the executive Policy Team to respond to the emergency or situation.

Considerations: The level of activation and participation necessary to respond to specific situations are dependent upon the following considerations:

- Type of event (natural, environmental, supply, external forces);
- Severity and geographic area (multiple or combination of events);
- Anticipated duration;
- Multi-division/discipline response required; and
- External agency coordination.

In the event of an emergency, NV Energy's construction contractor(s), subcontractors, any field inspectors, line inspectors, maintenance crews, agency monitors, or other persons should contact the NV Energy Project manager or construction supervisor as soon as possible. These individuals will then initiate NV Energy's emergency chain of command as described above.

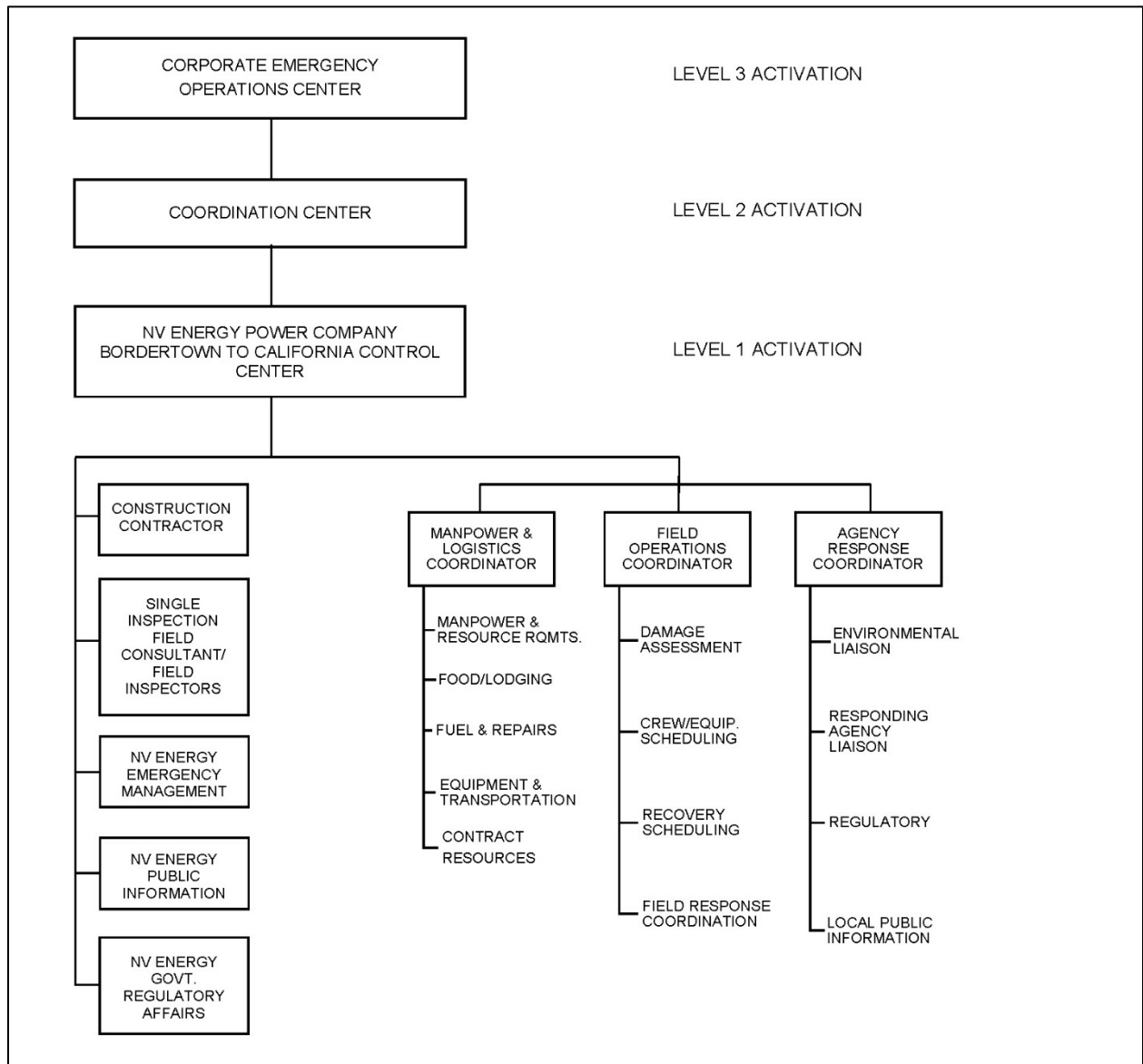
3.0 RESPONSE COORDINATION

The amount of resources and coordination required to respond to a specific hazard or emergency event is determined by type, severity, location and duration of the event. Most events require managing at the field operations level and will require increasing resource requirements to match the severity and duration of the event. NV Energy's emergency management organization is designed to provide increasing levels of resources and coordination necessary to support

immediate or escalating emergency events. There are three levels of activation for emergency/disaster response, as listed below and shown in Figure 1.

- **Activation Level 1:** Emergencies and service interruptions that can be restored with resources under the jurisdiction of NV Energy's Project control center are managed locally. The control center will provide incident command and resource allocation for emergency response at the field operations level. The control center will respond to minor to moderate incidents/emergencies including events that escalate into Levels 2 and 3.
- **Activation Level 2:** Moderate to major incidents are managed by activation of a Coordination Center that will provide resource, information, and coordination support to the Control Center.
- **Activation Level 3:** Disaster or major emergency requiring a corporate response. Activation of the Policy Team and CEOC in response to an event will provide policy direction, strategic planning, coordination of internal and external resources, and assume internal communication and coordination and public information responsibilities.

Figure 1 Control Center Diagram



4.0 EMERGENCY COMMUNICATIONS

Effective communication and exchange of information is essential in every emergency response. Misdirected, incorrect, or untimely information can be detrimental and even increase the threat to life or property. As an emergency event escalates, the rapid increase of information creates chaos and confusion. The following sections provide simple communication diagrams which can help to alleviate this situation.

4.1 COMMUNICATIONS DIAGRAMS

The following diagrams (Figures 2 and 3) are intended to provide a representative communications protocol when responding to various emergency situations. The diagrams are for general guidance and may not address unique situations that could arise with this Project. These diagrams should be modified to represent the actual Project conditions and team structures and can be utilized in the emergency response training at the start of the Project.

Figure 2 shows normal communication links during the construction phase of the Project. This protocol should effectively manage emergency situations up to a Level 2 activation. This would include the following: local injury or life-threatening activities, low to moderate events such as fire, flash flood, severe storm, environmental or transportation accidents.

Figure 2 Communications Protocol for Events Managed Without Additional Resources and Communications

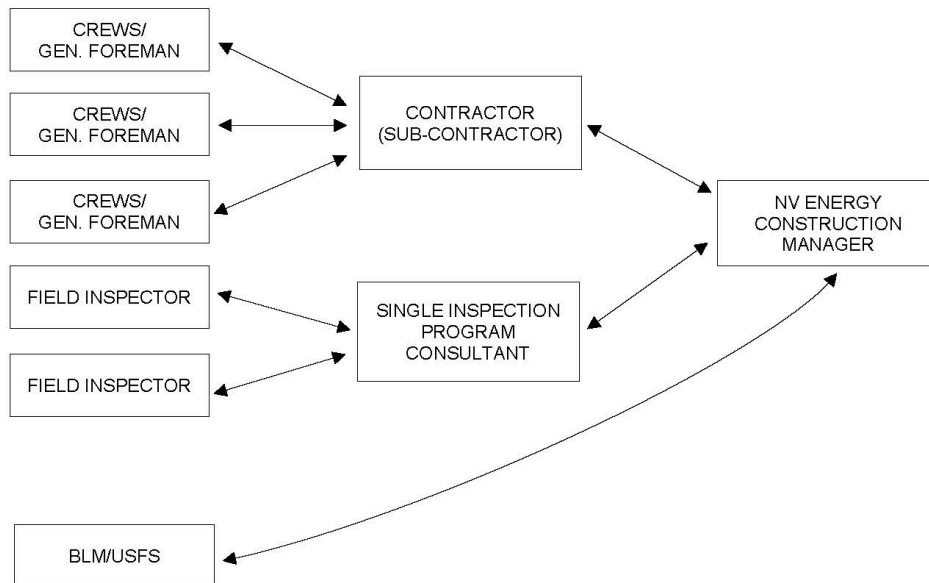


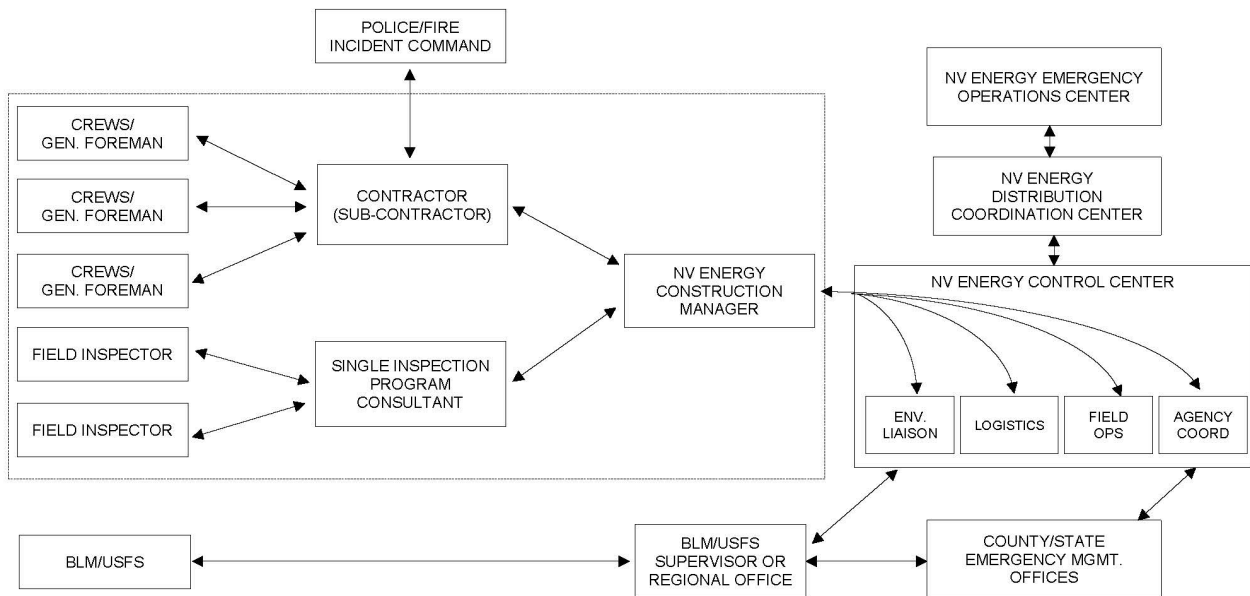
Figure 3 shows modified communication links between construction contractors, NV Energy's construction manager, and NV Energy's Control Center. The escalation of an emergency event requires additional resources, information and coordination and, therefore, certain reporting relationships will change.

The normal Project communication (inside rectangle) remains essentially unchanged except: 1) the field level Incident Command for emergency response will remain with field operations of the Project management team, and 2) the normal reporting of government agency inspectors will likely be coordinated through their respective state or regional offices or with the Nevada Division of Emergency Management and California Office of Emergency Services.

The activation of the Control Center allows the construction manager to channel resource and information needs without duplication or confusion. It also provides for inter-agency coordination at the local, state, or federal level allowing the construction manager to focus on effective field response.

Since the function and activities of the Control Center do not change with the activation of the Coordination Center or CEOC, this model can effectively manage any emergency situation up to a Level 3 activation. This would include moderate through catastrophic events.

Figure 3 Communications Protocol for Events Managed with Additional Resources and Coordination



4.2 EMERGENCY CONTACT LIST

In case of emergency, call 911 first. Additional emergency contacts are listed below in Section 6.0 and should be called as appropriate depending on the situation (e.g., fire, injury, etc.). Further guidance on emergency response, notification and reporting protocols are included in the Fire Prevention and Suppression Plan (Appendix A1), the Hazardous Materials Management and Spill Prevention, Control, and Countermeasure Plan (Appendix A2), the Blasting Plan (Appendix A4), and other appendices.

The emergency contact list shall be verified and updated throughout the Project operations by NV Energy and/or the construction contractor(s) to ensure accurate contact information. The emergency contact list is also included in the COM Plan.

5.0 HAZARD IDENTIFICATIONS AND KEY RESPONSE CRITERIA

The construction corridor for the Project possesses a myriad of potential hazards or threats on both a local and regional scale. The most effective response to any situation is awareness of the hazard, its potential effects and consequences, and a good understanding of the resources and actions necessary to respond. It would be unreasonable to list all the potential hazards and detail each response. Responses to different events may vary as the event evolves, but response methods and responsibilities described in this plan are essentially unchanged.

Effective emergency response training is based on plausible emergency scenarios, and then developing the understanding, elements and actions necessary to respond. Highly visible scenarios, such as injury and rescue situations, severe weather, and hazardous materials response are mandatory training for all major projects. However, the following are a few less likely, yet plausible, scenarios related to the Project that should also be utilized in emergency response training.

There are several scenarios that can be developed involving the construction and operation of a project of this scope. Only three will be discussed in this plan:

- Earthquake;
- Wildland fires; and
- Traffic corridor disruption.

NV Energy's COVID-19 response plan is included in Appendix B of this document. The plan represents the most up-to-date plan based on guidance from the U.S. Center for Disease Control and Nevada Occupational Safety and Health Administration.

For any instances where, once operating, the transmission line must be de-energized to protect human life and property, NV Energy's headquarters in Reno must be contacted at (775) 834-4100 and informed of the specific situation and location of the problem. The transmission line can be remotely de-energized from NV Energy's Reno headquarters.

5.1 EARTHQUAKE

- Hazard:** Earthquake
The Project will be constructed in eastern California and western Nevada crossing several mountain slopes where Quaternary faults have been mapped. The line is within a few hundred feet of the Peavine Peak fault zone, about one mile from the Upper Long Valley Fault, and passes through or very near to an unnamed fault west of Peavine Peak.
- Severity:** Relatively few earthquakes greater than 5.0 (Richter Scale) have been recorded in the local Project region. However, a magnitude 5.1 earthquake occurred between Reno and Verdi in 2008, and three other earthquakes with magnitudes between 5.1 and 5.9 have occurred within about 30 miles of the Project.
- Assumptions:** The Project area has the potential for earthquake-related ground shaking of between about 0.4 and 0.8 peak acceleration, expressed as a fraction of standard gravity (with a one in 50 chance of being exceeded over a period of 50 years).
- Consequences:**
- Assume severe shaking with effect to high profile equipment such as cranes, backhoes, etc.
 - Injury—minor to life threatening. The greatest hazard areas are structure erection areas and travel in landslide areas.
 - Environmental, biological hazards, and hazardous materials spills.
- Key Response:** Immediate:
- Look–Duck–Cover–Hold, immediate personal safety.
 - Immediate area hazard identification, remove hazards and establish safe zones.
 - Aftershock awareness, potential consequences of second and third aftershocks.
 - Rescue of victims, co-workers.
 - Activate emergency response activities, i.e., control center.
 - Assist local and regional emergency response agencies.
- Secondary:
- Damage assessment—local structural (buildings, safety zones)
 - Damage assessment—Project-wide for injury, mortality.
 - Damage assessment—equipment and materials.
 - Provide vital services and establish infrastructure recovery activities.
- Intermediate to Long-Term:
- Recovery planning.
 - Impact analysis.

5.2 WILDLAND FIRE

Further guidance is provided in the Fire Prevention and Suppression Plan (Appendix A1).



Hazard:	<u>Wildland Fire</u> The Project will be constructed in eastern California and western Nevada where fire potential and hazards have a moderate to a very high risk typically due to fire and weather conditions. Fire season for this region runs from May to October.
Severity:	Assume fire season similar to the past six years, the fuels will be heavy, and burning index will be high. Fire danger as part of the construction process will be very dependent on weather and fuels in the construction area. There are multiple ignition sources that may or may not be related to Project construction. Fire behavior over the past few years has become extreme with rapid rate of fire spreading and difficult fire control efforts. Potential for fire hazard is very high, and potential for injury, entrapment of crews is also of extreme concern.
Assumptions:	Advanced planning and the contractor's fire marshal position will target fire safety, communication, coordination and response by all members of the Project. Fire danger and warnings, fuels, burning index, weather and other indices will be monitored and communicated during the fire season. Fire prevention, fire safety and fire suppression training will be implemented before and during fire season.
Consequences:	<ul style="list-style-type: none"> • Life safety and injury concerns. • Property loss and damage. • Environmental and ecological concerns.
Key Response:	<p>Immediate:</p> <ul style="list-style-type: none"> • Life safety measures and evacuation of area. • Contact fire agencies and Project management. • Immediate fire suppression activities as appropriate. • Lookouts, communication, escape routes, safety zones. • Initial and ongoing coordination with fire agencies and fire command. • Activate Project control center as necessary. <p>Secondary:</p> <ul style="list-style-type: none"> • Assist suppression efforts with available resources. • Assist local and regional Emergency Response agencies. • Minimize health and environmental hazards. • Damage assessment both locally and Project wide. <p>Intermediate to Long-Term:</p> <ul style="list-style-type: none"> • Recovery planning. • Impact analysis

5.3 TRAFFIC CORRIDOR DISRUPTION

Further guidance is provided in the Transportation Management Plan (Appendix B1).

Hazard:	<u>Traffic Corridor Disruption</u> The Project's transmission line route crosses numerous small road corridors, primarily National Forest System (NFS) roads and other rural roads such as Long Valley Road. Near its southern end, it crosses several community roads on the outskirts of Verdi. These traffic corridors will also be used for transportation of Project crews, equipment, and materials.
Severity:	The potential for disruption of the transportation corridor during line construction, or during normal travel is low to moderate.
Assumptions:	All road crossings are pre-planned to mitigate traffic disruptions. Permits are obtained from the appropriate highway and law enforcement authorities. They participate in the planning of traffic corridor crossings and are notified prior to starting construction activities with their areas of control. The transportation of equipment and materials will follow federal, state, county, and Project safety requirements.
Consequences:	<ul style="list-style-type: none">• Potential of injuries and fatalities.• Logistical response difficulties.• Corporate/public perception, confidence.
Key Response:	Immediate: <ul style="list-style-type: none">• Notify local law enforcement and Emergency Medical Services as required.• Engage authorities.• Activate Mutual Assistance Agreements Manual, if necessary (nearest utility to clear safety hazard).• Immediate area hazard identification, remove hazards, and establish safe zones.• Activate emergency response activities, i.e., control center.• Assist local and regional emergency response agencies. Secondary: <ul style="list-style-type: none">• Assess damage, local structural, equipment, and materials.• Coordinate with local and regional agencies.• Vital services and infrastructure recovery activities. Intermediate to Long-Term: <ul style="list-style-type: none">• Recovery planning.• Impact analysis.

6.0 EMERGENCY CONTACTS

Table 1 Emergency Contact List

(This list will be verified and updated by NV Energy and/or the construction contractor(s) as needed during construction, operation, and maintenance.)

IN CASE OF EMERGENCY	
Call 911	
FIRE	
Call 911 first	
Sierra Front Interagency Dispatch (775) 883-3535 for Emergencies (775) 883-5995 for Administration	
USFS Humboldt-Toiyabe National Forest Forest Supervisors Office 775-331-6444 Carson Ranger District: (775) 882-2766 (Business hours M-F, 8:00-4:30pm, except Federal Holidays).	BLM Eagle Lake Field Office: (530) 257-0456 (Business hours M-F, 8:00-4:30pm, except Federal Holidays).
COUNTY SHERIFFS	
Sierra County Sheriff: (530) 289-2850	Washoe County Sheriff: (775) 328-3001
POLICE	
City of Reno Police Department 911 for emergencies (775) 334-2175	
POISON CONTROL	
(800) 222-1222	
HOSPITALS AND CLINICS	
<p>In Washoe County, Nevada:</p> <ul style="list-style-type: none"> • Saint Mary's Regional Medical Center 235 W 6th St Reno, NV 89503 (775) 770-3000 • Renown Regional Medical Center 1155 Mill Street Reno, NV 89502 (775) 982-4100 <p>(See Appendix A for directions)</p>	



HAZARDOUS SPILL RESPONSE AND NOTIFICATION		
Directly after 911 notification, the following mandatory notifications will be made by the environmental field supervisor. Select and notify the appropriate government agency(ies) based on geographic location of the spill site. See Hazardous Materials Management and Spill Prevention, Control, and Countermeasure Plan in Appendix A2.		
Call 911 first.	If after hours and the spill is located in Nevada, call the Nevada Highway Patrol Dispatch at: (775) 687-5300.	If after hours and the spill is located in California, call the California Highway Patrol Dispatch at: 1-800-835-5247
National Response Center: (800) 424-8802	Nevada Office of Emergency Management: (775) 687-0400	Nevada Division of Environmental Protection: (775) 687-9485
California Governor's Office of Emergency Services State Warning Center: (800) 852-7550	Sierra County, California Office of Emergency Services: (530) 289-2850	Washoe County, Nevada Risk Management Division: (775) 328-2665
NV ENERGY		
Laura Clifford Project Manager Phone: (775) 834-3260 Fax: (775) 834-4659 LClifford@nvenergy.com	Lee Simpkins Environmental Supervisor Phone: (775) 834-3528 Fax: (775) 834-3158 lsimpkins@nvenergy.com	
U.S. FOREST SERVICE		
Marnie Bonesteel Special Use Administrator/ COM Plan Project Manager 1200 Franklin Way Sparks, NV 89431 Phone: 775-331-6444 Desk: (775) 352-1240 Cell: 775-221-9225 marnie.bonesteel@usda.gov	TBD Field Monitor	
BUREAU OF LAND MANAGEMENT		
TBD Compliance Manager	TBD Field Monitor	
CONSTRUCTION CONTRACTOR		
To be determined	To be determined	



NV ENERGY – SINGLE INSPECTION PROGRAM (SIP) TEAM		
TBD Environmental Field Supervisor	TBD Environmental Field Coordinator	TBD Environmental Field Inspector
		TBD Environmental Field Inspector
		TBD Environmental Field Inspector
		TBD Environmental Field Inspector
	TBD Flagging and Fencing Crew	TBD Environmental Field Inspector

APPENDIX A

Hospitals Directions

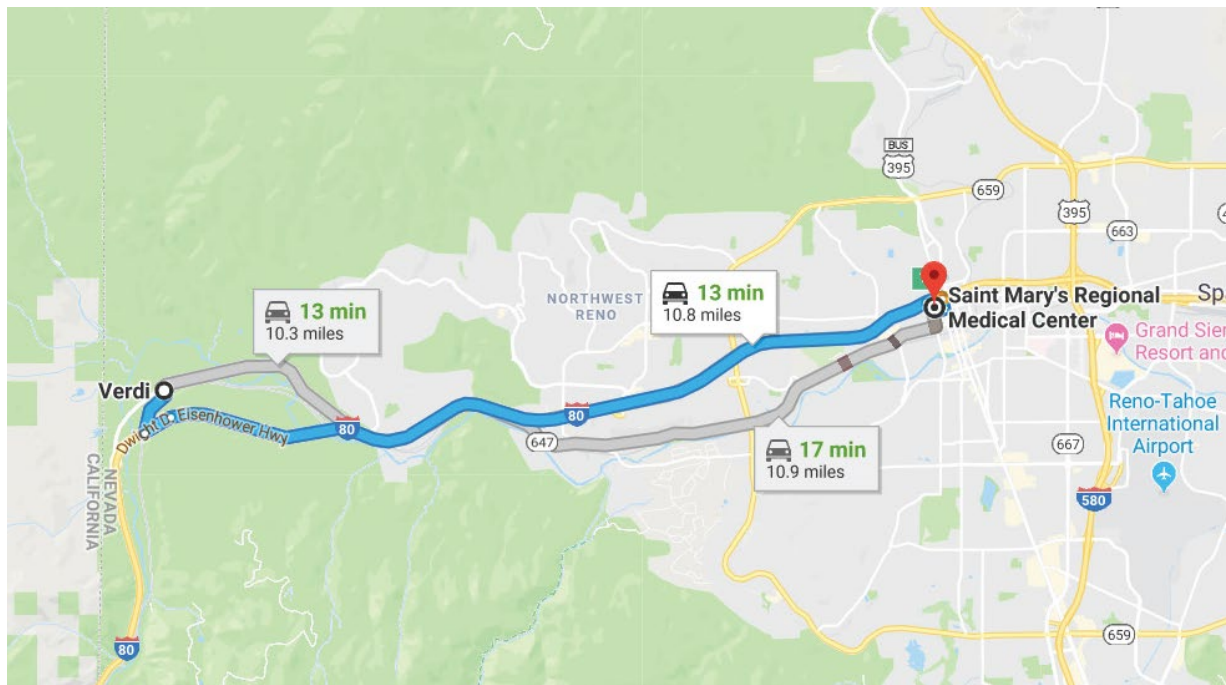
Directions to Hospitals

Saint Mary's Regional Medical Center

235 W 6th St
Reno, NV 89503
775-770-3000

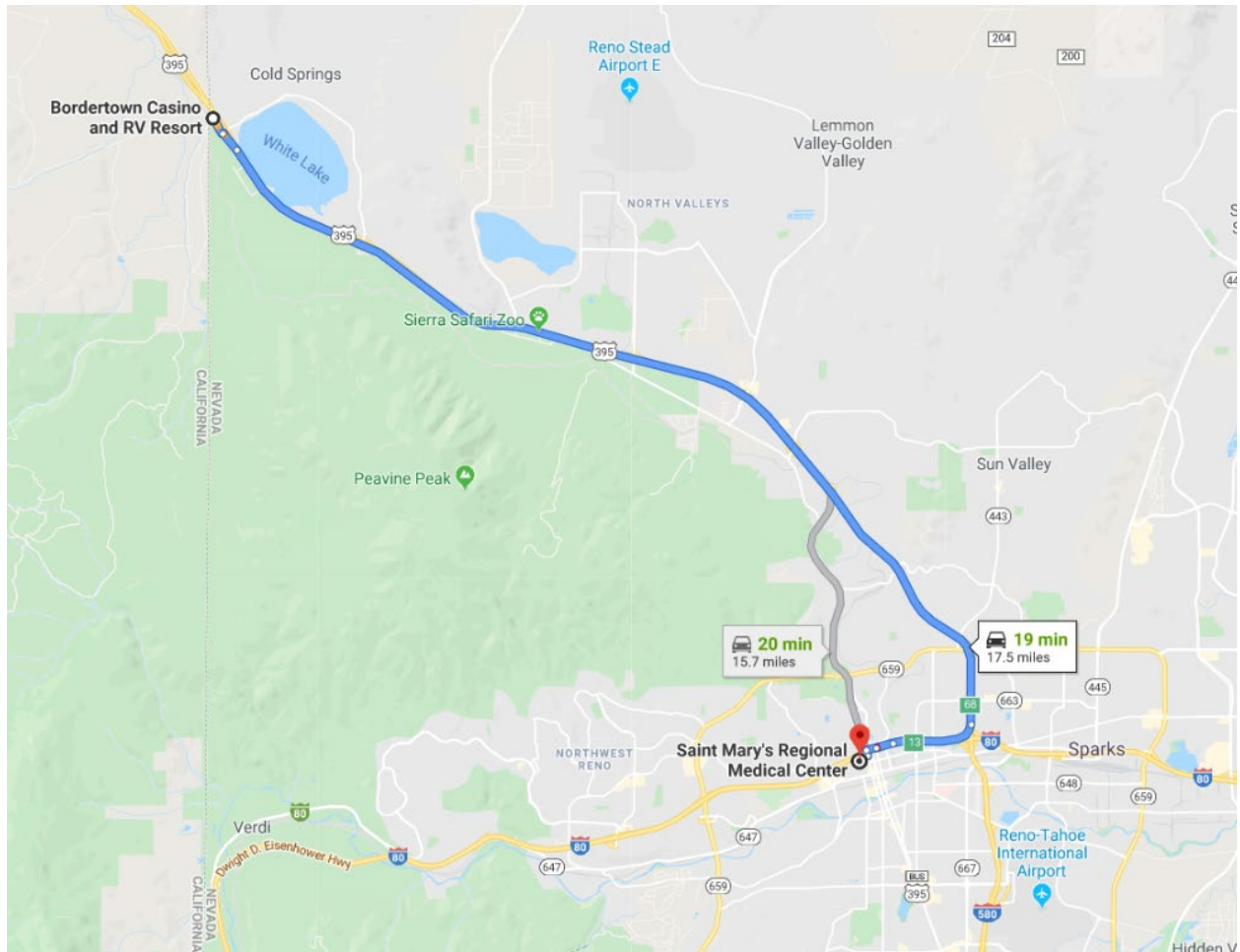
Directions from Verdi (Bridge Street area):

- Head southeast on Bridge Street towards Front Street;
- Turn right onto S. Verdi Road;
- Turn left onto the Route 80 East ramp;
- Merge onto Interstate 80 East
- Take Exit 13 toward Downton Reno/Virginia Street;
- Turn Right onto North Sierra Street;
- Turn Right onto West 6th Street.



Directions from Bordertown (Casino and RV Resort area):

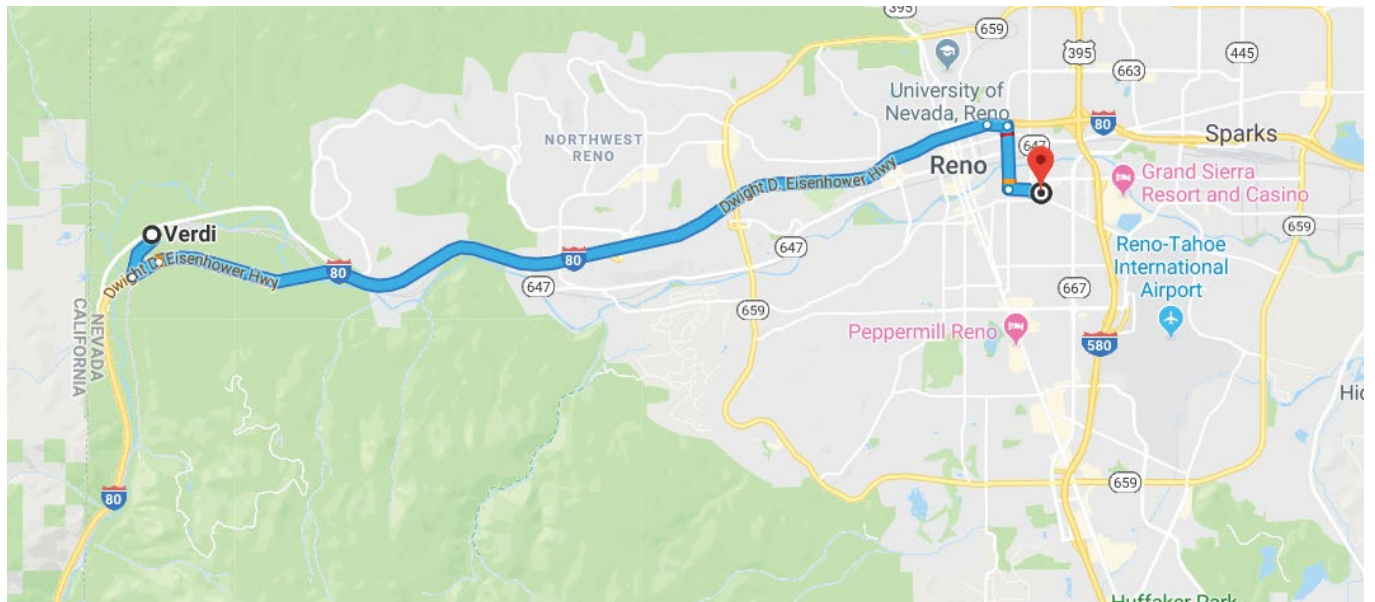
- Get on US-395 South;
- Take Exit 68 towards I-80 West;
- Take Exit 13 and continue straight to North Sierra Street;
- Turn left on North Sierra Street.



Renown Regional Medical Center

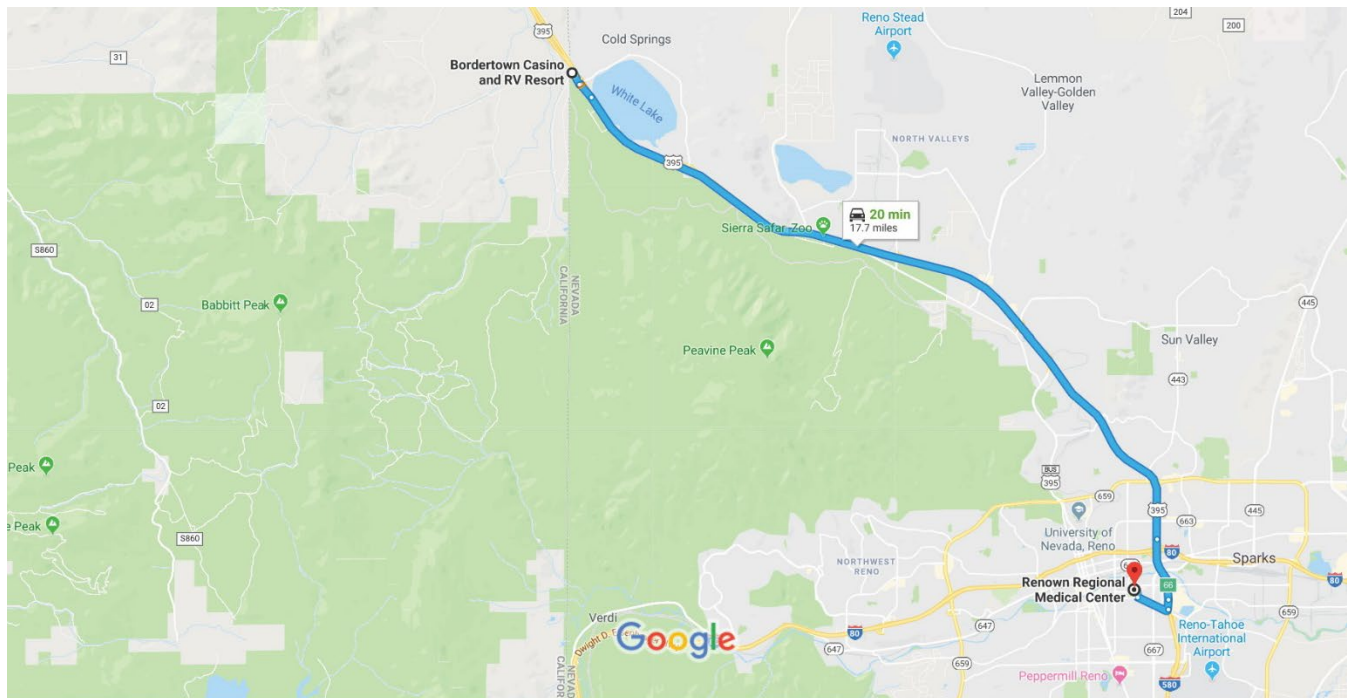
1155 Mill Street
Reno, NV 89502
775-982-4144

Directions from Verdi (Bridge Street area): Head southeast on Bridge Street toward Front Street.
Turn right onto South Verdi Blvd.
Turn left onto the Route 80 East ramp.
Follow I-80 East to North Wells Ave.
Take Exit 14 from I-80 East.
Turn right onto North Wells Ave.
Turn left onto Mill Street.



Directions from Bordertown (Casino and RV Resort area):

- Get on US-395 South;
- Continue onto I-580 South/US-395 South;
- Merge onto US-395 South;
- Take Exit 66 for Mill Street;
- Turn right onto Mill Street.



APPENDIX B

NV Energy's COVID-19 Response Plan

Purpose:	To set expectations of contractors in support of NV Energy's COVID-19 response plan and outline contractor expectations in a consolidated document.
Scope:	Applies to all planned or emergency work contractors perform for NV Energy during the COVID-19 emergency plan.
Roles:	This policy is for NV Energy contractors and their personnel while working at NV Energy facilities and/or physically interfacing with NV Energy employees.

1.0 Purpose

NV Energy (NVE) provides essential services to its customers and reasonable efforts must be made to avoid the interruption of those services. Under occupational safety and health regulations, NVE has a duty to maintain a safe workplace. That duty includes taking reasonable measures to prevent the spread of disease. COVID-19 virus (Novel Coronavirus) is spreading globally. NVE is closely monitoring the U.S. Centers for Disease Control and Prevention (CDC) and the World Health Organization for the latest developments on the virus. The Nevada Occupational and Safety Health Administration (NV OSHA) requires everyone wash their hands, maintain six foot separation from others, and not come to work if showing symptoms. These are some of the simplest and most effective measures to fight communicable diseases. In addition to these safety precautions, NVE is issuing the following updated policy for its contractors.

2.0 Background

March 13, 2020: NVE directed contractors to monitor and manage their employees' travel according to the high-risk jurisdictions designated by the CDC; as well as ongoing developments as they pertain to COVID-19. This included notifying NVE if employees had travelled to, or had family travel to one of the CDC-targeted COVID-19 countries.

March 15, 2020: CDC issued Level Three or Level Two Travel Health Notices for the following areas: China, Iran, South Korea, Japan, the U.K., Ireland, Venezuela and most countries in Europe. For purposes of this policy, these countries are considered high-risk jurisdictions. All business travel to high-risk jurisdictions is prohibited. In addition, some locations in the United States have been designated as high-risk locations.

March 18, 2020: NV OSHA issued a COVID-19 letter providing social distancing protocols and measures for the management of staff and labor in the mining, construction, and manufacturing industry sectors. See Appendix A. These protocols include:

- Meetings, tailboards, and other gatherings
- Social distancing
- Sanitation and cleaning supplies
- Labor transportation
- Daily surveys
- First responders
- Potable and sanitary water

March 26, 2020: NV OSHA issued a second COVID-19 letter re-emphasizing social distancing safeguards and notified contractors of random site audits to ensure these safeguards are in place. See Appendix B.

March 31, 2020: The Nevada Governor issued a Travel Advisory for Nevada, recommending no non-essential travel and urging anyone returning to/arriving in Nevada to self-quarantine and monitor their health for 14 days. See Appendix C.

April 1, 2020: NVE issued an email notification to its contractors relaying the NV OSHA requirements and our commitment to uphold and implement these requirements. The March 26, 2020 NV OSHA letter was attached.

3.0 Current Notification and Self-quarantine Requirements

Generally, contract employees are considered essential to NVE business and will not be required to quarantine if they meet the requirements outlined below.

The Centers for Disease Control and Prevention have issued Level Three or Level Two Travel Health Notices for the following countries: China, Iran, South Korea, Japan, the U.K., Ireland, Venezuela and most countries in Europe. In addition, some locations in the United States have been designated as high-risk or hot spot locations. See <https://www.cdc.gov/coronavirus/2019-ncov/travelers/map-and-travel-notices.html> and click on each country for the latest list high risk locations and travel advisories. For purposes of this policy, these areas are considered high-risk jurisdictions.

Contractors with employees that work at an NVE facility or job site must review their employee's business and personal travel to high-risk international and domestic locations, and review it with NVE on a case-by-case basis. The contractor's employees may be required to self-isolate, self-monitor and refrain from entry to an NVE facility or job site for 14 days upon return from travel.

For domestic travel to areas that are not considered high risk or hot spot locations, contractors with employees that work at an NVE facility or job site must review their employee's business and personal travel to international and domestic locations, and disclose it to NVE. NVE will review out-of-state domestic travel disclosures on a case-by-case basis to determine whether self-isolation for 14 days is required. This does not apply to contract employees who travel to home residences in neighboring states (Utah, Arizona, or California) unless traveling to a high risk location.

Contractor employees who are assigned to work remotely do not need to disclose out-of-state domestic travel to NVE but are expected to self-isolate, self-monitor and refrain from entry to a NVE facility for 14 days upon return from travel. Contractors should be following any state and federal guidelines regarding personal protective equipment (PPE). NVE may require additional PPE for contractors and would be determined on a case by case basis. PPE would be supplied by the Contractor.

Contractors must immediately notify NVE if any employee:

- 1) Has tested positive or is presumptive positive for COVID-19,
- 2) Has been in close contact or had prolonged exposure with someone who has tested positive or is presumptive positive for COVID-19,
- 3) Lives in a household with someone who has travelled to a high-risk jurisdiction,
- 4) Has recently traveled or plans to travel domestically outside of Nevada (other than to/from their home residence unless traveling to a high risk location),
- 5) Has recently traveled or plans to travel internationally for business or personal purposes,
or
- 6) Lives in a household with someone who plans to travel internationally.

Your NVE Representative will work with NVE Human Resources will evaluate any risk and may require the employee to take additional precautions based on the risk assessment.

Note there may be local or NVE site-specific policies in addition to this policy, for example, if a medical clearance is required to return to work. A screening may be required if the employee's medical condition poses a significant risk of substantial harm to the health or safety of the employee, or others. The contractor should work closely with their NVE representative to understand any additional expectations or restrictions.

4.0 Temperature Check

To further enhance safety and individual health awareness during the current COVID-19 conditions, NV Energy is providing guidance, based on CDC guidance, related to temperature checks. This guidance is for contractors, including subcontractors and any other personnel to take their temperature prior to entering NVE facilities or jobsites. This guidance asks each individual to take their temperature and ensure that they are healthy before reporting to NVE facilities or jobsites. This guidance further requires individuals working within any of the Company's Halo Zones (control centers, control rooms, trading floor, gas dispatch) to take their temperature and ensure that they are healthy before reporting for duty to a Halo Zone area.

- 1) For any contractors who continue to come into Company facilities or work in the field, the Company asks each individuals to check their temperature prior to reporting to work.
- 2) For contractors working in a Company-identified Halo Zone (control centers, control rooms, trading floor, gas dispatch), the Company is requiring individuals to check their temperature prior to reporting to work.
- 3) To report to work or continue to work at Company facilities or in the field, their temperature must be below 100.4 degrees (F) without the use of Aspirin, Ibuprofen or other fever-reducing medicines.
- 4) Contractors having a temperature of 100.4 degrees (F) must notify their NVE representative. If a temperature check, exceeding this threshold, is taken at a Company facility or in the field, contractors are instructed to immediately isolate themselves and leave the facility or field and contact their NVE representative after leaving.
- 5) Contractors having a temperature of 100.4 degrees (F) will not be permitted to enter Company facilities or the field until the contractor is symptom free (without the use of Aspirin, Ibuprofen or other fever-reducing medicines) for a minimum of 3 days.
- 6) Any contractors who have actual exposure to others with confirmed cases of the COVID-19 virus are required to notify their NVE Representative and may be required to self-quarantine for 14 days.
- 7) The NVE Representative will work with NVE Human Resources to evaluate any risk and may require the contract employee to take additional precautions based on the risk assessment.

5.0 Evidence of Business Relationship

NVE leadership has been in contact with the Governor's office, and it is recognized that reliable gas and electric service is essential to the safety and well-being of the community, especially during this

very difficult time for our customers. As a result, our contractors play a vital role in maintaining the effective delivery of these essential services. NVE has no objection to the contractor's use of its NVE purchase orders as evidence of the relationship between our companies. If the contractor chooses to carry a purchase order as evidence, they are encouraged to redact any pricing on hardcopies. Should you need a copy of a particular purchase order or a special circumstance requires a unique authorization letter, please contact your contract administrator with sufficient detail to provide the necessary documents.

Contractors may have employee with specific work assignments that require a more detailed letter outlining the job function and the business need. Contact you NVE representative who will work with internal departments to provide the necessary documents.

The policy may be modified as the situation changes. Please contact your NVE contract administrator with any questions. For Energy Supply contracts, please contact Cynthia Alejandre at CAlejandre@nvenergy.com. For Electric Delivery contracts, please contact Christer Hargrove at CHargrove@nvenergy.com.

6.0 Appendix

- A. NV OSHA Memorandum dated March 18, 2020 (3 pages)
- B. NV OSHA Memorandum dated March 26, 2020 (2 pages)
- C. NV Governor's Travel Advisory dated March 31, 2020 (2 pages)

7.0 Revisions

- 0.0 Original document, dated April 7, 2020.
- 1.0 Added Section 4.0 Temperature Check, dated April 16, 2020

STATE OF NEVADA

Steve Sisolak
Governor

Terry Reynolds
Director



Ray Fierro
Administrator

Victoria Carreón
Deputy Administrator

Jess Lankford
Chief Administrative Officer

DEPARTMENT OF BUSINESS AND INDUSTRY
DIVISION OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

March 18, 2020

To Whom It May Concern,

This memorandum provides guidelines for the management of staff and labor in the mining, construction, and manufacturing industry sectors. This memorandum supports and enhances Governor Steve Sisolak's March 18, 2020 document titled, "Nevada Health Response COVID-19 Risk Mitigation Initiative."

As identified by the Governor of Nevada, the implementation of the following protocols is extremely important to reduce and slow the spread of COVID-19. The Governor has tasked every business and business sector with the responsibility to do whatever it can to address the historic public health issue.

The following are social distancing protocols and measures that are to be initiated immediately:

Mining:

- ▶ Restrict meetings, safety meetings/tailgate talks, and gatherings to no more than 10 people. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Establish effective social distancing protocols, which ensure that staff maintain a 6 foot personal separation from other staff during meetings, discussions, etc. where 10 people or less are present. Ensure that social distancing protocols are maintained during operation of mobile service equipment designed for 2 or more passengers including, but not limited to, man lifts, scissors lifts, etc. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Provide sanitation and cleaning supplies for addressing common surfaces in multiple user mobile equipment and multiple user tooling. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Maintain 6 foot separation protocols for labor transportation services, such as buses, vans, etc.
- ▶ Conduct daily surveys of changes to staff/labor health conditions. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Ensure that any identified first responders in the labor force are provided and use the needed Personal Protective Equipment (PPE) and equipment for protection from communicable or infectious disease. (29 CFR 1910.1030)
- ▶ Provide access to potable and sanitary water (30 CFR 56, and 57)

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Construction:

- ▶ Restrict meetings, safety meetings/tailgate talks, and gatherings to no more than 10 people. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Establish effective social distancing protocols, which ensure that staff maintain a 6 foot personal separation from other staff during meetings, discussions, etc. where 10 people or less are present. Ensure that social distancing protocols are maintained during operation of mobile service equipment designed for 2 or more passengers including, but not limited to, man lifts, scissors lifts, etc. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Provide sanitation and cleaning supplies for addressing common surfaces in multiple user mobile equipment and multiple user tooling. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Maintain 6 foot separation protocols for labor transportation services, such as buses, vans, etc.
- ▶ Conduct daily surveys of changes to staff/labor health conditions. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Ensure that any identified first responders in the labor force are provided and use the needed Personal Protective Equipment (PPE) and equipment for protection from communicable or infectious disease. (29 CFR 1910.1030)
- ▶ Provide access to potable and sanitary water (29 CFR 1926.15)

Manufacturing:

- ▶ Restrict meetings, safety meetings/tailgate talks, and gatherings to no more than 10 people. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Establish effective social distancing protocols, which ensure that staff maintain a 6 foot personal separation from other staff during meetings, discussions, etc. where 10 people or less are present. Ensure that social distancing protocols are maintained during operation of mobile service equipment designed for 2 or more passengers including, but not limited to, man lifts, scissors lifts, etc. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Provide sanitation and cleaning supplies for addressing common surfaces in multiple user mobile equipment and multiple user tooling. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Maintain 6 foot separation protocols for labor transportation services, such as buses, vans, etc.
- ▶ Conduct daily surveys of changes to staff/labor health conditions. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Ensure that any identified first responders in the labor force are provided and use the needed Personal Protective Equipment (PPE) and equipment for protection from communicable or infectious disease. (29 CFR 1910.1030)
- ▶ Provide access to potable and sanitary water (29 CFR 1910.141)

For any further guidance use the following links

Federal OSHA - <https://www.osha.gov/SLTC/covid-19/>

Center for Disease Control and Prevention - <https://www.cdc.gov/coronavirus/2019-nCoV/index.html>

State of Nevada - <https://nvhealthresponse.nv.gov/>

Mine Safety and Health Administration: <https://www.msha.gov/>

Nevada OSHA Information: <http://dir.nv.gov/OSHA/Home/>

**THIS GUIDANCE IS SUBJECT TO REVISION AS ADDITIONAL
INFORMATION IS GATHERED. PLEASE CHECK HERE FREQUENTLY FOR
UPDATES.**

Sincerely,

Jess Lankford

Chief Administrative Officer

Phone # 702.486.9020

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STATE OF NEVADA

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DEPARTMENT OF BUSINESS AND INDUSTRY
DIVISION OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

March 26, 2020

Ref: March 18th, 2020 Nevada Governor's "Nevada Health Response COVID-19 Risk Mitigation Initiative."

To Whom It May Concern,

In recent days the administration of the Nevada Occupational Safety and Health Administration (NVOSHA) has conducted intermittent surveys of active construction sites in Nevada. At many of these work sites it is visibly obvious that employees are still being directed/allowed to work in close proximity (less than 6 feet of separation) to other staff.

On March 18th, 2020 NVOSHA published a set of guidelines in support of the March 18th Governors mitigation initiative, which are available at:

[http://dir.nv.gov/uploadedFiles/dirnv.gov/content/home/features/OSHA%20COVID%2019%20Guidance%20\(004\)\(1\).pdf](http://dir.nv.gov/uploadedFiles/dirnv.gov/content/home/features/OSHA%20COVID%2019%20Guidance%20(004)(1).pdf)

The NVOSHA guidelines referenced construction operations and provided the following:

Construction:

- ▶ Restrict meetings, safety meetings/tailgate talks, and gatherings to no more than 10 people. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Establish effective social distancing protocols, which ensure that staff maintain a 6 foot personal separation from other staff during meetings, discussions, etc. where 10 people or less are present. Ensure that social distancing protocols are maintained during operation of mobile service equipment designed for 2 or more passengers including, but not limited to, man lifts, scissors lifts, etc. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Provide sanitation and cleaning supplies for addressing common surfaces in multiple user mobile equipment and multiple user tooling. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Maintain 6 foot separation protocols for labor transportation services, such as buses, vans, etc.
- ▶ Conduct daily surveys of changes to staff/labor health conditions. **NV OSHA is emphasizing the need for construction leadership to be working with and aware of the health and well-being of its labor force.** Many leaders in the construction industry have implemented entry surveys of labor health conditions that have, and may, include temperature scans and in person Q&A. (Ref. - Guidance on Preparing Workplaces for COVID-19, OSHA 3990-03 2020)
- ▶ Ensure that any identified first responders in the labor force are provided and use the needed Personal Protective Equipment (PPE) and equipment for protection from communicable or infectious disease. (29 CFR 1910.1030)

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- ▶ Provide access to potable and sanitary water (29 CFR 1926.15)

On March 20th, 2020 the Governor of Nevada set forth a Declaration of Emergency Directive 003, which is available at: <https://nvhealthresponse.nv.gov/wp-content/uploads/2020/03/2020-03-20.Declaration-of-Emergency-Directive-003.pdf>

In this declaration, within Section 6, the Governor states specifically “Business sectors operating under this authority must comply with any applicable COVID-19 risk mitigation policies, as further defined in regulations promulgated under this Directive, and any precautionary measures and guidance that shall be promulgated by Nevada Department of Business and Industry.” Section 8 states, in part, “Businesses ... may continue operations, ..., if they are able to implement social distancing safeguards for the protection of their employees...”. (Emphasis added).

As a result of the “Emergency Directive 003” the NVOSHA COVID-19 response guidelines for construction are required.

NVOSHA seeks to ensure that all construction companies comply with the aforementioned mandates and also seeks to distribute this information so that construction businesses are fully aware of these requirements. If your business, group, or association is receiving this memo then please recognize this memo as notice to your business, group, or association that the previously mentioned mandates and guidance must be adopted and put into effect.

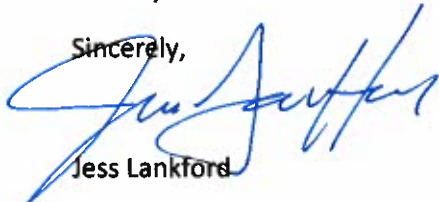
If you are receiving this memo and are associated with a building group or association we request that you immediately distribute this memo to all General Contractors, Subcontractors, or any other representatives of construction sector businesses that this information may apply to, including but not limited to, inspectors, utilities, vendors, material suppliers, independent contractors, or any other companies having employees present at a Nevada construction site.

NV OSHA will be conducting random onsite inspections to ensure that the Governor’s mandates are followed and implemented accordingly.

Failing to comply with the Governor’s Emergency Declaration 003 and associated, promulgated regulations, or guidance will be considered non-compliance with these mandates and may result in the penalizing or closure of any construction site or project that falls under the scope of the Governor’s Emergency Declaration. (Ref. Sections 9 & 10 of the Nevada Emergency Declaration 003)

Thank you in advance for addressing the concerns of the State of Nevada in a timely fashion.

Sincerely,



Jess Lankford

Chief Administrative Officer NVOSHA

CC:

Terry Reynolds

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**NEVADA
HEALTH
RESPONSE**

FOR IMMEDIATE RELEASE
March 31, 2020

CONTACT: Meghin Delaney
Public Information Officer
mdelaney@nvhealthresponse.nv.gov

Governor Sisolak issues travel advisory for State of Nevada

Carson City, NV — Today, Nevada Governor Steve Sisolak issued a travel advisory for the State of Nevada, urging visitors or returning Nevadans to self-quarantine and monitor their health for 14 days after arriving or returning to Nevada to help contain the spread of COVID-19 in Nevada.

“We know this virus does not spread on its own so we need everyone, Nevadans and travelers, to take preventive measures to help flatten the curve and protect the most vulnerable among us,” said Gov. Sisolak. “Nevada will always be a welcoming spot for travelers, but out of an abundance of caution, we are asking everyone to Stay Home for Nevada, especially if you have symptoms.”

Travelers are urged to self-quarantine and monitor their health for 14 days or the duration of their stay in Nevada, whichever is shorter. Travelers and returning Nevadans should not visit any public place or come into contact with those who are not members of their household unit.

The Governor is also strongly urging Nevadans to avoid non-essential travel during this time period as well, especially to places [where the CDC has issued travel advisories](#). For Nevada residents who live in communities that border other states, please practice aggressive social distancing if you must cross state lines for essential daily matters.

This advisory does not apply to healthcare, public health, public safety, transportation, and food supply essential employees.

If you are traveling in Nevada and are experiencing symptoms (fever, cough, shortness of breath):

1. Continue to stay in your designated quarantine location, avoid contact with others, and contact a healthcare provider for further instructions on treatment or testing.
2. If you are older or have any medical conditions (e.g., immune compromise, diabetes, asthma), consult your regular healthcare provider.
3. If you feel you need medical care, call ahead before you go in and inform them of your travel history.
4. If you need urgent medical care (e.g., have difficulty breathing), call 9-1-1 and let the dispatcher know your travel history).

For more information, visit nvhealthresponse.nv.gov.

###

APPENDIX C

NV Energy's Wildland Fire Plan

NV Energy Wildland Fire Plan





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Overview

Purpose

To outline procedures and responsibilities required by staff in response to a wildland fire and how to work with external agencies during the emergency.

Scope

Applies to all employees involved in the wildland fire response – including office staff and field personnel.

1.0 Roles and Responsibilities

1.1 Electric System Control Center (ESCC)

Role: Provide current information to NV Energy (NVE) personnel to maintain optimal employee, equipment and public safety. Assure the electric system is operating in compliance with National and Federal guidelines.

Responsibilities

- If field personnel, a customer, or an outside agency calls to report a wildland fire that impacts NVE infrastructure; the electric dispatcher will request a troubleshooter respond to the scene to assess the potential impact.
- When a fire/dispatch agency or response agency calls NVE electric dispatch, the electric dispatcher will gather the following information to share with the Fire Liaison:
 - Where is the fire?
 - Who is the incident commander?
 - What is the incident commander's contact number?
 - Where is the Incident Command Post (cross streets or address is preferred)?
- Electric dispatch will notify Lines Duty Supervisor and/or Substation Duty Supervisor that there is a fire in the area and a Fire Liaison is needed.
- Electric dispatch should inform the Fire Liaison of any requests from outside agencies that come directly to them regarding de-energizing lines. This will ensure constant and accurate communication between all departments involved.
- Assist with requests from the field to de-energize and/or re-energize lines affected by the fire or for safety concerns.

1.2 Electric Fire Liaison

Role: Act as the NV Energy representative to the Incident Commander (IC) at the Incident Command Post (ICP).

Responsibilities

- Provide coordination between responding fire agencies, NVE field personnel, and system control.
- Contact fire dispatching agency (see contact list at the end of this procedure) to acquire additional information including Point of Contact, POC phone number, Incident Command location, and any other pertinent information that is available, such as extent of fire.
- Contact Incident Commander by phone, exchange contact information, and get more details about the fire including: extent, location, and proximity to our facilities and need for response by NVE field personnel including de-energizing line or accessing damaged area to repair facilities.
- Attend operational briefings at the Incident Command Post (ICP), if appropriate, to exchange information.
- Provide fire information to NVE GIS to prepare map overlaying NVE facilities in fire map.
- Obtain status of NVE electric system and requirements from the field personnel of affected departments to relay to fire Incident Command.
- Communicate with appropriate stakeholders in Electric Delivery to provide requirements for the NVE responding crews including what PPE is required, if any, potential hazards to be aware of, and Incident Command contact information.
- Maintain communication and provide updates to impacted stakeholders.
- Relay next operational period NVE objectives/tasks to Incident Commander.

1.3 NVE Electric Delivery Field Personnel (Lines and Substations)

Role: Serve as the on-scene subject matter experts for NVE infrastructure. Coordinate efforts to mitigate effects of the fire to assets, as well as, repair or replace damaged facilities. Provide current information to NVE personnel to maintain optimal employee, equipment, and public safety.

Responsibilities

- Upon notification of a wildland fire incident, the Lines Duty Supervisor and/or Substation Duty Supervisor will designate an NVE employee with operational knowledge to become the Fire Liaison for that event.
- Prior to assessing damage, or making repairs, report to the ICP or established staging area.
- Conduct check-in activities with the Incident Command Operations Section Chief upon arrival and departure.
- Ensure timely and accurate communication between field personnel, the duty supervisor and the fire liaison, as needed.

- Field personnel working in the area of a wildland fire will wear their yellow fire gear and any other personal protective equipment necessary, or instructed to by fire agencies.
- Conduct standard crew operations.
- Crews will provide a report to the Duty Supervisor when they leave the incident, including the status of completed repairs and if additional repairs are required.

1.4 Emergency Management

Role: Provide essential coordination between agencies, jurisdictions, and NVE during wildland fires.

Responsibilities

- Assist Executive in Charge (EIC) with notifying Emergency Response Organization (ERO) of activation.
- Send alert notification to ERO regarding upcoming emergency calls.
- Gather relative information about the event to be shared with NVE stakeholders during the ERO activation call.
- Respond to ICP, if EM personnel is available and NVE ERO or local EOCs are not activated. EM ICP response availability will depend on number of ICPs activated in the area and location of ICP.
- Respond and represent NVE at County and local Emergency Operation Center when activated.
- Compile NVE situation report to be sent out to NVE ERO by the EIC.

1.5 NVE Gas Operations

Role: Serve as the on-scene subject matter experts for NVE infrastructure. Coordinate efforts to mitigate effects of the fire to assets, as well as, repair, isolate, or replace damaged facilities. Assist fire personnel with shut off of gas supply to affected structures (commercial or residential). Provide current information to NVE Dispatch and personnel to maintain optimal employee, equipment, and public safety.

Responsibilities

- Upon notification of a wildland fire incident from fire dispatch, electric dispatch, or emergency management, the Gas Duty Supervisor will respond to ICP and work with the incident commander.
- Based on the needs of the incident, the Gas Duty Supervisor will coordinate the response of the NVE gas crews.
- Additional personnel/crews will conduct check-in activities with the Gas Duty Supervisor (located at the ICP) upon arrival and departure.



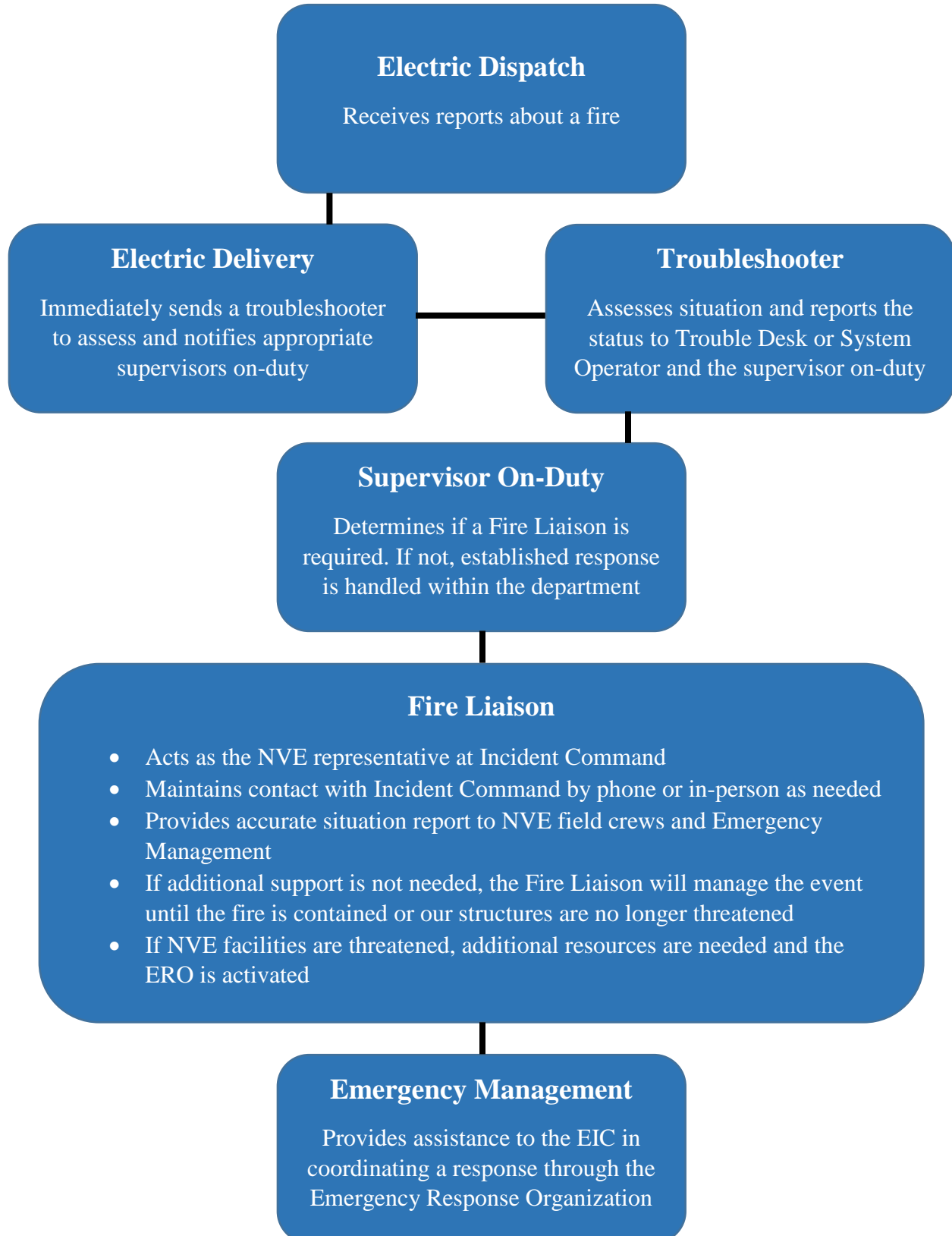
- Field personnel working in the area of a wildland fire will wear their Personal Protective Equipment (PPE).
- Ensure timely and accurate communication between field personnel and Gas Duty Supervisor to include a report when they leave the incident, including the status of completed repairs/shut-offs and if additional repairs or shut offs are required.
- If the event rises to the need for an Emergency Response Organization (ERO) response, Gas Duty Supervisor or leadership will notify emergency management.

2.0 Wildland Fire Agency Contact Numbers

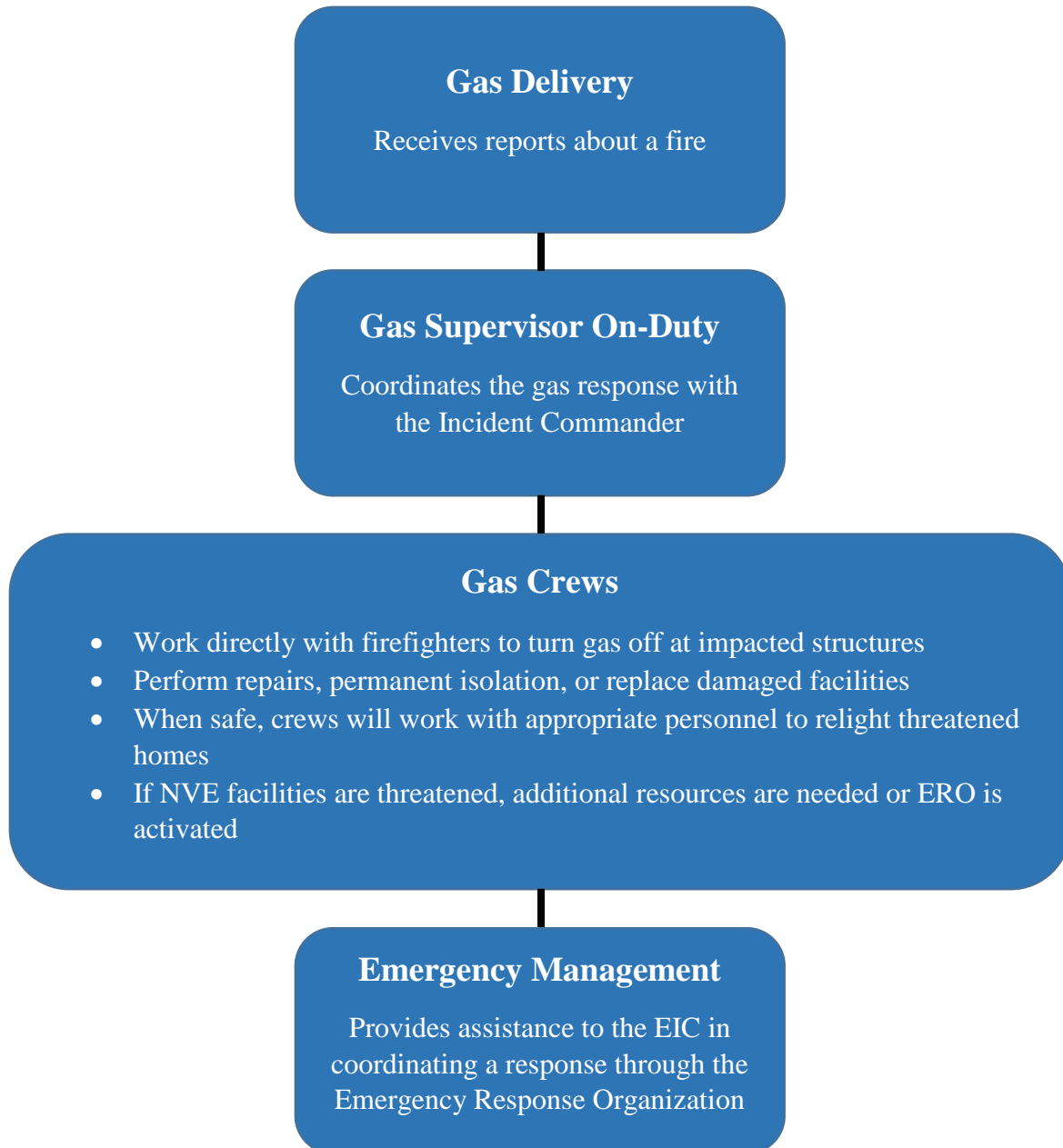
- Minden Dispatch – Regional Resources Dispatched – (775) 883-5995
- Truckee Meadow Fire Protection District Fire Admin Line – (775) 785-4253
- Elko Dispatch Center – (775) 748-4030 or (775) 748-4000

Wildland Fire Questions	
Where is the fire?	
Who is the Incident Commander?	
Incident Commanders Phone Number?	
Is there an Incident Command Post set up?	
Where is it?	
Do you need an NVE rep onsite?	
Can our crews get into the black?	
What PPE is needed?	
Are poles actively burning?	

3.0 Wildland Fire Notification Route



Wildland Fire Notification Route – Gas Delivery



4.0 Personal Protective Equipment

4.1 Inventory List for Wildland Fire Bags

Wildland Fire Gear are “NON STOCK” and include:

- 1 each – Nomex IIIA Yellow Brush Shirt
- 1 each = Nomex IIIA Yellow Brush Pants (Over Pant)
- 1 each - Neck Protector
- 1 each – New Generation Fire Shelter (*Shelter must have BLUE casing, if Yellow please return*).
- 1 each – Web Belt for the fire shelter

4.2 Additional Equipment for Wildland Fire Bag

YOU ARE RESPONSIBLE FOR ADDING THE FOLLOWING ITEMS TO YOUR FIRE GEAR BAG!

Wildland Fire Gear “STOCK ITEMS” from the warehouse include:

- 1 pair – Leather Work gloves (always keep an extra pair in the bag).
- 1 pair goggles – Wildcat Goggles are now in stock in Clear, Smoke, and Amber
- 1 each – Hardhat (*Recommend an additional hardhat with Neck Protector and Goggles already attached*).
- 1 each – Respirator/Dust Mask (*recommend having something available for working in dust hazard environment*).
- Extra socks, cotton tee shirt and bandana are recommended but optional.

4.3 Fire Locker Supplies at 1 Ohm

There are extra PPE in the fire locker located at 1 Ohm if additional yellows are needed for crews going out into the incident. There are also UHF radios in that same locker for crews heading out to the scene. When arriving at the Command Post, ask the Incident Commander/Operations Section Chief to have your radio cloned to match their frequencies.



5.0 Pre-Trip Fire Pumper Inspection Form

Driver must inspect the assigned vehicle before the vehicle is moved

Driver Name:	Vehicle Unit Number:	License Number:	Odometer:
---------------------	-----------------------------	------------------------	------------------

Notify dispatch when leaving the yard and when reporting on-site at the fire.

Report to the incident commander or onsite supervisor and await permission to enter the fire area proceed as directed.

Report to the incident commander or onsite supervisor when leaving the fire area.

Ok	Restock	The items listed below must be on hand prior to reporting to a fire
		Verify utilities/wildland fire contact list & radio list are available
		Check for radio (truck mounted or hand held)
		Personal PPE available (nomex jacket, pants, balaclava, goggles, gloves, shelter, hardhat)
		Water cooler filled
		Fuel and oil level in both truck and pump
		Water level in pumper holding tank
		Fire nozzles and fire gel as needed
		Verify pump is primed (test operationally prior to leaving yard/ pump off when in transit)
		Indian can/ shovel/ axe or polaski
Ok	Repair	If repairs are needed please contact fleet services and return this form
		Any fluid leaks under the vehicle
		Body condition/company logos/numbers clean and present/dents/or scratches
		Windshield clean/not cracked or chipped
		Windshield wipers not cracked or worn/torn
		Headlights function both hi/low beam not cracked/faded
		Turn signals function/clean both front and rear
		Brake lights function including third brake light
		Reverse lights/back up camera/sensors clean and working properly (if equipped)



		Gas cap present and tight
		Cargo in or on vehicle properly secured
		Tire tread/sidewalls showing damage/dry rot/cracks/wheels/lug nuts inspected
		Proper tire inflation (see inside of driver's door for air pressure amount)
		Engine oil level check (between add and full)
		Fan belt/hoses no obvious damage/loose
		Coolant level between add and full
		Emergency equipment (fire extinguisher/first aid kit/2 orange cones/chocks)
		Mirrors properly adjusted and clean
		Seatbelt functions properly and not worn
		Registration/proof of insurance/accident booklet/amber light permit(if required)
		Circle of safety preformed prior to moving vehicle

You must wear your PPE, including nomex shirt and pants when reporting to the incident commander and when working in the fire area!

Notes:

I have personally inspected the vehicle above and have found it to be in safe operating condition as listed above.

Signature: _____ Date: _____

6.0 Fire Pumper Pre-Trip Checklist

- Take one (1) of the “Fire Truck Only” radio’s from Dan Clancy’s office for communication with the fire agencies on-site.
- Take two (2) of the wire pull radios with microphones from the Tool Room for communication with Sierra’s personnel, Dispatch, etc.
- Take the red, PPE bag from the tool room that contains the Nomex, shelter, etc.
- Take your own personnel PPE, including a hard hat, gloves, and clear safety glasses.
- Fill water cooler and ice chest.
- Check fuel and oil in both the pump and truck. Check water level in pumper holding tank.
- Notify Dispatch when leaving the yard and when reporting on-site at the fire location.
- Report to the Incident Commander and wait to enter the fire area until given permission. If the company has an on-site supervisor at the Incident Command, report to that supervisor and proceed as directed.
- Report to Incident Commander or on-site supervisor when leaving the fire area.

YOU MUST WEAR YOUR PPE, INCLUDING NOMEX SHIRT AND PANTS, WHEN REPORTING TO THE INCIDENT COMMANDER AND WHEN WORKING IN THE FIRE AREA!

7.0 PRE-SEASON ACTIVITIES

The following provides guidelines by area for pre-fire season preparedness. Each area should consider starting these annual activities no later than April 1, with a target completion date of June 1. In some cases, where wildland fire season is forecasted to start earlier, these activities may be implemented in March.

7.1 Emergency Management

Emergency management will perform the following actions annually each spring:

- Coordinate with state and federal fire resources (*e.g. NDF, USFS, BLM*) on lessons learned from the previous wildland fire season, and implement improvements to public/private sector coordination, when applicable.
- Communicate wildland fire season forecasts to company personnel.
- Facilitate a wildland fire season guideline review and update session.

7.2 Field Operations

The following pre-fire season tasks are recommended for field operations managers:

- Participate in NV Energy wildland fire guideline review and update sessions.
- Verify locations and check conditions of specialized equipment, such as tankers and fire pumper trailers.

- Review operating procedures for specialized equipment with personnel.
- Check with local rental companies about access to “spare” water tankers.
- Ensure vehicles working in or around fire potential areas are equipped with a shovel, Pulaski/axe, and a water can.
- Have mechanics check under all vehicles being serviced for accumulating grass or weeds.
- Review available stock and locations of PPE’s related to wildland fire season (*e.g. masks, fire shelters*).
- Review system operations Fire Mode patrol and line-testing policies with personnel (*General Review*).
- Provide wildland fire training related to safety equipment, tools and PPE’s (*Bi-annual/New Hire*).
- Coordinate with emergency management on wildland fire season public/private sector meetings and exercises.

7.3 GIS Support

The following pre-fire season tasks are recommended for GIS support personnel:

- Participate in wildland fire guideline review and update sessions.
- Implement improvements to fire season maps based on the previous year’s lessons learned.
- Update distribution lists for fire maps.

7.4 ESCC – Electric Dispatch

The following pre-fire season tasks are recommended for the regional dispatch manager, and dispatch supervisors:

- Participate in wildland fire procedural guideline review and update sessions.
- Review the procedural guidelines with dispatch personnel and provide training, where applicable.
- Review, update and communicate changes to system operations line-testing policies in coordination with grid operations.
- Update distribution/ notification lists with current contact numbers and emails.

7.5 Safety

The following pre-fire season tasks are recommended for safety managers:

- Participate in wildland fire procedural guideline review and update sessions.
- Review health and safety practices and apply lessons learned from the prior wildland fire season.
- Assist/participate in wildland fire season training with field personnel. Curriculum and audience will be determined on an annual basis by Emergency Management and Operations personnel.
- Review system operations Fire Mode patrolling and line-testing policies with personnel (*general review*).

7.6 Substation Operations

The following pre-fire season tasks are recommended for substation operations managers:

- Participate in wildland fire procedural guideline review and update sessions.
- Review operating procedures for specialized equipment with personnel.

7.7 Substation/Transmission Civil Construction

The following pre-fire season tasks are recommended for general construction managers:

- Participate in wildland fire procedural guideline review and update sessions.
- Review operating procedures for specialized equipment and appropriate training of personnel.

7.8 Fleet Operations

The following pre-fire season tasks are recommended for fleet operations managers:

- Participate in wildland fire procedural guideline review and update sessions.
- Ensure operability for specialized fire related equipment and appropriate training of personnel.

7.9 Materials Operations

The following pre-fire season tasks are recommended for materials operations managers:

- Participate in wildland fire procedural guideline review and update sessions.
- Review fire related inventory levels and vendor availability.
- Prepare mobile warehouse supplies and training of personnel for response to fire areas.

APPENDIX A4
Blasting Plan

Blasting Plan
Bordertown to California 120 kV Transmission Line
Construction, Operation, and Maintenance (COM) Plan

Prepared for:

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August 2020

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LIST OF ABBREVIATIONS

ATF	Bureau of Alcohol, Tobacco, Firearms, and Explosives
COM	Construction, Operations, and Maintenance
ETI	Explosives Technology International
kV	Kilovolt
Plan	Blasting Plan
Project	Bordertown to California 120 Kilovolt Transmission Line Project
U.S.	United States
U.S. DOT	U.S. Department of Transportation
USFS	U.S. Forest Service



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act, the Environmental Impact Statement and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Blasting Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. This Plan provides guidance to construction managers, environmental inspectors, and regulatory agencies for reducing the impacts and risks associated with the storage and use of explosive materials during Project construction. The Plan lists blasting closures zones (when and where blasting is restricted or not allowed) for sensitive wildlife habitats. It will be implemented throughout the construction period.

1.1 PURPOSE AND NEED FOR BLASTING PLAN

The purpose of the Plan is to provide construction crews, environmental compliance inspectors, and agency monitors with Project-specific information concerning blasting procedures, including the safe use and storage of explosives. The primary objective of this Plan is to prevent adverse impacts to human health and safety, property, and the environment that could potentially result from the use of explosives during Project construction.

1.2 REGULATORY OVERVIEW

The federal Occupational Safety and Health Administration and numerous state and local jurisdictions regulate the use of explosives. The U.S. Department of Justice, Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) regulates explosives storage and commerce under the Organized Crime Control Act of 1970, Title XI (Public Law 91-452). The major provisions of this federal law are discussed in ATF publication P 5400.7 ATF-Federal Explosives Law and Regulations (2012). Applicable provisions are included by reference as part of the Plan. State and local laws governing explosives may be more restrictive than the ATF regulations. Persons responsible for implementing the Plan must comply with the most stringent provisions of applicable federal, state, and local laws that pertain to explosives. Failure to comply with such laws could result in substantial financial penalty and/or imprisonment.

2.0 NEED FOR BLASTING

Blasting is likely to be used as an alternate excavation method for pole site foundations in certain areas as geological and site conditions require. Additionally, blasting (i.e., explosives) may be used for new temporary roads where rocks cannot be removed with heavy equipment. Blasting will be used only in areas where traditional excavation and earth moving equipment and practices are unable to accomplish the excavation. In general, it is expected that blasting will occur mainly in remote, sparsely populated areas, well away from residences and other structures that could sustain blast-related damage. However, there is the potential for blasting to occur near sensitive receptors (i.e., occupied residences) and will be limited to Monday through Friday from 7:00 AM to 7:00 PM.

2.1 DETERMINATION OF BLASTING SITES

Blasting will be limited primarily to those areas underlain by hard-to-excavate bedrock near the surface or in areas containing large boulders. A geotechnical investigation was completed in 2019 at locations where foundations for the structures were known to be needed due to land constraints. All of these locations were situated on private land and no blasting was expected at these locations. In addition to the geotechnical activities already completed, once a contractor is hired for the Project, they will review the route and soil conditions to determine if blasting shall be needed. Upon completion of this review and if a need for further geotechnical surveys are needed on USFS land, NV Energy and its construction contractor(s) will provide a list of potential blasting locations and corresponding figures to support this Plan.

3.0 BLASTING PROCEDURES

The blasting contractor will use current and professionally accepted methods, products, and procedures to maximize safety during blasting operations. Blasting procedures will be carried out according to, and in compliance with, applicable laws (see Section 1.2). Blasting activities will be conducted by a qualified, experienced, and licensed blasting contractor and will be closely monitored by the environmental field inspector and quality assurance inspector.

3.1 OVERVIEW OF BLASTING PRINCIPLES

Blasting procedures will be conducted according to the following four basic principles:

1. The blast will produce fractured rock of appropriate dimensions;
2. The blast will prevent/minimize production of flyrock and air blast hazards;
3. The blast will minimize peak particle velocities; and
4. The blast will be scaled/sized to minimize overblasting, which can result in excessive excavation and handling of excavated material, and increased drilling, excavation, and backfill costs.

In general, the process of rock fragmentation and displacement following detonation occurs in four phases. The first phase is detonation, which involves the conversion of fuels and oxidizers into high-pressure and high-temperature gases that initiate a shock wave. The next phase is the propagation of the initial shock wave and the production of a stress wave throughout the rock mass. Phase three results in the extension of the blast hole, fracturing, and displacement of broken materials. In this phase, gases produced during the blast are often vented to the surface. The fourth and final phase of the blasting sequence involves mass movement of rock with some additional fragmentation resulting from in-flight rock collisions. For this Project, blasting mats will be used to prevent or reduce the number of rock particles thrown into the air following detonation.

The blasting process produces different zones of damage around the blast hole. The zones of damage are generally referred to as Zones 1 through 5, with Zone 1 being located closest to the borehole and Zone 5 being located furthest from the borehole. In Zone 1, rocks are crushed and pulverized. Rock damage from the blast decreases with distance away from the borehole to the point where, in Zone 5, rocks are caused to vibrate due to the seismic waves from the blast but are undamaged.

3.2 BLAST DESIGN

Major factors considered during blast design include borehole diameter, burden, borehole spacing, and configuration of the explosive column. These factors, which will vary at individual blast sites, are defined and discussed briefly below.

3.2.1 Borehole Diameter

Smaller diameter boreholes used for blasting purposes typically provide better distribution of explosive energy and control of ground vibrations than do larger diameter boreholes. The borehole diameters for this Project are anticipated to range from one to three inches.

3.2.2 Burden

Burden refers to the specific distance between drilled boreholes or between a loaded borehole (one which has been filled with explosives for blasting purposes) and the nearest free face of exposed rock. There are two types of burden: drilled burden and blasted burden. Drilled burden is the distance between rows of drilled boreholes. Blasted burden is the distance between a loaded borehole and the nearest free face of exposed rock. A drilled burden pattern of six by eight inches indicates a burden of six inches between rows and eight inches between boreholes in a row. Insufficient burden generally results in excessive flyrock from the blast. Excess burden results in poor fragmentation and increased ground vibration from the blast.

3.2.3 Borehole Spacing

The spacing between boreholes is a function of the desired burden. Consecutive boreholes are generally placed so that damage Zone 4 or 5 of adjacent boreholes overlap for maximum fracturing. The distance between boreholes for this Project will depend on the rock characteristics and will typically range from approximately five to 10 feet. Therefore, Zone 5 (undamaged rock) for each borehole is expected to be less than 10 feet from said borehole.

3.2.4 Explosive Column

Detailed specifications on the explosive column will be developed by the blasting contractor based on site-specific geotechnical assessment provided to NV Energy or their geotechnical engineering contractor.

3.3 MATERIALS USED

Specific materials needed for blasting operations will be identified by the blasting contractor. These materials will be included on the hazardous materials list for the Project, and their use and storage will comply with applicable federal, state, and local laws.

3.4 SAFETY MEASURES

Safe storage and use of explosive materials will be a top priority during the construction period. The following safety measures are intended to prevent theft and/or vandalism of the explosive materials, protect them against fire, and to prevent personal injury and property damage. These measures are intended as general guidelines. For specific information on blasting safety, refer to Chapters 25 and 27 and Appendix B of the Blasters' Handbook (ETI, 1980), and other pertinent regulations. Persons responsible for using, storing, and transporting explosives should be knowledgeable of the information provided therein. Protection of environmental resources is discussed in Section 3.5.



3.4.1 Storage Requirements

Many federal, state, and local agencies have laws pertaining to the storage of explosives. According to these laws, explosives must be stored in an approved structure (magazine). Magazines must be kept cool, dry, and well ventilated. Additional storage facility requirements concerning construction specifications and location are defined for various classes of explosive materials in the ATF publication ATF P 5400.7 (2012).

At a minimum, explosives storage facilities will be bullet-resistant, weather-resistant, theft-resistant, and fire-resistant. Magazine sites will be located in remote (out-of-site) areas with restricted access and will be properly labeled and signed. Detonators will be stored separately from other explosive materials. The most stringent spacing between individual magazines will be determined according to the guidelines contained in the ATF publication or state or local explosive storage regulations. Both the quantity and duration of on-site explosives storage will be minimized.

NV Energy's construction contractor(s) will provide the ATF's Industry Operations in the Reno, Nevada Field Office, with a list of dates and locations for the explosives and blasting agent storage facilities to be used on the Project at least 14 days before the establishment of such storage facilities.

The blasting contractor will handle and dispose of dynamite storage boxes in accordance with relevant federal, state, and local laws.

3.4.2 Personal Safety, Protection of Property, and Notification

Ensuring the safety of persons and property in and around blasting areas and magazine sites requires proper safety training, supervision by experienced personnel, use of safety equipment, good communication, adherence to notification procedures (including pre-blast and emergency notification), and awareness. All persons responsible for handling explosives, and persons present in and around blasting sites, will be fully informed and trained in applicable safety precautions and procedures.

A signaling system will be used to alert persons of an impending blast. The signaling system will be comprised of the following components:

- A warning signal: Five minutes prior to the blasting signal, a one-minute series of long audible signals will be sounded at the blast site;
- A blasting signal: One minute prior to a blast, a series of short, audible signals will be sounded at the blast site; and
- An all-clear signal: Following inspection of the blast area, a prolonged audible signal will be sounded at the blast site.

Signs explaining the signaling protocol will be posted at the construction staging areas and other appropriate locations. Before blasting, the blasting supervisor will make sure that the blasting area is clear and access in and around the blasting area will be restricted to prevent curious or unwitting persons from entering the blasting area. Landowners will be notified well in advance of the scheduled blast and will be informed of the blast signaling protocol. Special attention will be given

to preventing potential hazards in the blasting area resulting from flying rock, destabilized walls/structures, presence of low flying aircraft, dispersion of smoke and gases, etc. For this Project, blasting mats will be used to prevent or reduce the number of rock particles thrown into the air following detonation.

Blasting for this Project will not entail large blasts and therefore monitoring of blast vibration and airblast is not recommended as a general procedure for all blasts. However, if any complaints attributed to the blasting are received from residents, appropriate steps shall be taken to monitor blast vibration and airblast to determine the actual levels experienced. Also, at that time, limits will be established for blast vibration and airblast that will assure that no damage will occur to structures and will minimize the annoyance caused by blasting to the affected residents.

Following detonation, the blasting area will be inspected for un-detonated or misfired explosives. The blasting area will also be inspected for hazards such as falling rock and rock slides. Once the area has been inspected and these issues have been addressed, the “all-clear” signal will sound, and persons will be able to safely re-enter the blast zone. Additional safety precautions will be developed to address site specific conditions at the time of the blast.

If an electrical storm approaches during blasting preparation, the blasting contractor will follow the appropriate regulatory procedures and delay or reschedule the blast, as necessary.

3.4.3 Fire Safety

The presence of explosive materials on the Project site could potentially increase the risk of fire during construction. Special precautions will be taken to minimize this risk, including but not limited to:

- Prohibiting ignition devices within 50 feet of an explosives storage area;
- Properly maintaining magazine sites so that they are clear of fuels and combustible materials, are well ventilated, and are fire-resistant;
- Protecting magazines from wildfires that could occur in the immediate area;
- Posting fire suppression personnel at the blast site during high fire danger periods (Fire Condition Class 4 or as required by the USFS); and
- Prohibiting blasting during extreme fire danger periods (Fire Condition Class 5 unless special fire prevention procedures are approved by the USFS).

3.4.4 Transportation of Explosives

Transportation of explosives will comply with all applicable federal, state, and local laws including Title 49 of the Code of Federal Regulations, Chapter III. These regulations are administered by the U.S. Department of Transportation and govern the packaging, labeling, materials compatibility, driver qualifications, and safety of transported explosives. In general, these regulations require that vehicles carrying explosive materials must be well maintained, properly marked with placards, and have a non-sparking floor. Materials in contact with the explosives will be non-sparking, and the load will be covered with a fire and water-resistant tarpaulin. Vehicles also must be equipped with fire extinguishers and a copy of the Emergency Response Guidebook



(U.S. DOT, 2016). Every effort will be made to minimize transportation of explosives through congested or heavily populated areas.

Prior to loading a vehicle which is appropriate for carrying explosives, the vehicle must be fully fueled and inspected to ensure its safe operation. Refueling of vehicles carrying explosives will be avoided. Smoking will be prohibited during the loading, transporting, or unloading of explosives. In addition, the following specific restrictions apply to the transport of other items in vehicles carrying explosives:

- Tools may be carried in the vehicle, but not in the cargo compartment;
- Detonation devices can, in some cases, be carried in the same vehicle as the explosives, but they must be stored in specially-constructed compartments;
- Batteries and firearms must never be carried in a vehicle with explosives; and
- Vehicle drivers must comply with the laws related to the materials being transported.

Vehicles carrying explosives will not be parked or left unattended except in designated parking areas with approval of the state fire marshal. When traveling, vehicles carrying explosives will avoid congested areas to the maximum extent possible.

3.5 DESIGN FEATURES

Blasting has the potential to cause adverse environmental impacts to wildlife and create noise disturbances. Implementing the practices/procedures listed below will help mitigate these impacts.

- Near sensitive receptors (i.e., occupied residences), noise-generating activities (e.g., blasting) will be limited to Monday through Friday from 7:00 a.m. to 7:00 p.m. Otherwise, work may occur 12 hours per day any day of the week;
- To reduce potential disturbance to migratory birds, construction activities will occur outside of the typical avian breeding season (April 1 to July 31). If construction activities cannot be avoided during this time period, surveys will be conducted immediately prior to construction to locate active nesting areas.
- To avoid impacts to wintering mule deer, construction will not occur from November 25 through May 25 within areas mapped as crucial winter or winter-spring high deer use, including the Mitchell Canyon Deer Management Area. However, areas of mapped crucial winter range within and immediately surrounding the Bordertown Substation expansion area would be cleared and fenced outside of this timeframe, allowing construction activities to occur within this area during the restricted timeframe. Non-ground disturbing activities, such as surveying, staking, or resource driven activities (e.g., cultural surveys, biological surveys), may occur within this time frame.

4.0 REFERENCES

- Explosives Technology International (ETI). 1980. Blasters' Handbook, 175th Anniversary Edition. E.I. du Pont de Nemours & Co., Inc. Wilmington, DE.
- U.S. Department of Justice, Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF). 2012. ATF-Federal Explosives Law and Regulations (ATF P 5400.7).
- U.S. Department of Transportation (U.S. DOT). 2016. Emergency Response Guidebook: Guidebook Intended for use by First Responders during the Initial Phase of a Transportation Incident Involving Dangerous Goods/Hazardous Materials.

APPENDIX B1
Transportation Management Plan

Transportation Management Plan Bordertown to California 120 kV Transmission Line Construction, Operation, and Maintenance (COM) Plan

Prepared for:

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August 2020

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LIST OF ABBREVIATIONS

AQ	Air Quality
COM	Construction, Operations, and Maintenance
kV	Kilovolt
NFS	National Forest System
NW	Noxious Weeds
Plan	Transportation Management Plan
Project	Bordertown to California 120 Kilovolt Transmission Line Project
ROW	right-of-way
RT	Recreation/Roads/Transportation
SV	Plants and Sensitive Plan Communities
U.S.	United States
USFS	United States Forest Service
VG	Vegetation



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act, the Environmental Impact Statement and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Transportation Management Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. This Plan provides guidance to construction managers, environmental inspectors, and regulatory agencies with a detailed description of the access and transportation-related activities associated with the construction, operation, and maintenance of the Project. The measures included in this Plan are intended to mitigate Project effects on environmental resources associated with roads, traffic, travel, and safety.

2.0 REGULATORY OVERVIEW

Several agencies have jurisdiction over the existing access roads to be used for the Project and over transportation-related components of the Project. These include the USFS, the Bureau of Land Management, Nevada Department of Transportation, and law enforcement and road departments in Washoe County, Nevada and Sierra County, California.

Other permits and approvals not directly related to transportation could affect the construction, use, and/or maintenance of roads in certain areas. Persons responsible for Project transportation activities must be familiar with all relevant sections of this Plan.

3.0 ACCESS TO PROJECT RIGHT-OF-WAY

Access to the transmission line right-of-way (ROW)/easement will be needed for Project construction, operation, and maintenance activities. One or more criteria listed below will be used to access the ROW/easement and transmission tower locations.

3.1 EXISTING ACCESS ROADS

Existing roads will be used for construction and maintenance access as much as possible. Access roads that will not require improvement for access are depicted on Figure 1 of this Plan.

Some existing roads will require improvements and will be widened up to 30 feet, including cut and fill slopes to accommodate construction equipment. Access roads that will require temporary widening are depicted on Figure 1 of this Plan.

Table 3-1 describes existing access roads that will be used during the Project and which will require improvements.

3.1.1 Design Features

NV Energy will comply with the design features listed below for existing access roads:

Noxious Weeds (NW) 1. Noxious weeds occurring on either the Nevada or California State list will be mapped and the full extent of the population will be treated prior to and following construction. Inventory and treatment areas will extend 100 feet from the ROW and all ground disturbed by Project activities. Existing access roads proposed for widening are included in all ground disturbance activities.

Water Resources and Soil (WA) 8. Improvements to any existing road crossing will be designed to minimize surface disturbance.

Plants and Sensitive Plant Communities (SV) 5. Where existing roads are used for travel to the Project site (but not widened), any road maintenance within 100 feet from special status plant populations will focus on avoiding impacts. A permanent physical barrier, such as lining the roads with rock or fencing the road corridor, will be constructed to prohibit vehicle access to sensitive plant populations and contain travel within the existing road corridor.

Recreation/Roads/Transportation (RT) 1. The use of any roads or trails will require compliance with the Carson Ranger District Motor Vehicle Use Map, including any restrictions for seasonal use.

Table 3-1 Existing Road Access Use for Project Construction

Road ID ¹	Jurisdiction	Improvement (Yes/No)	Type of Improvement	Seasonal Restrictions	Miles
21514	National Forest System (NFS)	Yes	Temporary widening (up to 30 feet)	Open Year-Round	0.36
41192	Private	No	Routine Road Maintenance	Seasonal Restrictions ²	0.31
	NFS	No	Routine Road Maintenance	Seasonal Restrictions ²	2.60
41419	Private	Yes	Temporary widening (up to 30 feet)	Open Year-Round	0.10
	NFS	Yes	Temporary widening (up to 30 feet)	Open Year-Round	2.25
41643	NFS	Yes	Temporary widening (up to 30 feet)	Seasonal Restrictions ²	0.82
41668	NFS	No	Routine Road Maintenance	Open Year-Round	0.88
	NFS	Yes	Temporary widening (up to 30 feet)	Open Year-Round	0.91
41669	Private	Yes	Temporary widening (up to 30 feet)	Open Year-Round	0.32
	NFS	Yes	Temporary widening (up to 30 feet)	Open Year-Round	1.57
41735	NFS	No	Routine Road Maintenance	Open Year-Round	0.07
	NFS	Yes	Temporary widening (up to 30 feet)	Open Year-Round	0.79
Feenune Road	Private	Yes	Temporary widening (up to 30 feet)	Open Year-Round	0.88
Green Gulch Road	Private	Yes	Temporary widening (up to 30 feet)	Open Year-Round	0.36
River Pines Road	Private	Yes	Temporary widening (up to 30 feet)	Open Year-Round	1.21
Dog-Long Valley Road 31002	Private	No	Routine Road Maintenance	Open Year-Round	2.50
Peavine Peak Road 41641	Washoe County/Private	No	Routine Road Maintenance	Open Year-Round	4.23
	NFS	No	Routine Road Maintenance	Open Year-Round	1.92
Unnamed Dirt Roads	Private	Yes	Temporary widening (up to 30 feet)	Open Year-Round	5.93
Total					27.94

¹ Roads are displayed on Figure 1 of this Plan.

² Seasonal restrictions occur from April 1 to November 18.



3.2 NEW TEMPORARY ACCESS ROADS

New temporary access roads (i.e., centerline travel road and spur roads) will be constructed to pole sites, transmission wire setup sites, and staging areas when there are no existing roads available.

Access roads will be 30 feet wide and located within the 300- to 600-foot-wide corridor (variable-width corridor). The variable-width corridor is centered on the transmission line and measures 300 feet wide where slopes are 10 percent or less, and 600 feet wide where slopes are greater than 10 percent. Temporary roads will be constructed primarily by mowing or masticating vegetation in a manner that leaves root systems intact to encourage regrowth and minimize soil erosion. Whole tree removal will be required where new access roads cross forested areas. Rocks or other obstructions will be bladed. If rocks cannot be removed with heavy equipment, explosives may be used in accordance with the Blasting Plan (COM Plan Appendix A4). While new access roads wider than 30 feet are not expected, occasional widening beyond 30 feet may be necessary in areas where extensive blading and side cuts are required.

NV Energy does not propose to retain any temporary access roads for operation and maintenance of the new transmission line. Following construction, all temporary access roads would be recontoured and stabilized by seeding, mulching, placement of erosion control fabric, and installing erosion control features such as water bars. Vehicle access for transmission line maintenance is expected to be rare as the poles would be made of fire resistant metal. Access would be necessary approximately every 10 years for close visual inspections and tree removal within the line clearance area. When future vehicle access is needed for maintenance or tree removal, the existing National Environmental Policy Act analysis would be reviewed, and access may be approved based upon the level of proposed new disturbance and/or the change in environmental conditions.

3.2.1 Design Features

NV Energy will comply with the design features listed below for new temporary access roads:

- NW 1. Noxious weeds occurring on either the Nevada or California State list will be mapped and the full extent of the population will be treated prior to and following construction. Inventory and treatment areas will extend 100 feet from the ROW and all ground disturbed by project activities. Construction access roads proposed for widening are included in all ground disturbance activities.
- NW 2. Monitoring and continued treatment in areas that were treated prior to construction will commence the first full growing season after project implementation. Weed treatment will continue until disturbed areas are successfully restored (see restoration criteria). Weed treatment will continue during maintenance activities and within the ROW.
- NW 6. Construction of access roads will not occur in areas heavily infested with noxious or invasive weeds.
- SV 2. Prior to construction, once access roads and pole locations are known, the following tasks will be completed for areas where surface disturbance is planned:



- a. Pre-construction surveys for jaw-leaf lupine (*Lupinus malacophyllus*), andesite popcorn flower (*Plagiobothrys glomeratus*), and moonwort ferns (*Botrychium spp.*);
 - b. Mapping and flagging of sensitive plant species, wetland areas, and noxious weeds; and
 - c. Noxious weed infestations will be treated according to design features NW1 and NW 2.
- SV 3. There will be no new access roads or widening of existing roads for construction access through meadows. This measure will also protect potential habitat for special status plant populations that are found in wetland and meadow habitats, such as Dog Valley ivesia.
- SV 6. Construction of new access roads (i.e., spur roads and centerline travel roads) and widening of existing roads and motorized trails will not occur within 500 meters (1,640 feet) of populations of Dog Valley ivesia and Webber ivesia (*Ivesia webberi*) occurring on NFS land. Allowable maintenance of roads within these habitat areas that do not require widening include blading and installation of erosion control measures. Construction of new temporary access roads and widening of existing roads and motorized trails will not occur within 200 feet of other special status plant populations that occur on NFS land. Within these buffer distances, travel and road maintenance on existing roads and motorized trails may be permitted but road improvements including widening of the existing travelled way are prohibited.
- SV 8. Access roads will not be constructed within potential habitat of Webber ivesia. Potential habitat includes low sage plant communities with specific habitat attributes: presence of a rocky pavement surface, presence of an argillic soil horizon, plant community composition and presence of associated plants, topographic position of the site, and, known elevation range. Areas defined as potential habitat will require the 500-meter buffer.
- Vegetation (VG) 5. Where removal of vegetation other than trees is unavoidable, the vegetation will be cut at ground level to preserve the root structure and allow for potential sprouting.
- Wildlife and Sensitive Wildlife Species (WL) 10. To limit the potential for impacts to aquatic resources, particularly to Lahontan cutthroat trout (*Onchorhynchus henshawi*), pole sites or roads will not be placed within the 100-year floodplain in Dog Creek, Bull Ranch Creek, and the Truckee River. During construction, no soil disturbing activities will occur within the 100-year floodplain of these streams.
- Air Quality (AQ) 1. Vehicle and equipment speeds will be limited to 20 miles per hour on unpaved roads and on the ROW/easement.
- RT 2. All new temporary access roads and all improvements to existing roads will comply with: 1) The Forest Service National Supplements to the FP-03 (USFS, 2010); 2) the USFS Road Construction Handbooks (FSH 7709.56 and FSH 7709.57); and, 3) the Toiyabe Forest Plan, as amended (USFS 1986).
- RT 8. Public access will be maintained with minimal delays during the construction and maintenance of the Project. If there are traffic delays, NV Energy will post delay information at National Forest portals.

4.0 GENERAL CONSIDERATIONS

Vehicles traveling in the Project area will obey jurisdictional traffic speed regulations and the posted speed limit. All vehicle and equipment speeds will be limited to 20 miles per hour on unpaved roads and on the ROW/easement (design feature AQ 1). All sensitive environmental areas to be avoided will be clearly marked in the field. Public access will be maintained with minimal delays during the construction and maintenance of the Project.

NV Energy's construction contractor(s) will be responsible for ensuring that construction travel is limited to designated areas. Field personnel will be instructed to use only approved access roads, drive on Project-specific delineated roads, and obey posted speed limits.

5.0 POST-CONSTRUCTION RECLAMATION

After Project construction, NV Energy or their authorized contractor(s) will take the following measures:

- RT 3 All new access roads (i.e., spur roads and centerline travel roads) specifically constructed for this Project will be re-contoured and reclaimed and will have a physical closure installed to prevent motorized access immediately following the completion of construction and restoration. The types of closure will be approved by the USFS prior to installation. Design specifications will be provided by the USFS.
- RT 4 Physical barriers such as boulders or natural features designed to harmonize with the natural environment of the surrounding area will be installed to prevent unauthorized vehicle use from occurring on restored roads. The use of gates or other such structures for this purpose will be avoided unless determined necessary by the USFS. Design specifications will be provided by the USFS.
- RT 5 Maintenance activities which cause a road to be opened to unauthorized vehicles or damage to restoration improvements will need to be assessed and barriers reinstalled as needed at the expense of NV Energy.
- RT 6 Restored roads will require a signage and monitoring plan implemented by NV Energy for compliance with the closure which will include inspecting the barricade areas to determine the effectiveness of the blockades at preventing unauthorized motorized vehicle use of the restored access roads. Signs will notify the public that construction access roads are closed and are being restored. Signs will be replaced by NV Energy if vandalism occurs to the signs. Design specifications will be provided by the USFS.
- RT 7 If unauthorized vehicle use occurs on restored roads, barricades and reclamation will be monitored for effectiveness and remedial measures taken. Monitoring will continue until disturbed areas are successfully restored.
- RT 9 All construction vehicle movement will be restricted to the transmission line ROW/easement, pre-designated access roads, public roads, and private roads. All existing roads will be left in a condition equal to or better than their preconstruction condition, according to the appropriate maintenance level including installation of water bars, and drainage features. The expectation is to return roads to preconstruction standards. High clearance roads will be returned to a state consistent with preconstruction conditions so as to not convey a false expectation to users.
- VG 6 All areas of temporary ground disturbance that result from the construction or maintenance of the Project will be restored as required by the land management agency and per any applicable permits. Restoration will include restoring contours to their approximate preconstruction condition, stabilizing the area through seeding, mulching, placement of erosion control fabric, and installing erosion control features. Revegetation may include incorporation of chips recovered from tree slashing operations into the soil, as needed. Erosion control includes installing cross drains and placing water bars in the road, as needed.

6.0 TRANSPORTATION MANAGEMENT PRACTICES

In general, the number of construction vehicles needed for the Project is not expected to substantially increase traffic volumes. Road and lane closures are not anticipated because of the relatively short period of time that vehicles will be on the road. If road and lane closures are needed, the appropriate regulatory agencies, affected parties, and emergency service providers will be notified well in advance of the anticipated closure and the appropriate procedures identified in the U.S. Department of Transportation Manual on Uniform Traffic Control Devices (USDOT 2012 and 2016) will be followed:

- Detour routes for vehicles, pedestrians, bicycles, etc. and alternative emergency vehicle access routes will be delineated at that time;
- If practicable, road or lane closures will be scheduled for off-peak hours;
- The contractor will use caution when operating to prevent conflict with public use of the roads;
- A reflectorized “Slow Moving” vehicle emblem shall be attached to all slow-moving equipment;
- Signs with flags at either end of areas being worked along roads will be placed to warn road users of work in progress; and
- Where necessary, the contractor will use a flag person in addition to warning signs to control traffic.

Public access will be maintained with minimal delays during the construction and maintenance of the Project. If there are traffic delays, NV Energy will post delay information at National Forest portals (design feature RT 8).

7.0 REFERENCES

United States Department of Transportation (USDOT). 2012. Manual on Uniform Traffic Control Devices for Streets and Highways. 2009 Edition. Including Revision 1 and 2. May 2012.

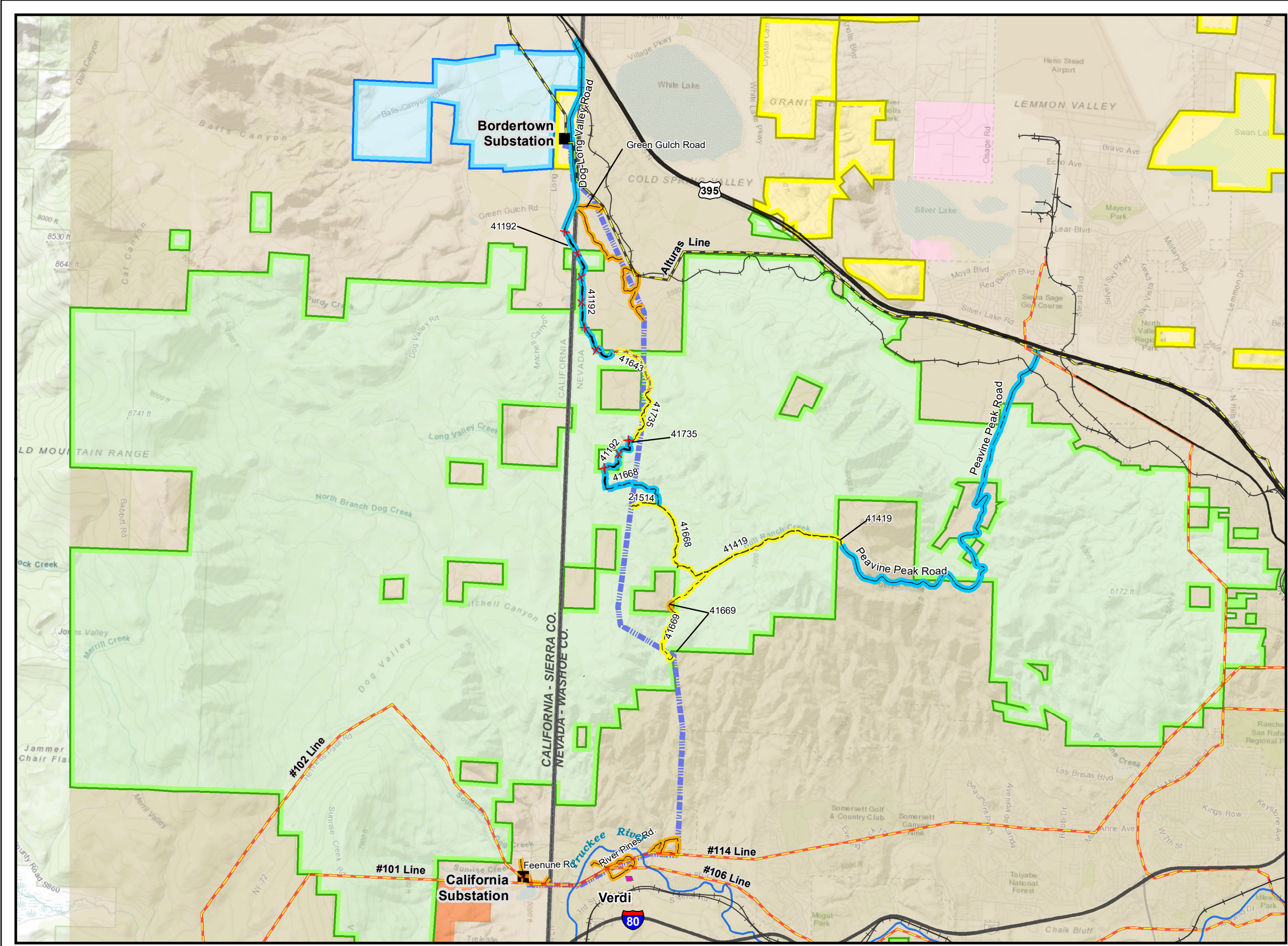
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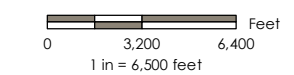
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FIGURES

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- Legend**
- Existing Substation
 - Bordertown to California 120 kV Transmission Line
 - Staging Area
 - 120 kV Transmission Line
 - 345 kV Transmission Line
- USFS Roads**
- USFS Roads
 - ✗ USFS Road (Designated Seasonal Use April 1- November 18)
 - USFS Not Open to Public Motorized Travel (Designated Seasonal Use April 1- November 18)
 - ✗✗ USFS Road Not Open to Public Motorized Travel
 - USFS Roads (Temporary Widening)
 - USFS Roads Used for Access (No Widening)
 - Public and Private Roads across Private Land (Temporary Widening; includes Dirt Roads)
 - Public and Private Roads Used for Access (No Widening)
- Land Ownership**
- U.S. Bureau of Land Management
 - U.S. Forest Service
 - California Department of Fish & Wildlife



Sierra County, CA & Washoe County, NV
NAD 1983 UTM Zone 11N

PROJECT NO: 203703160
DRAWN BY: JT
1ST REVIEW: CJ
2ND REVIEW: KC
DATE: 5/11/2020

NV Energy
Bordertown to California 120 kV Transmission Line Construction, Operation, and Maintenance (COM) Plan

Figure 1
Existing Road Access
For Project Construction

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APPENDIX B2
Flagging and Fencing Plan

Flagging and Fencing Plan Bordertown to California 120 kV Transmission Line Construction, Operation, and Maintenance (COM) Plan

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August 2020

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LIST OF ABBREVIATIONS

EIS	Environmental Impact Statement
kV	Kilovolt
Project	Bordertown to California 120 Kilovolt Transmission Line Project
ROW	Right-of-Way
U.S.	United States
USFS	United States Forest Service



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act, the Environmental Impact Statement (EIS) and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Flagging and Fencing Plan is part of NV Energy's compliance obligation. This plan provides guidance to construction managers, environmental inspectors, and regulatory agencies with environmental resource protection measures that are associated with the construction of the Project. The measures to be described are intended to ensure that the contractor, NV Energy, agency personnel and other visitors to the Project area avoid sensitive resources and travel within the approved areas. In addition, the measures are an integral part of the Project's compliance program for minimizing impacts to sensitive environmental resources. This Plan also provides a description of avoidance flagging and staking that will occur before construction. It will be implemented throughout the construction period.

2.0 REGULATORY REQUIREMENTS

No federal, state or local laws, rules or regulations specifically address flagging and fencing protocols for construction projects. However, several of the Project design features from the Project EIS hinge on adequate field marking of sensitive resource areas to avoid or reduce impacts (USFS 2018). Several mitigation measures include flagging or fencing requirements to help protect vegetative cover, water quality, cultural resources, special-status species, and to minimize the spread of invasive weeds.

3.0 METHODS

3.1 PROJECT FACILITIES

Standard survey flags and stakes will be installed before the start of Project construction. Staking of facilities will include pole locations, anchor sites, staging of material yards [if known], access roads, and wire pull sites will be marked for the construction contractor. Designated Project access roads will be marked to facilitate travel to and from the right-of-way (ROW). Substation improvements will be delineated, and helicopter fly yards, wire stringing areas, and material yards will be demarcated as necessary to indicate the limits of the approved work area.

3.2 ENVIRONMENTAL EXCLUSIONS

Signs, flags and/or fencing will be used to delineate and protect sensitive environmental and cultural resources in the vicinity of construction activities. A system of standardized and simplified exclusion markings will be used to reduce potential confusion during construction, and to minimize the risk of highlighting types of sensitive resources that could be targeted by vandals (e.g., if exclusions around archaeological sites were marked differently than those around sensitive natural resource areas, the sites would be at a higher risk of unauthorized artifact collecting or other disturbance).

3.2.1 Signing

Signs will be used to help identify Project features such as approved access roads and certain Project requirements, such as the location of weed cleaning stations. Signs will be a minimum of 8.5-inches by 11-inches, printed on color paper, and will be laminated using 7-millimeter or greater laminate to withstand field conditions. Signs will be installed on metal posts, wooden stakes, or attached to exclusion fencing/roping, as appropriate. Background colors will vary to enhance sign recognitions from a distance. Table 1 provides examples of some of the signs that will be used to mark Project features. Figures 1 and 2 show the size and configuration of typical sign layouts. Signs for sensitive resource areas will be oriented for visibility from both directions of likely travel.

Table 1 Example Signs for Marking Project Features

Feature	Sign Color	Sign Text	Comments
Project access road	Bright Green	Approved Project Access (Road Number xxx)	To be located at points of intersection, additional intermittent flagging may be required.
Cultural sites, special-status wildlife and plant areas, wetlands, drainages, and invasive weed infestations adjacent to construction areas	Yellow	Sensitive Resource Area Keep Out	Signs to be installed, as needed, in addition to exclusion fencing and flagging.

Feature	Sign Color	Sign Text	Comments
Areas temporarily closed to construction due to special-status wildlife breeding, nesting, or seasonal use range.	Yellow	Sensitive Resource Area Keep Out	Signs to be installed, as needed, at logical points of entry (i.e., access road and/or centerline travel route) to excluded zone.
Invasive weed cleaning stations	Red	Weed Cleaning Station	Signs will be posted at entry points into weed cleaning stations.

3.2.2 Flagging

Survey flagging (i.e., surveyor’s ribbon tied to wooden stakes, metal posts, or vegetation) will be used to delineate the limits of work areas such as material yards, disturbance limits (i.e., boundaries of the ROW corridor), wire stringing sites, helicopter fly yards, access roads, etc., unless existing fencing or other features clearly indicate the limits of the area. Survey flagging tied to wooden stakes, metal posts, or vegetation may also be installed to temporarily mark certain resource locations as identified by Resource Specialists during their survey efforts. Survey flagging may be used to demarcate sensitive resource locations situated a safe distance from planned construction activities, but generally will not be used to define resource exclusion areas close to planned construction activities due to concerns about the visibility and stability of flagging during construction.

3.2.3 Fencing

To delineate the limits of construction activities near sensitive resources that require a high level of protection from inadvertent Project disturbance, a combination of one or more of the following fencing materials will be installed by the flagging and fencing crew:

- Rope (1/4-inch diameter in yellow or orange coloring);
- Plastic or fabric tape; and/or
- Safety fencing (plastic orange or red mesh at least 24 inches wide and at least 18 inches off the ground to facilitate travel by small animals).

Roping with periodic marking by exclusionary signs or lengths of tape is a highly visible and effective exclusion device. Roping, tape and safety fence will be installed using metal posts for increased durability. It is anticipated that the exclusion device will be installed at the margins of the sensitive resource (including any required buffers), rather than at the edge of the work area.

Construction activities may require temporary access through existing fences and gates on public and private land. Fencing will be replaced when construction activities are completed. Replacement fencing will be built to agency or landowner specifications, consistent with the fencing that was removed. During construction, fences with open gates will remain open and fences with closed gates will remain closed. Fences crossed during construction will be braced and secured prior to cutting the fence to prevent slackening of the wire.



3.3 INSTALLATION, MONITORING, AND MAINTENANCE OF FENCING AND FLAGGING

The objectives of this Flagging and Fencing Plan hinge on the proper installation, monitoring and maintenance of protective devices. NV Energy's surveying contractor(s) will be responsible for the installation and maintenance of the field marking of construction features (e.g., towers, anchors, substations, etc.). These markings will be installed in advance of construction activities in the area, maintained during construction (as necessary), and removed during clean-up activities.

Routine Project monitoring by the environmental field inspectors will include an on-going assessment of the need for replacement or repair of exclusionary flagging or fencing. Maintenance needs related to exclusionary devices will either be corrected at the time of observation by the environmental field supervisor and/or environmental field inspector or will be documented as a future need. If maintenance of an exclusionary device is needed within an active construction area, corrective action will be taken as soon as possible. Maintenance of signs, flagging and fencing within dormant areas will be implemented as necessary.

All exclusionary devices (signs, flags and fences) will be removed during Project clean-up by NV Energy's construction contractor.

4.0 REFERENCES

United States Forest Service (USFS). 2018. Final Environmental Impact Statement. Bordertown to California 120 kV Transmission Line Project. Humboldt-Toiyabe National Forest, Carson Ranger District. June 2018.

FIGURES

Figure 1 Typical Sign for Exclusion Area

**SENSITIVE
RESOURCE AREA

KEEP OUT**

Figure 2 Typical Sign for No Refueling

NO REFUELING

APPENDIX C1
Noxious Species Abatement Plan

**Noxious Weed Abatement Plan
Bordertown to California 120 kV Transmission Line
Construction, Operation, and Maintenance (COM) Plan**

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August 2020

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Appendix A Pesticide Use Proposal Form (FS 2100-02)



LIST OF ABBREVIATIONS

BLM	Bureau of Land Management
CDFA	California Department of Food and Agriculture
COM	Construction, Operations, and Maintenance
EIS	Environmental Impact Statement
EO	Executive Order
GPS	Global Positioning System
HE	Herbicide Use
kV	Kilovolt
NEPA	National Environmental Policy Act
NW	Noxious Weeds
Plan	Noxious Weed Abatement Plan
Project	Bordertown to California 120 Kilovolt Transmission Line Project
ROW	Right-of-Way
RT	Recreation/Roads/Transportation
SV	Plants and Sensitive Plant Communities
U.S.	United States
U.S.C.	United States Code
USFS	United States Forest Service



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act (NEPA), the Environmental Impact Statement (EIS) and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Noxious Weed Abatement Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. This Plan provides guidance to construction managers, environmental inspectors, and regulatory agencies to control the introduction and dispersal of noxious weeds and invasive species during the construction, operation, and maintenance of the Project.

1.1 NOXIOUS WEEDS AND INVASIVE SPECIES DEFINITION

For the purpose of this Plan, noxious weeds and invasive species are defined as introduced plants and animals that are mandated to be restricted or controlled because of their potential to cause economic harm (e.g., affect the quality of forage on rangelands, affect cropland or forest land productivity) or environmental harm (e.g., displace native plants and natural habitats) or harm to human and animal health. Management of these species may be legally mandated by federal, state, county, or other laws and regulations. As discussed in the EIS, this Plan addresses the potential of infestations due to temporary construction disturbance on noxious weeds and invasive species that are of concern in the Project area (USFS 2018).

The noxious weeds and invasive species discussed in this Plan are included in one or more of the following categories:

- Plant species listed as noxious weeds by the State of Nevada Department of Agriculture;
- Plant species listed as noxious weeds by the State of California Department of Food and Agriculture (CDFA);
- Noxious weeds or invasive species of concern to the USFS;
- Noxious weeds of concern to the Bureau of Land Management (BLM).



1.2 GOAL AND OBJECTIVES

The goal of this Plan for the Project is to avoid or limit increases in noxious weeds. To achieve this goal, construction, reclamation, operations, and maintenance activities should be conducted in a manner that will:

- Prevent the introduction or spread of noxious weeds into previously un-infested areas or beyond an existing infestation zone. An infestation zone is defined as an area containing a single, large infestation or several separate infestations after which none occur for several miles.
- Avoid or minimize substitutional increases in noxious and invasive weed population sizes or extents within an existing infestation zone.
- Avoid or minimize substantial increases in noxious and invasive weed population sizes or extents within an existing infestation.
- Avoid or minimize noxious weed and invasive species from moving into areas highly susceptible to invasion, but as yet not dominated by these species.
- Avoid or minimize direct or indirect adverse effects on listed or non-listed special-status plant or wildlife species or sensitive communities.
- Avoid or minimize effects on plant communities or wildlife habitat.

To achieve these goals, this Plan outlines methods to be applied during the construction and reclamation phases of the Project and provides guidance on monitoring and reporting the success of the mitigation measures.

2.0 REGULATORY REQUIREMENTS

Federal and state requirements applicable to the management of noxious weeds in the Project area include the following regulations.

2.1 FEDERAL

2.1.1 Executive Order 13112

Executive Order (EO) 13112 (February 3, 1999) addresses the prevention and introduction of invasive species and provides for their control to minimize economic, ecological, and human health impacts. Invasive species often displace native species and become dominant, in turn affecting native flora, wildlife, watersheds, fire regimes, and recreation. This EO also established the National Invasive Species Council which oversees the implementation of the order, encourages planning and action at multiple levels, develops recommendations for international cooperation, develops guidance pursuant to NEPA for prevention and control of invasive species, and facilitates development of a network of agencies to document, evaluate and monitor impacts.

2.1.2 USFS Invasive Species Management

Invasive species are regulated and/or managed through a variety of statutes administered by the states and the USFS cooperates with the states to implement those. The USFS also works cooperatively with various stakeholders to implement authorities which address invasive species as appropriate. The following orders or statutes are the primary authorities to allow the USFS to conduct invasive species management activities to meet resource management goals and objectives: the Organic Administration Act (16 United States Code [U.S.C.] 551); the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended (16 U.S.C. 1604); the Federal Noxious Weed Act of 1974 (7 U.S.C. 2814); and the Cooperative Forestry Assistance Act of 1978 (16 U.S.C. 2104).

2.1.3 BLM Manual 9015 Integrated Weed Management

The BLM policy relating to the management and coordination of noxious weed activities is set forth in BLM Manual 9015 – Integrated Weed Management (BLM 1992). BLM policy requires that all ground-disturbing projects and any projects that alter plant communities be assessed to determine the risk of introducing or spreading noxious weeds. If the risk is moderate or higher, a positive management program needs to be established. Risk is assessed based on the likelihood of a species to establish as a result of the action, which is based on the presence of noxious weeds in the general area of the project (i.e., within the watershed, or other regional area) and the effect of the action on the vegetation and soil in the area. If there are noxious weeds already present in the area, and if the action will create seedbed conditions conducive to these species, then the risk is considered high. Surface-disturbing activities that expose bare mineral soil or create mesic conditions (e.g., infiltration ponds) generally result in a high risk rating.



2.2 STATE

2.2.1 Nevada Noxious Weed Law

The State of Nevada has enacted laws requiring control of noxious weeds due to the substantial economic losses caused by noxious weeds. The State of Nevada defines noxious weeds as:

“Any species of plant which is, or is likely to be, detrimental or destructive and difficult to control or eradicate.”

When Nevada law defines a weed as “noxious,” its distribution in commerce is prohibited and its control or management is mandated (Nevada Administrative Code 555). State of Nevada noxious weed definitions are as follows:

- Category A: Weeds not found or limited in distribution throughout the State; actively excluded from the State and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the State in all infestations.
- Category B: Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the State in areas where populations are not well established or previously unknown to occur.
- Category C: Weeds currently established and generally widespread in many counties of the State; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer.

2.2.2 California Noxious Weed Law

Noxious weeds are defined by the state of California in Chapter 1 of the California Department of Food and Agricultural (CDFA) Code, Section 5004, as “any species of plant that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate, which the director, by regulation, designates to be a noxious weed.” The CDFA maintains a noxious weed list and works to prevent the introduction and spread of injurious insect or animal pests, plant diseases, and noxious weeds. Noxious weed species also receive a rating of A, B, C, D, or Q as follows (CDFA 2019):

- A-Rated: A pest of known economic or environmental detriment and is either not known to be established in California or it is present in a limited distribution that allows for the possibility of eradication or successful containment. A-rated pests are prohibited from entering the state because, by virtue of their rating, they have been placed on the of Plant Health and Pest Prevention Services Director’s list of organisms “detrimental to agriculture” in accordance with the Food and Agricultural Code Sections 5261 and 6461. The only exception is for organisms accompanied by an approved CDFA or U.S. Department of Agriculture live organism permit for contained exhibit or research purposes. If found entering or established in the state, A-rated pests are subject to state (or commissioner when acting as a state agent) enforced action involving eradication, quarantine regulation, containment, rejection, or other holding action.



- **B-Rated:** A pest of known economic or environmental detriment and, if present in California, it is of limited distribution. B-rated pests are eligible to enter the state if the receiving county has agreed to accept them. If found in the state, they are subject to state endorsed holding action and eradication only to provide for containment, as when found in a nursery. At the discretion of the individual county agricultural commissioner they are subject to eradication, containment, suppression, control, or other holding action.
- **C-Rated:** A pest of known economic or environmental detriment and, if present in California, it is usually widespread. C-rated organisms are eligible to enter the state as long as the commodities with which they are associated conform to pest cleanliness standards when found in nursery stock shipments. If found in the state, they are subject to regulations designed to retard spread or to suppress at the discretion of the individual county agricultural commissioner. There is no state enforced action other than providing for pest cleanliness.
- **D-Rated:** An organism known to be of little or no economic or environmental detriment, to have an extremely low likelihood of weediness, or is known to be a parasite or predator. There is no state enforced action.
- **Q-Rated:** An organism or disorder suspected to be of economic or environmental detriment, but whose status is uncertain because of incomplete identification or inadequate information.

3.0 OVERVIEW OF EXISTING WEED CONDITIONS

As a result of several large-scale wildland fires that have burned across the region in the past three decades, two vegetation communities are dominated by weeds and annual grasses in the Project area. The annual grasses and forbs community and the ruderal community are dominated by noxious weeds and invasive species, and both are particularly common on the dry, south-facing slopes of Peavine Peak. On Peavine Peak, the annual grasses and forbs community occurs at lower elevations, most commonly on more arid slopes and flats with a southerly aspect. The community is generally dominated by cheatgrass (*Bromus tectorum*), an invasive species, as well as other non-natives or noxious weeds, such as medusahead (*Taeniatherum caput-medusae*). The annual grasses and forbs community often occurs as a direct result of wildfire or over-grazing within eastside pine or mixed conifer-fir communities or in areas dominated by sagebrush (*Artemisia spp.*). The ruderal community is comprised of species that are first to colonize disturbed lands. Within the Project area, the ruderal community is dominated by noxious weeds and invasive species, including cheatgrass. Other noxious weeds or invasive species common to the community include Scotch (cotton) thistle (*Onopordum acanthium*), musk thistle (*Carduus nutans*), bull thistle (*Cirsium vulgare*), Russian thistle (*Salsola tragus*), tumble mustard (*Sisymbrium altissimum*), and tessellate fiddleneck (*Amsinckia tessellata*) (USFS 2018).

Within the Project area, approximately 17 species of weeds, both noxious and invasive, have been documented occurring in large stands (Figure 1). Table 3-1 summarizes the ecology of noxious weeds found within the Project area.

Of the noxious weed species identified within the area, several are of primary concern due to the degree of impact they have on ecosystem function and the density or size of the existing infestations including: musk thistle; spotted knapweed (*Centaurea stoebe ssp. micranthos*); yellow star-thistle (*Centaurea solstitialis*); bull thistle; medusahead; perennial pepperweed (tall whitetop) (*Lepidium latifolium*); Scotch thistle; and tamarisk (*Tamarix spp.*) (USFS 2018). Treatment protocols for those species are detailed in Section 5.0 (Table 5-1).

In addition, a total of four invasive species have also been identified in the Project area. Most invasive species are relatively rare within the Project area, except for cheatgrass which is mapped extensively in the Project area. Section 5.0 (Table 5-1) also provides treatment protocols for cheatgrass.

Invasive species include:

- Cheatgrass;
- Fuller's teasel (*Dipsacus fullonum*);
- Himalayan blackberry (*Rubus armeniacus*); and
- Bouncingbet (*Saponaria officinalis*).

3.1 NOXIOUS AND INVASIVE WEED INVENTORY

Prior to any Project construction activities, noxious weeds occurring on either the Nevada or California State list will be inventoried and mapped. The full extent of the population, within the required limits, will be treated prior to and following construction. Treatment methods are specified in design features in Section 4.3. This Noxious Weed Abatement Plan will be updated to include mapping of the locations of the noxious weeds once inventories are completed.

Table 3-1 Ecology and Status of Noxious Weeds in the Project Area

Common Name (<i>Scientific Name</i>)	Noxious Weed Rating		Ecological Impact	Abundance	Trend	Rate of Spread	Typical Dispersal Method	Primary Concern Species for Project (Y/N)
	California	Nevada						
Russian knapweed (<i>Acroptilon repens</i>)	Noxious B	Noxious B	Moderate	Low	Decreasing	8-11%	Seed, root buds	N
Barbed goatgrass (<i>Aegilops triuncialis</i>)	Noxious B	Invasive	High	Low	Spreading	Rapid	Seed	N
Hoary cress/Whitetop (<i>Cardaria draba</i>)	Noxious B	Noxious C	Limited	Low	Spreading	Up to 12 feet per year from one plant	Seed, root fragments	N
Musk thistle (<i>Carduus nutans</i>)	Noxious A	Noxious B	Moderate	Moderate	Managed-Spreading	Slowly expanding	Seed	Y
Diffuse knapweed (<i>Centaurea diffusa</i>)	Noxious A	Noxious B	Moderate	None to Moderate	Managed-Spreading	Very Rapid	Seed, vegetation fragments	N
Spotted knapweed (<i>Centaurea maculosa</i>)	Noxious A	Noxious A	High	None to Moderate	Managed	Rapid	Seed	Y
Yellow star-thistle (<i>Centaurea solstitialis</i>)	Noxious C	Noxious A	High	None to Low	Managed-Spreading	Exponential	Seed	Y
Canada thistle (<i>Cirsium arvense</i>)	Noxious B	Noxious C	Moderate	None to Low	Managed	Several meters per year	Seed, root fragments	N
Bull thistle (<i>Cirsium vulgare</i>)	Noxious C	Invasive	Moderate	Low	NA	Little spread except disturbed areas	Seed	Y
Poison hemlock (<i>Conium maculatum</i>)	Invasive	Noxious C	Moderate	Low	NA	Rapid spread in disturbed areas	Seed	N
Field bindweed (<i>Convolvulus arvensis</i>)	Noxious C	Invasive	NA	NA	NA	NA	Seed, root nodes	N
Medusahead (<i>Taeniatherum caputmedusae</i>)	Noxious C	Noxious B	High	Low	Spreading	<10 years	Seed	Y
Dyer's woad (<i>Isatis tinctoria</i>)	Noxious B	Noxious A	Moderate	None to Low	Managed-Eradicated	14% per year	Seed	N



Common Name (<i>Scientific Name</i>)	Noxious Weed Rating		Ecological Impact	Abundance	Trend	Rate of Spread	Typical Dispersal Method	Primary Concern Species for Project (Y/N)
	California	Nevada						
Perennial Pepperweed (tall whitetop) (<i>Lepidium latifolium</i>)	Noxious B	Noxious C	High	None to Moderate	Managed-Spreading	<10 years	Seed, spreading roots, vegetation or root fragments	Y
Scotch thistle (<i>Onopordum acanthium</i>)	Noxious A	Noxious B	High	None to Low	Managed-Spreading	<10 years	Seed	Y
Russian thistle (<i>Salsola tragus</i>)	Noxious C	Invasive	Limited	Low	No trend	Stable	Seed	N
Tamarisk (<i>Tamarix</i> sp.)	Noxious B	Noxious C	High	Low	NA	6 years, more recently 3-4% per year	Seed, vegetation and root fragments	Y
Puncture vine (<i>Tribulus terrestris</i>)	Noxious C	Noxious C	NA	NA	NA	Rapid spread in disturbed areas	Seed	N

Source: USFS 2014



4.0 DESIGN FEATURES

To reduce the potential for the introduction or spread of noxious weeds and invasive plants, design features (Noxious Weeds [NW] 1 through NW 11) would be implemented prior to, during, and following construction activities.

4.1 PRE-CONSTRUCTION/CONSTRUCTION WEED CONTROLS

To prevent the spread of noxious weeds and invasive species from Project construction activities, the following measures will be implemented:

- NW 1. Noxious weeds occurring on either the Nevada or California State list will be mapped and the full extent of the population will be treated prior to and following construction. Inventory and treatment areas will extend 100 feet from the right-of-way (ROW)/easement and all ground disturbed by Project activities. Project disturbances include roads proposed for widening, construction access roads, equipment and material staging areas, and vegetation removal, including skid trails and landings.
- NW 3. All equipment utilized off existing roads and motorized trails will be cleaned with a high-pressure power washer of all mud, dirt, and plant parts. Following cleaning, equipment will be inspected for plant parts (e.g., leaves, stems, seeds). Equipment will be cleaned and inspected again prior to re-entry if it leaves the Project site. Equipment will be inspected and cleaned again before moving from an area within the Project area with known noxious weed species. Inspections will be completed and documented by qualified personnel such as a noxious weed specialist or botanist.
- NW 4. When cut and fill is required to create access roads and structure pads, topsoil will be stockpiled and covered to prevent weeds from establishing in the soil. This topsoil will be re-spread during restoration.
- NW 5. Staging areas and fly yards will not be placed in weed infested areas. Staging areas will be inspected by qualified personnel for pre-approved use to reduce the risk of introducing noxious weeds into the project area.
- NW 6. Construction of access roads will not occur in areas heavily infested with noxious or invasive weeds.
- NW 8. All gravel and/or fill material will be certified as weed-free.
- NW 9. NV Energy will coordinate with other county, state and federal agencies to address and treat landscape level infestations of invasive plant species.
- NW 10. For invasive plants that can be effectively controlled through grubbing or manual removal, methods that prevent seed spread or re-sprouting will be used. If flowers or seeds are present, the weed will be pulled carefully to prevent seeds from falling and will be placed in an appropriate container for disposal. If flowers and seedheads are not present or are removed and disposed of as described above, the invasive plant may be pulled and placed on the ground to dry out.



NW 11. The appropriate method of control specific to the type of noxious weed will be used. Specific methods will be identified in the COM Plan.

Plants and Sensitive Plant Communities (SV) 2. Prior to construction, once access roads and pole locations are known, the following tasks will be completed for areas where surface disturbance is planned:

- a. Pre-construction surveys for jaw-leaf lupine (*Lupinus malacophyllus*), andesite popcorn flower (*Plagiobothrys glomeratus*), and moonwort ferns (*Botrychium spp.*);
- b. Mapping and flagging of sensitive plant species, wetland areas, and noxious weeds; and
- c. Noxious weed infestations will be treated according to design features NW 1 and NW 2.

The following Recreation/Roads/Transportation (RT) design features will be also implemented to discourage unauthorized off-highway vehicle use of construction access roads that could increase the risk of weed infestations. Design features RT 3 and RT 4 require that all new temporary access roads have a physical closure (i.e., barricade) installed immediately following construction. Barricades will be monitored for effectiveness and compliance with the reclamation.

RT 3. All new access roads (i.e., spur roads and centerline travel roads) specifically constructed for this project will be re-contoured and reclaimed and will have a physical closure installed to prevent motorized access immediately following the completion of construction and restoration. The types of closure and design specification used will be approved by the USFS prior to installation.

RT 4. Physical barriers such as boulders or natural features designed to harmonize with the natural environment of the surrounding area will be installed to prevent unauthorized vehicle use from occurring on restored roads. The use of gates or other such structures for this purpose will be avoided unless determined necessary by the USFS.

4.2 POST-CONSTRUCTION WEED CONTROLS

NV Energy will implement the following post-construction weed control design features:

NW 2. Monitoring and continued treatment in areas that were treated prior to construction will commence the first full growing season after project implementation. Weed treatment will continue until disturbed areas are successfully restored (restoration criteria defined below). Weed treatment will continue during maintenance activities and within the ROW.

Successfully restored areas for the Project are defined as:

Reference sites will be pre-established and approved by the USFS. Reference sites will include plant communities that are representative of the ecological site and must include plant communities that are in a late-seral and ecologically functioning condition. Appropriate reference sites will be determined by collecting baseline cover data to indicate plant succession and community structure.



NW 7. Restoration seed mixes will be certified as weed-free.

4.3 HERBICIDE USE

NV Energy and the construction contractor(s) will implement an herbicide use plan (Section 4.3.1) to help control noxious weeds as part of the Project. During herbicide application, non-target vegetation may be inadvertently exposed through direct spray, downwind drift, runoff of chemical laden soil, and accidental spills. Design features Herbicide (HE) 1 through HE 15 (detailed below) will be implemented as herbicide use features to minimize or avoid effects of herbicide use to non-target vegetation.

- HE 1. Herbicides will be used in accordance with label instructions, except where Project design features describe more restrictive measures. An herbicide use plan will be developed and included in the COM Plan (Section 4.3.1).
- HE 2. Prior to the start of application, all spray equipment will be calibrated to ensure accuracy of the delivered amounts of herbicide. Equipment used during herbicide application will be regularly inspected to insure it is in proper working order.
- HE 3. Herbicide spray applications will not occur when wind velocity is five miles per hour or greater to further minimize the potential for drift.
- HE 4. Herbicide applications will not be conducted during rain or immediately following rain when soil is saturated or runoff or standing water is present. Application will occur only under favorable weather conditions, defined as:
 - a) 30% or less chance of precipitation on the day of application based upon National Weather Service weather forecasting for the Reno area;
 - b) If rain, showers or light rains are predicted within 48 hours, the amount of rain predicted shall be no more than ¼ inch of rain; and
 - c) Rain does not appear likely at the time of application.
- HE 5. Preparation of herbicides for application, including mixing, filling of wands and rinsing of spray equipment, will take place outside of wetlands, meadows, riparian zones, wells and springs, and other sensitive sites, and more than 300 feet from surface water. Herbicide preparation will occur only on level, disturbed sites such as the interior of landings.
- HE 6. A spill cleanup kit will be readily available whenever herbicides are transported or stored. A spill kit will be carried by the applicator at all times when using the wicking application method.
- HE 7. Low nozzle pressure (<25 pounds per square inch), and a coarse spray (producing a median droplet diameter of >500 microns) will be used in order to minimize drift during herbicide applications.
- HE 8. Prior to treatments in areas of concentrated public use, the public will be notified about upcoming herbicide treatments via posting signs.

- HE 9. The herbicide spray nozzle will be kept as close to target plants as possible (within 20 inches) while achieving uniform coverage in order to limit overspray and drift to non-target vegetation.
- HE 10. Where riparian vegetation communities occur, herbicide application will be limited to directed foliar spray or wiping methods and spray will be directed away from native vegetation.
- HE 11. Herbicide treatments will not occur within 500 feet of sensitive plant occurrences.
- HE 12. Herbicide application within wet meadows will be limited to treating invasive plant infestations that occupy less than 100 square feet. Herbicide applications will be limited to wiping techniques with aminopyralid, chlorsulfuron, and glyphosate and treatment of the following high priority species: Canada thistle, yellow star-thistle, Russian knapweed or perennial pepperweed (tall whitetop) which are difficult to eradicate with non-chemical means. Meadows will be surveyed for special status plant species prior to any chemical treatments and will be monitored post-treatment to determine effects to non-targeted vegetation.
- HE 13. Herbicide application will not occur within the established buffers for aquatic features shown in Table 4-1.

Table 4-1 Minimum Buffers (ft) for Herbicide Application Near Aquatic Features

Herbicide	Application Method	Dry Aquatic Features	Streams ¹ or Ditches with Water ²	Wetland or Meadow
Aminopyralid	Spot & directed foliar spray	25	25	100
	Wiping	15	150	15
Chlorsulfuron	Directed foliar spray	25	100	100
	Wiping	15	15	15
Glyphosate	Directed foliar spray or drizzle	0	25	25
	Cut stump or wiping	0	15	15
Imazapic	Directed foliar spray	25	75	75
Triclopyr (TEA)	Directed foliar spray	25	75	75
	Wiping or cut stump	15	15	15
Clopyralid	Spot & directed foliar spray	25	50	50
	Wiping	15	15	15

¹As measured from the edge of the stream channel. If a defined channel is not present (draws do not have defined channels), measurement is from the bottom of the feature.

²As measured from the edge of the wet area or the meadow vegetation, whichever is greater. Limited conditions allowing for herbicide application within meadows are described in HE 12.

- HE 14. Herbicide application is limited to targeted treatments directed at the plant (spot treatments of the immediate area surrounding the plant are allowed with aminopyralid and clopyralid, only) using a backpack sprayer; broadcast spray methods that dispense chemical over a non-localized area will not be used.
- HE 15. Avoid application of Aminopyralid and Clopyralid sprayed mulch materials on revegetation sites.

4.3.1 Herbicide Use Plan

As required, an Herbicide Use Plan will be prepared for the Project once a complete inventory of noxious weeds is completed prior to construction and it is determined what areas and what species will be treated. The completion of a pesticide use proposal form (FS 2100-02, Appendix A) is required by the USFS and will be included in the Herbicide Treatment Plan. The form can also be found at the USFS website:

<https://www.fs.fed.us/foresthealth/protecting-forest/integrated-pest-management/pesticide-management/index.shtml>

Consultation with Native American tribes and the development of management strategies which protect the integrity of traditional cultural plant gathering locations will occur. Herbicides will not be used to treat noxious or invasive weeds in any Area of Concern or gathering site for local Tribes without consulting with the Tribes.

4.3.1.1 Herbicide Application and Handling

Before application, NV Energy or its construction contractor(s) will obtain any required permits from local authorities. Permits may contain additional terms and conditions that are outside the scope of this Plan. A licensed contractor will perform all herbicide application in accordance with applicable laws and regulations and permit stipulations.

All herbicide applications must be applied in compliance with the United States Environmental Protection Agency label instructions, except where Project design features include more restrictive measures (Section 4.3). Application of herbicides will only occur under favorable weather conditions, defined as:

- Wind velocities are five miles per hour or less;
- 30 percent or less chance of precipitation on the day of application based upon National Weather Service weather forecasting for the Reno area;
- If rain, showers or light rains are predicted within 48 hours, the amount of rain predicted shall be no more than ¼ inch of rain; and
- Rain does not appear likely at the time of application.

Preparation of herbicides for applications (i.e., mixing, filling of wands, and rinsing of spray equipment) will only occur on level, disturbed sites and will take place outside of wetlands, meadows, riparian zones, wells and springs, and other sensitive sites, and more than 300 feet from surface water.

Prior to the start of application, all spray equipment will be calibrated to ensure accuracy of the delivered amounts of herbicide. Equipment used during herbicide application will be regularly inspected to insure it is in proper working order. Herbicide application is limited to targeted treatments directed at the plant (spot treatments of the immediate area surrounding the plant are allowed with aminopyralid and clopyralid, only) using a backpack sprayer. A low nozzle pressure (<25 pounds per square inch), and a coarse spray (producing a median droplet diameter of >500 microns) will be used in order to minimize drift during herbicide applications. The spray nozzle will



be kept as close to target plants as possible (within 20 inches). NV Energy and its construction contractor will comply with herbicide application methods and requirements for sensitive plant, riparian, and wet meadow communities as described in design features HE 10, HE 11, HE 12, and HE 13.

Additionally, in areas of concentrated public use, posting signs will be placed about upcoming herbicide treatments.

4.3.1.2 Herbicide Spills and Cleanup

A spill cleanup kit will be readily available whenever herbicides are transported or stored. A spill kit will be carried by the applicator at all times when using the wicking application method. A spill cleanup kit will include:

- Personal protective equipment including clothing and gloves recommended on the product label or Safety Data Sheet;
- Absorptive clay, “kitty litter,” or another commercial adsorbent; and
- Plastic bags and bucket, shovel, fiber brush, dustpan, caution tape, highway flares (use on established roads only), and detergent.

Response to an herbicide spill will vary with the size and location of the spill, but general procedures include:

- USFS, Sierra County Environmental Health Department, and Nevada Division of Environmental Protection notification;
- Traffic control (roadside cleanup);
- Containing the spilled material;
- Cleaning up and removing the spilled herbicide and contaminated adsorptive material and soil; and
- Transporting the spilled herbicide and contaminated material to an authorized disposal site.

4.3.1.3 Worker Safety and Spill Reporting

All herbicide contractors will be state licensed to apply herbicides (and certified if restricted use herbicides are used) and obtain and have readily available copies of the appropriate Safety Data Sheets for the herbicides used. All herbicide spills will be reported in accordance with applicable laws and requirements.



5.0 TREATMENT METHODS

As stated in Section 3.0, the following species have been identified as a primary concern due to the degree of impact they have on ecosystem function and are subject to treatment and control in the Project area.

- Musk thistle;
- Spotted knapweed;
- Yellow star-thistle;
- Bull thistle;
- Medusahead;
- Perennial pepperweed (tall whitetop);
- Scotch thistle;
- Tamarisk; and
- Cheatgrass.

Table 5-1 provides the suggested treatment control methods specific to each species for the Project. Table 5-2 provides pesticide restrictions based on the state of application.

Table 5-1 Treatment Control Methods of Noxious and Invasive Species

Weed Species	Treatment Options
Musk thistle	<ul style="list-style-type: none"> • Mowing, tilling or hand removal after bolting but prior to flowering is effective; remove the top two inches of crown by digging before seed production. • Several biological control agents are available. • Apply 2,4-D, chlorsulfuron, metsulfuron or picloram to actively growing rosettes; aminopyralid or clopyralid between rosette and late-bolt stages.
Spotted knapweed	<ul style="list-style-type: none"> • Mowing plants in bud to flower stage can reduce seed production; repeated hand removal can be effective; do not burn. • Several insect biological control agents are available. • Apply 2,4-D in the rosette stage; apply clopyralid, picloram or aminopyralid between rosette and mid-bolt stages.
Yellow star-thistle	<ul style="list-style-type: none"> • Grazing, mowing, burning, pulling, digging and cultivation can be effective if done prior to seed production. • Several biological control agents are available. • Apply aminopyralid, 2,4-D, clopyralid, or picloram to actively growing plants before flowering.

Weed Species	Treatment Options
Bull thistle	<ul style="list-style-type: none"> To kill bull thistle till, hoe or hand pull it. Seeds will likely be left in the soil, so revegetate the site with desirable plants that will be able to compete with bull thistle and prevent reinvasion. These methods are most effective when done before bull thistle flowers. Mowing bull thistle will not eradicate the weed, but it can be used to limit the spread of seed if timed properly. Mow once after the plants produce a flower stalk (bolt) but before they flower, and then again about a month later. Mowing will be more effective if used in combination with other management techniques. When bull thistle plants are in the rosette growth state, clopyralid, MCPA, 2,4-D, or picloram can be used in pastures, rangeland, and non-crop areas. For plants that are in the bolting to bud stages, use metsulfuron or chlorsulfuron. It can also be sprayed during the bolt stage with great success.
Medusahead	<ul style="list-style-type: none"> Tillage, mowing or grazing prior to seed set can reduce stands. Burning has had mixed results; most effective with a hot, slow fire prior to medusahead seed maturity but after other species have dried-down; burning can also be used to reduce the thatch layer, which can increase the performance of soil-applied herbicides. Apply minopyralid, imazapic, or sulfometuron methyl before emergence or to small, actively growing plants; glyphosate to actively growing plants.
Perennial pepperweed (tall whitetop)	<ul style="list-style-type: none"> Mowing, digging, tillage, burning and grazing established stands are not effective. Apply metsulfuron or chlorsulfuron to actively growing plants through early-bloom; imazapic from full-bloom until plants become necrotic; 2,4-D and glyphosate at bud to flower can be effective if repeated for several years.
Scotch thistle	<ul style="list-style-type: none"> Hand-removal, digging or mowing prior to flowering can be effective. Apply 2,4-D, chlorsulfuron, metsulfuron or picloram to actively growing rosettes; 2,4-D + dicamba, aminopyralid, chlorsulfuron or clopyralid between rosette and late-bolt stage.
Tamarisk	<ul style="list-style-type: none"> Cutting, digging or burning must be combined with a chemical application to be effective. An insect biological control agent is available. Apply imazapyr to actively growing foliage during flowering; triclopyr, glyphosate or imazapyr as a cut stump or basal bark treatment. Success with the cut stump method using Garlon 4Ultra has also occurred.
Cheatgrass	<ul style="list-style-type: none"> The integration of chemical management tools with cultural practices is recommended for successful control. Disking and other mechanical control treatments alone are typically not recommended because disturbed soil and a fluffy seedbed usually favor cheatgrass. If mechanical control is used, multiple treatments are required to bury cheatgrass seeds at least four to six inches deep to suppress their germination. Mechanical control followed by chemical application may help to reduce the abundance of cheatgrass seeds in the seedbank. Roundup (glyphosate) can be applied at low rates in early spring to suppress competitive growth and seed production of cheatgrass. Care should be taken to only apply glyphosate when desirable vegetation is dormant to avoid risk of injury to those species. Roundup applications are limited to no more than one contiguous acre in California.

Source: NDA 2019; UNCE 2005; MSU 2008



Table 5-2 Pesticide Use Restrictions

Pesticide Name	Active Ingredient	Use Allowed by State
Weedar 64/LV4/ 2-4, D amine	2,4,-D	NV Only
Telar	Chlorsulfuron	CA or NV
Escort/Patriot	Metsulfuron	CA or NV
Tordon	Picloram	NV Only
Milestone	Aminopyralid	CA or NV
Transline	Clopyralid	NV Only
Plateau	Imazapic	NV Only
Oust	Sulfometuron methyl	CA or NV
Rodeo/Round up Pro/Aquaneat	Glyphosate	CA* or NV
Garlon 3A/4 Ultra	Tricopyr	CA or NV
Habitat/Polaris	Imazapyr	CA or NV
MCPA	2-methyl-4-chlorophenoxyacetic acid	CA* or NV

Source: CDPR 2015 and USFS 2020

5.1 RESPONSIBLE PARTIES

The construction contractor(s) will be responsible for implementing the design features as appropriate prior to and during construction, as well as during the post-construction reclamation phase. NV Energy will be responsible for implementing the design features as appropriate during the operations and maintenance phase. NV Energy and the construction contractor(s) or other subcontractor(s) will not be responsible for pre-existing weed infestations, weeds introduced by another activity (e.g., another construction project, mining, ranching, hunting, etc.), or natural occurrence (e.g., fire); weeds found beyond the ROW; or weeds along existing access roads that are not improved by the Project.

6.0 SUCCESS CRITERIA, MONITORING, AND REMEDIATION

6.1 WEED ABATEMENT SUCCESS CRITERIA

Weed management will be considered successful if noxious weed infestations in areas disturbed by construction are no greater in density and extent than prior to construction, five years following the completion of construction.

NV Energy will not be responsible for new or recurring infestations caused by the spread of weeds from surrounding and adjacent lands, unless it can be demonstrably shown to be the result of disturbance caused by NV Energy.

6.2 MONITORING

Weed abatement monitoring will consist of both qualitative and quantitative analyses. Mapping and flagging will be conducted prior to construction for noxious weeds. Post-construction monitoring will continue annually until success criteria are met. Objectives of monitoring include the following:

- Qualitatively assess and describe the status of weed abatement Project disturbance areas;
- Identify and remedy areas exhibiting weed abatement failure;
- Document and map areas where weed abatement is not progressing;
- Assess if any problems are occurring and determine whether remedial measures are necessary.

Weed abatement monitoring will be conducted during the growing season for most weeds, between late May and mid-July. Monitoring will be conducted by vehicle and/or on foot in the disturbed areas along ROW/easement, the roads proposed for widening, construction access roads, equipment and material staging areas, and vegetation removal areas. Species names and locations of weed infestations will be recorded on field datasheets and Global Positioning System (GPS) coordinates will be recorded using a GPS with sub-meter accuracy. Photographs will also be taken of each targeted population prior to treatment and one year following treatments. Infestation size and density estimates for representative samples will be included on the maps and/or on the field datasheets at the levels listed below.

- Satellite Populations (i.e., possible new colonies): Defined as a very small infestation areas (less than 25 square-feet) that have only a few individual plants and are found apart from dense or large weed populations.
- Infestation Sites: Defined as a site in which a minimum of 25 square-feet is populated by a weed species. Densities of these weed populations will be estimated as high (i.e., greater than 50 plants), medium (i.e., 10 to 50 plants), or low (i.e., less than 10 plants), based on the average number of plants per square-foot. Densities can be defined



differently for different weed species, as appropriate. All density definitions should be provided on the field monitoring sheets.

The data will be qualitatively compared with preconstruction monitoring data for the same infestation areas and/or reference sites adjacent to the original infestation areas.

6.3 REMEDIATION AND ADAPTIVE MANAGEMENT PROCESS

If monitoring indicates that sites disturbed by Project activities have not met or are not trending toward meeting success criteria, the weed abatement methods may need to be adjusted. Herbicide applications will be determined in consultation with the appropriate agencies. Remedial measures will be implemented as soon as practicable in problem areas, selected on a case-by-case basis, and subject to agency and landowner approval.

In some cases, NV Energy will not be able to control the spread of noxious weeds in the Project area independently. Weed distributions in the Project area are also influenced by activities of property owners, authorized users (e.g., recreational users), and managing agencies of public lands like the USFS and BLM. To be truly successful, these property owners and managing agencies would also need to initiate weed abatement controls in the local area and surrounding region. Furthermore, weed abatement can be very difficult in arid areas, especially during drought years.

If noxious weed abatement criteria are not met within five years following the end of construction and reclamation, NV Energy may negotiate with the USFS or appropriate agencies to fund further efforts to comply with the mitigation requirements.

7.0 REFERENCES

- Bureau of Land Management (BLM). 1992. BLM Manual 9015-Integrated Weed Management. December 1992.
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FIGURES

APPENDIX A

Pesticide Use Proposal Form



Pesticide-Use Proposal

(Reference FSM 2150)

FS-2100-0002 (REV.02/2019)
OMB 0596-0241 Exp. 2/28/2022

To complete this form, see instructions for Form FS-2100-0002, Pesticide-Use Proposal

Agency / Cooperator*	Contact Name, Phone Number and e-mail*

Region*	Forest/District*	Date Submitted*

How would you like to be informed of the decision on your proposal?*

Telephone E-mail Both

1) OBJECTIVE a) Project name and/or identifier b) Specific target pests(s) c) Purpose	
2) PESTICIDE PRODUCT(S) a) Trade name b) Formulation as purchased c) Restricted-use Pesticide(yes/no) d) EPA registration number e) Common name of chemical(s) f) AI, AE, IU, or PIB expressed as % or concentration	
3) TYPE OF APPLICATION a) Method b) Equipment	
4) FIELD APPLICATION INFORMATION a) Formulation of material to be applied b) Planned application rate c) Dilution rate d) Diluent e) Pounds of AI or AE per acre(or other applicable rate) f) Other pesticides being applied to proposed treatment site(s)	
5) TREATMENT AREA DESCRIPTION a) Targeted treatment area b) State and County c) Site Description d) Estimate of acres(or other unit) to be treated e) Number of applications f) Month(s) and year(s) of application	
6) SENSITIVE AREAS a) Special designated area (if applicable) b) Areas to be avoided c) Areas to be treated with caution	

7) PROJECT IMPLEMENTATION

- a) Trained/certified personnel to be used
- b) Personal safety
- c) State and local coordination
- d) Best management practices
- e) Monitoring
- f) Additional project information

For Official Use Only

8. REVIEWER SIGNATURE(S)

a) Pesticide Use Coordinator	_____	Date	_____
b) Other reviewer(s) (as necessary)	_____	Date	_____
Other reviewer(s) (as necessary)	_____	Date	_____
Other reviewer(s) (as necessary)	_____	Date	_____
c) Approval (signature of approving official)	_____	Date	_____

Attach File(s)

Submit by Email

Burden Statement

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APPENDIX C2

Streams, Wetlands, Wells, and Springs Protection Plan

**Wells, Springs, Streams, Riparian Zones, and Wetlands
Protection Plan
Bordertown to California 120 kV Transmission Line
Construction, Operation, and Maintenance (COM) Plan**

Prepared for:

NV Energy
6100 Neil Road
Reno, NV 89511

Prepared by:

Stantec Consulting Services Inc.
6995 Sierra Center Parkway
Reno, NV 89511

August 2020

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LIST OF ABBREVIATIONS

AFA	Acre-feet Annually
BMP	Best Management Practice
cfs	Cubic Feet per Second
GP	General Practices
HM	Hazardous Materials and Waste
kV	Kilovolt
NDEP	Nevada Division of Environmental Protection
NPDES	National Pollutant Discharge Elimination System
Plan	Wells, Springs, Streams, Riparian Zones, and Wetlands Protection Plan
Project	Bordertown to California 120 Kilovolt (kV) Transmission Line Project
ROW	Right-of-Way
SPCC	Spill Prevention, Control, and Countermeasure Plan
U.S.	United States



USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
WA	Water Resources and Soil
WL	Wildlife and Sensitive Wildlife Species



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act, the Environmental Impact Statement and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Wells, Springs, Streams, Riparian Zones, and Wetlands Protection Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. This Plan provides guidelines for the crossings of watercourses in the Project area and for the protection of wetland and riparian resources. This Plan describes measures to protect streams and wetlands from impacts associated with Project construction. This includes measures to be implemented when crossing or working adjacent to these areas including erosion or sedimentation control measures specific to streams and wetlands.

2.0 REGULATORY OVERVIEW

The construction, operation, and maintenance phases of the Project are subject to various regulations designed to protect environmental resources and the public. Regulations that are relevant to water resources are outlined below.

2.1 FEDERAL

General water quality is protected under the federal Clean Water Act and a permit is required if a project will result in the alteration of or discharges into watercourses, water bodies (waters of the U.S.), or wetlands. The U.S. Army Corps of Engineers (USACE) and Environmental Protection Agency regulate the placement of fill into waters of the U.S. under Section 404 of the Clean Water Act.

2.2 STATE

In Nevada, waters of the State are defined by the State of Nevada in Nevada Revised Statutes 445A.415 and include all surface waters and wetlands, regardless of their federal status. The Nevada Division of Environmental Protection (NDEP) is responsible for administration of the Nevada Water Pollution Control Law, which provides state authority to protect water quality. The NDEP also regulates Section 401 Water Quality Certification, Stormwater Permits for Construction Activity, and Temporary Permits for Working in Waterways for the Project.

3.0 OVERVIEW OF WELLS, STREAMS, RIPARIAN ZONES, AND WETLANDS

3.1 WELLS AND SPRINGS

There is one identified permitted underground water well and one identified permitted spring located within the ROW/easement (NDWR 2019). Details of the well and spring are included in **Table 3-1** and the locations included on **Figure 1**.

Table 3-1 Permitted Wells and Springs within the ROW/Easement

Permit Number	Application Status	Owner of Record	Source	Use	Point of Diversion	Diversion Rate (cfs)	Duty (AFA)
47611	Certificate	Washoe County	Underground	Quasi municipal	T19N, R18E, Section 7	0.017	3.36
V11207	Vested Right	Heinz Holdco, LLC	Spring	Irrigation	T20N, R18E, Section 5	Entire flow source is diverted.	0

cfs = cubic feet per second

AFA = acre-feet annually

Source: NDWR 2019

3.2 STREAMS

The Project spans two major watersheds: the Honey-Eagle Lakes watershed and the Truckee watershed, which includes the Truckee River (**Figure 1**).

Streams within the southern portion of the Project area are within the Truckee watershed and includes the Truckee River. Streams in the northern portion of the Project area are within the Honey-Eagle Lakes watershed, and drain to Long Valley Creek, White Lake, or Silver Lake. The total number of perennial, intermittent, and ephemeral streams identified in the Project area, including those on USFS land, are detailed in **Table 3-2** below.

Table 3-2 Number of Streams within the Project Area

Stream Flow Regime	Located on USFS Land	Total
Perennial	0	3
Intermittent	0	0
Ephemeral	9	15
Total	9	18

Source: USFS, 2018

Streams and wetlands within the Project area were evaluated to determine whether the stream would be considered a water of the U.S., subject to regulation under the Clean Water Act. The results of this evaluation are presented in **Table 3-3**.

Table 3-3 Preliminary Jurisdictional Determination

Stream Name	Stream #	Sub-Watershed	Land Status	Waters of the U.S. Determination Rationale
Bull Ranch Creek	34	Bull Ranch Creek	Private	Yes; Relatively permanent tributary of the Truckee River.
Truckee River	35, 36	Bull Ranch Creek	Private	Yes; Traditional Navigable Water.
Unnamed Stream	37	Bull Ranch Creek	USFS	Yes; Hydrological and ecological significant nexus to the Truckee River.
Bull Ranch Creek	38	Bull Ranch Creek	USFS	Yes; Hydrological and ecological significant nexus to the Truckee River.
Unnamed Stream	39	Bull Ranch Creek	Private	Yes; Hydrological and ecological significant nexus to the Truckee River.
Unnamed Stream	40	Bull Ranch Creek	Private	Yes; Relatively permanent tributary of the Truckee River.
Unnamed Stream	3-6	Long Valley Creek	USFS	Yes; Interstate Water.
Unnamed Stream	10, 11	Long Valley Creek	USFS	Yes; Interstate Water.
Unnamed Stream	1,2	Cold Spring Valley	Private	No; Isolated with No Interstate Commerce Use.

Source: USFS 2014

No formal coordination with the USACE was conducted for the preliminary jurisdictional determination presented in **Table 3-3**, and therefore, the determination of jurisdictional status should only be considered preliminary until verified by the USACE. Regardless of their federal status, all surface waters and wetlands within the Project area would be considered waters of the State of Nevada.

However, the permanent Project facilities are expected to span all potentially jurisdictional drainages along the route and no transmission line structures would impact jurisdictional waters (including wetlands). Whenever possible, temporary access would occur from both sides of drainages and construction contractors would avoid crossing drainages and potential impacts. If a drainage must be crossed for temporary access, the required permits will be obtained and the design features described in Section 4.0 will be implemented.

3.3 RIPARIAN ZONES AND WETLANDS

Intermittent and perennial streams identified in **Table 3-2** support wetland riparian zones. The wetland riparian zones of the largest streams are dominated by willow shrubs, while riparian zones of smaller streams are dominated by wetland grasses and forbs (i.e., wet meadow). A few isolated springs and seeps are present outside of stream zones and are generally dominated by grasses and forbs. **Table 3-4** details the acreage of wetlands, which includes the wetland riparian zones and off-channel wetlands that are found within the variable-width corridor and road widening corridor for the Project, Including on USFS land.



Table 3-4 Acres of Wetlands within the Project Area

Analysis Area	Located on USFS Land	Total
Variable Width-Corridor	1.1	21.8
Road Widening Corridor	1.1	1.3
Total	2.2	23.1

Source: USFS 2018

Riparian zones and wetlands that could be impacted from the Project occur along streams. The permanent transmission line facilities of the Project will span riparian zones and wetlands along streams. Ancillary facilities such as staging areas and log landings will be placed outside of streams.

Additionally, construction activities, including temporary road crossings, would not require the placement of permanent, above-ground fill within designated special flood hazard areas. No impacts to floodplains would occur as a result of construction of the Project.

4.0 DESIGN FEATURES

NV Energy and the construction contractor(s) will implement the design features discussed in this section to minimize Project impacts to streams, riparian zones, and wetlands where they occur along the Project route.

4.1 GENERAL AQUATIC RESOURCES PROTECTION MEASURES

General Practices (GP) 1. All environmentally sensitive areas (i.e., culturally sensitive areas, meadows, and special status plant populations) will be temporarily fenced during construction for avoidance.

Plants and Sensitive Plant Communities (SV) 3. There will be no new access roads or widening of existing roads for construction access through meadows. This measure will also protect potential habitat for special status plant populations that are found in wetland and meadow habitats, such as Dog Valley ivesia.

Water Resources and Soil (WA) 3. Construction equipment staging areas, and storage of equipment fuels will not be located within 300 feet of perennial streams or within 150 feet of intermittent and ephemeral streams. Staging areas and fuel storage will also not be located within 150 feet of wetlands or other water features.

WA 4. Pole sites and staging areas will not be constructed within the 100-year floodplain of any stream or within wetlands.

WA 7. Water drafting (i.e., water withdrawal) from streams will not be permitted. Water shall be provided by truck for dust abatement and other project needs.

Wildlife and Sensitive Wildlife Species (WL) 10. To limit the potential for impacts to aquatic resources, particularly to Lahontan cutthroat trout, pole sites or roads will not be placed within the 100-year floodplain in Dog Creek, Bull Ranch Creek, and the Truckee River. During construction, no soil disturbing activities will occur within the 100-year floodplain of these streams.

4.2 TEMPORARY STREAM CROSSINGS

WA 8. Improvements to any existing road crossing will be designed to minimize surface disturbance.

WA 9. Crossings will be located where the stream channel is narrow, straight, and uniform, and has stable soils and relatively flat terrain. Stream crossings will be oriented perpendicular to the stream channel. All stream crossings will be designed and installed such that sufficient load-bearing strength for the expected equipment is provided.

WA 10. Stream crossings will be designed for a normal range of flows for the site, and crossings that must remain in place during high runoff seasons will be stabilized. However, all new crossings will be temporary and will be removed at the end of the construction season. The water body profile and substrate will be restored when the crossing is removed.



Improvements to existing crossings will be removed or stabilize and retained as part of the Reclamation and Habitat Restoration Plan.

- WA 11. Stream crossings will be regularly monitored to evaluate the condition. Any repairs or improvements to the crossings identified during monitoring will be promptly addressed.
- WA 12. Surface drainage and roadway stabilization measures will be used to disconnect the access road from the stream in order to avoid or minimize water and sediment from being channeled into surface waters and to dissipate concentrated flows.
- WA 13. On perennial streams, existing crossings will be utilized whenever possible and any temporary new crossings will be constructed in accordance with permit requirements.
- WA 14. If it is determined that a stream crossing is needed, and a Section 404 permit is needed an application for a permit will be completed at that time.
- WA 15. Perennial streams may have environmental resource designs which may include ramp crossings outside of ordinary high-water mark.

4.3 SPILL PREVENTION

Hazardous Materials and Waste (HM) 1. A Spill Prevention, Control, and Countermeasure Plan (SPCC) will be implemented during construction to prevent any spills. The SPCC, which will include cleanup procedures, will become part of the COM plan.

4.4 EROSION AND SEDIMENTATION

- WA 1. As a part of the COM Plan, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to minimize erosion from the Project construction worksites and to contain sediment. The SWPPP will be prepared in accordance with the National Pollutant Discharge Elimination System (NPDES) General Construction Stormwater Permit. At a minimum, it will identify the existing drainage patterns of the construction work sites and ROW/easement, nearby drainages and washes, potential pollutant sources other than sediment, and erosion and sediment control measures and Best Management Practices (BMPs) that will be implemented to protect stormwater runoff. The SWPPP will include maps with locations for erosion and sediment control measures, and BMPs. The SWPPP will be kept on site throughout the duration of construction.
- WA 2. Erosion and stormwater controls will be inspected on the ground at least once every seven days and within 24 hours of a storm event of 0.5 inch or greater. Weather forecasts and data available from the National Weather Service in Reno will be used to determine total precipitation associated with a storm event. Qualified personnel of NV Energy or its contractors with specific training in erosion and sediment control will perform the inspections.
- WA 5. Construction equipment will not be operated on unstable soils or on soils too wet to adequately support equipment in order to prevent rutting, puddles on soil surface, or runoff of sediments directly into waterbodies.

- VG 5. Where removal of vegetation other than trees is unavoidable, the vegetation will be cut at ground level to preserve the root structure and allow for potential sprouting.
- VG 6. All areas of temporary ground disturbance that result from the construction or maintenance of the Project will be restored as required by the land management agency and per any applicable permits. Restoration will include restoring contours to their approximate pre-construction condition, stabilizing the area through seeding, mulching, placement of erosion control fabric, and installing erosion control features. Revegetation may include incorporation of chips into the soil, as needed. Erosion control includes installing cross drains and placing water bars in the road, as needed.

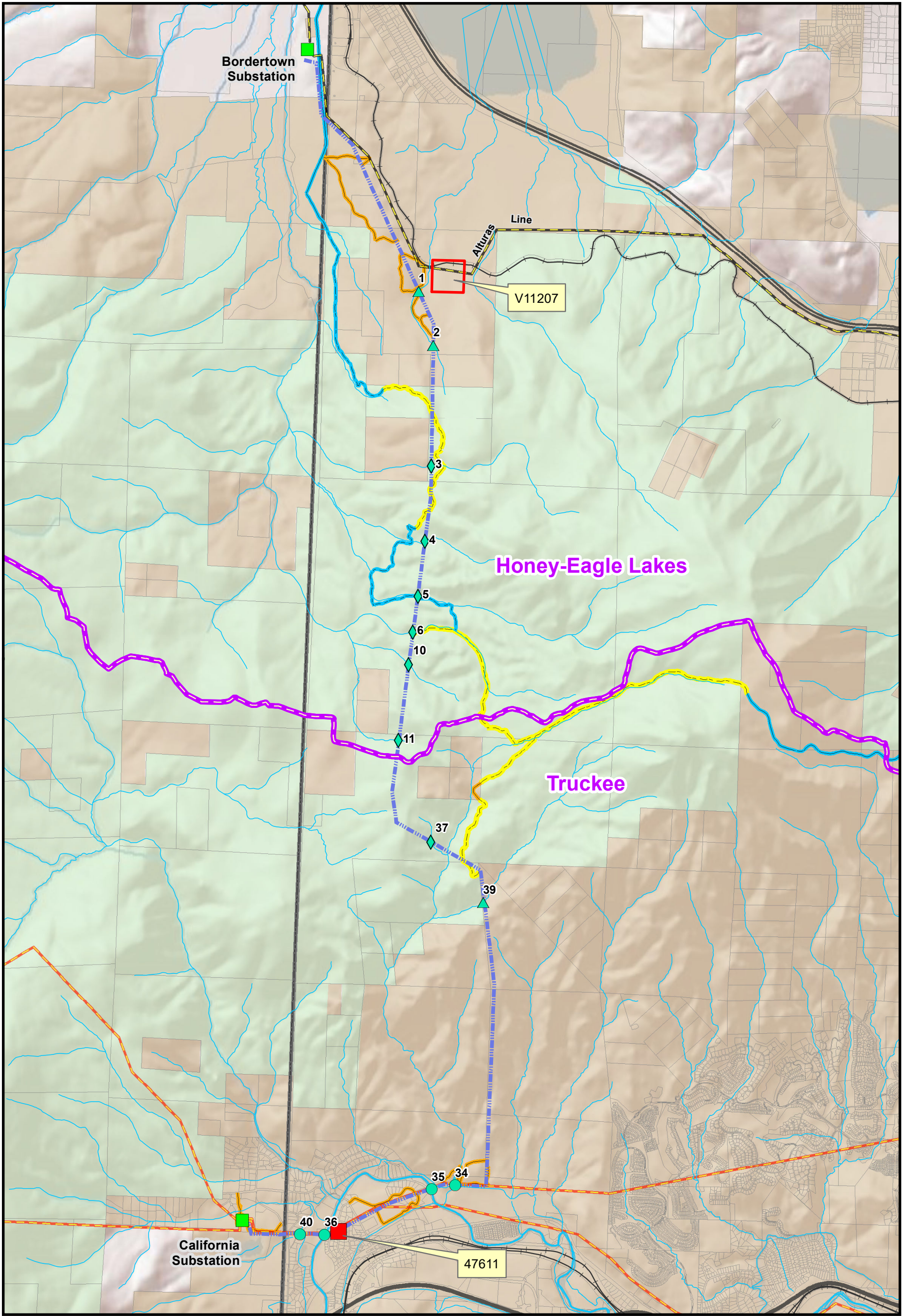
5.0 MONITORING

Stream crossings will be regularly monitored to evaluate the condition during and following the Project's construction period. The principle criterion for measuring the success of protection measures for stream and wetland crossings is to ensure that sediment transport levels are not increased above pre-construction levels. Monitoring of streams and wetland protection measures during the construction and post-construction phases of the Project will be in accordance with the Reclamation and Habitat Restoration Plan (Appendix C3 of the COM Plan).

6.0 REFERENCES

- State of Nevada Division of Water Resources (NDWR). (2019). Nevada Water Rights Mapping Application. Accessed August 2019 online at:
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- United States Forest Service (USFS). (2018). Final Environmental Impact Statement. Bordertown to California 120 kV Transmission Line Project. Humboldt-Toiyabe National Forest, Carson Ranger District Sierra County, California, and Washoe County, Nevada. June 2018.

FIGURE



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Water Crossings

- ◆ Ephemeral Channel
- ▲ Intermittent
- Perennial
- V11207
- USGS Hydrologic Unit
- Substation
- Bordertown to California 120 kV Transmission Line
- 120 kV Transmission Line

- 345 kV Transmission Line
 - USFS Roads (Temporary Widening)
 - USFS Roads Used for Access (No Widening)
 - Public and Private Roads across Private Land (Temporary Widening; includes Dirt Roads)
 - Public and Private Roads Used for Access (No Widening)
- Land Ownership**
- U.S. Forest Service
 - Private Land

NV ENERGY
BORDERTOWN TO CALIFORNIA 120 KV
TRANSMISSION LINE CONSTRUCTION,
OPERATION, AND MAINTENANCE
(COM) PLAN

0 2,000 4,000 Feet
1 in = 4,000 feet

T19N, R18E Washoe County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: CJ	1ST REVIEW: JT	2ND REVIEW: MB
DATE: 5/12/2020		PROJECT NO: 203703160

Figure 1
Waterbody Crossings

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APPENDIX C3

**Reclamation and Habitat Restoration
Plan**

**Reclamation and Habitat Restoration Plan
Bordertown to California 120 kV Transmission Line
Construction, Operation, and Maintenance (COM) Plan**

Prepared for:

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6100 Neil Road
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Prepared by:

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August 2020

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LIST OF ABBREVIATIONS

COM	Construction, Operations, and Maintenance
EIS	Environmental Impact Statement
kV	Kilovolt
NDA	Nevada State Department of Agriculture
NDOW	Nevada Department of Wildlife
NFS	National Forest System
Plan	Reclamation and Habitat Restoration Plan
PLS	Pure Live Seed
Project	Bordertown to California 120 Kilovolt Transmission Line Project
ROW	Right-of-Way
U.S.	United States
USFS	United States Forest Service



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act, the Environmental Impact Statement (EIS) and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Reclamation and Habitat Restoration Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. The objective of this Plan is to provide guidelines for activities prior to, during, and following construction of the Project that ultimately pertain to the successful reclamation of areas disturbed by implementation of the Project and restoration of vegetation communities and associated wildlife habitat in areas disturbed by Project activities.

Construction and reclamation practices will be guided by the State of Nevada Best Management Practices Handbook (NDEP 1994), the United States Department of Agriculture National Best Management Practices for Water Quality Management on National Forest System Lands (USDA 2012), the Truckee Meadows Construction Site Best Management Practices Handbook (Farr West 2015), and applicable sections of the Truckee Meadows Structural Controls Design and Low Impact Development Manual (NCE 2015). In addition, the USFS, City of Reno, and Washoe County issued special use permits for the construction, operation and maintenance of the transmission line may also contain reclamation conditions not mentioned in this Plan. Upon issuance of the special use permits, this Plan will be modified to incorporate any modifications and/or additional reclamation requirements not already included. NV Energy's approach to revegetation emphasizes conservation and enhancement of native vegetation, supplemental seeding, and erosion control. The reclamation methods described below pertain to the restoration of the plant communities that will be disturbed during Project construction. These protocols will be implemented by the construction contractor(s) and/or reclamation contractor during the reclamation of disturbed vegetation communities.



2.0 OVERVIEW OF EXISTING ENVIRONMENT

Plant communities in the Project area were characterized and mapped during field surveys that were conducted for vegetation, special status plants, and noxious and invasive weeds in May and July 2012. Additionally, plant community boundaries and species were further refined during field surveys conducted in July and August 2018. Information on the plant species and vegetation communities in the Project area are summarized from the following documents: Specialist Report: Vegetation Resources, Specialist Report: Special Status Plants, the EIS for the Project, and the Reference Vegetation Memorandum: Bordertown Transmission Line (USFS 2014, 2016, 2018 and Western Botanical Services, Inc. 2018, respectively). Information on plant species and vegetation communities in the Project area from the above mentioned surveys and the EIS for the Project were used to develop the reclamation seed mix and seeding density recommendations that are contained in this Plan.

2.1 PLANT COMMUNITIES

Several large-scale fires have burned across the region in the past three decades. Wildfire has caused an uneven distribution of tree size and age within the forested communities in the region. Shrub communities have also suffered the repeated effects of fire and have been converted to communities dominated by species that are adapted to disturbance. Following wildfires, vegetation communities may initially be dominated by weeds and annual grasses, such as cheatgrass (*Bromus tectorum*), which is found in almost all of the vegetation communities in the Project area (USFS 2018).

Biological disturbances of vegetation communities have also occurred from climatic variations (i.e., drought) resulting in insect infestations in forested communities from Jeffrey pine beetle (*Dendroctonus jeffreyi*), pine engraver beetle (*Ips pini*), fir engraver beetle (*Scolytus ventralis*), and mountain pine beetle (*Dedroctonus ponderosae*) often resulting in tree mortality particularly in the Dog Valley area (USFS 2018).

Sixteen vegetation communities were identified within the 300- to 600-foot-wide variable-width corridor or the right-of-way (ROW) and the road widening corridor. Table 2-1 presents the total acreage of vegetation communities within the variable-width corridor of the Project.

Table 2-1 Acres of Vegetation Communities within the Variable-Width Corridor

Vegetation Community	Total Acres
Annual Grasses and Forbs	176.3
Big Sagebrush	33.8
Bitterbrush-Sagebrush	233.4
Chaparral	98.4
Curl-Leaf Mountain Mahogany	6.0
Eastside Pine	42.8
Jeffery Pine	25.1
Low Sagebrush	22.0
Mixed Riparian Hardwood	2.4



Vegetation Community	Total Acres
Mountain Sagebrush	0.9
Quaking Aspen	6.5
Ruderal	16.6
Snowbrush	12.3
Urban Developed	8.5
Wet Meadow	12.4
Willow	6.9
Total	704.3

Source: USFS 2018

The bitterbrush-sagebrush community is the most abundant vegetation community within the variable width corridor of the Project; however, it is less abundant on the south aspect of Peavine Peak where the Project crosses.

Loss of vegetation cover will occur at pole sites, wire setup sites, staging areas, widened roads, new access roads, and within line clearance areas. As a result, during the 2018 vegetation surveys, five plant communities were identified requiring baseline data collection to be used for both designing erosion control and revegetation specifications as well as monitoring progress toward meeting performance criteria goals for revegetation and reclamation work. Baseline data collection transects were established in each of the identified vegetation community, with a minimum of two transects per vegetation community. The baseline data collection transects are required to comply with design feature Vegetation (VG) 7. Table 2-2 summarizes the plant communities and cover summaries identified as requiring baseline data collection during the 2018 field surveys and the associated baseline data collection transects. Figure 1 details the baseline data collection transect locations.

Table 2-2 Plant Community Type Cover Summary

Plant Community	Field Observed Cover Characteristics	Average Total Cover (including litter, gravel and rock)	Average Total Vegetative Cover	Vegetative Cover by Native Species	Baseline Data Collection Transects
Jeffery Pine Alliance	Vegetative cover was dominated by litter (pine needles). Non-native cover was dominated by cheatgrass and native cover was dominated by native perennial bluegrass (<i>Poa sp.</i>).	93%	20%	13%	Transects 6 and 7



Plant Community	Field Observed Cover Characteristics	Average Total Cover (including litter, gravel and rock)	Average Total Vegetative Cover	Vegetative Cover by Native Species	Baseline Data Collection Transects
Great Basin Mixed Chaparral	Vegetative cover was dominated by native shrubs, particularly mountain sagebrush (<i>Artemisia tridentata ssp vaseyana</i>) and tobaccobrush (<i>Ceanothus velutinus</i>). Litter dominated non-vegetative cover. Cheatgrass only occurred Transect 9.	91%	57%	54%	Transects 3, 8, and 9
Bitterbrush-Sagebrush Alliance	Vegetative cover was dominated by native shrubs and cheatgrass.	92%	60%	44%	Transects 1, 2, 5, 14, and 15
Rabbitbrush Alliance	Vegetative cover was dominated by native shrubs and forbs.	95%	78%	58%	Transects 4, 12, and 13
Ruderal	Vegetative cover was dominated by nonnative annual graminoids.	100%	93%	14%	Transects 10 and 11

Source: Western Botanical Services, Inc. 2018

The estimated plant community disturbance areas along the road widening corridors and the ROW/easement from the Project is presented in Table 2-3 below.

Table 2-3 Acres of Vegetation Communities within the ROW/Easement and Road Widening Corridors

Vegetation Community	Total Acres in ROW/Easement	Total Acres in Road Widening Corridors
Bitterbrush-Sagebrush	51.9	22.0
Eastside Pine	6.3	3.6
Jeffrey Pine	3.9	0.0
Mixed Conifer-Fir	0.0	0.2
Plantation	0.0	0.0
Aspen	1.9	0.8
Chaparral	15.1	0.9
Annual Grasses and Forbs	30.7	3.5
Big Sagebrush	3.8	0.4
Great Basin Mixed Scrub	0.0	2.3
Curl-leaf Mountain Mahogany	1.1	0.0
Low Sagebrush	3.7	0.0
Mountain Sagebrush	0.0	0.7
Ruderal	4.6	8.1
Snowbrush	0.7	0.0



Vegetation Community	Total Acres in ROW/Easement	Total Acres in Road Widening Corridors
Wet Meadow	3.0	0.0
Willow	1.5	1.3
Total	128.2	43.8

Source: USFS 2018



3.0 RECLAMATION AND RESTORATION PROTOCOLS

3.1 RESPONSIBLE PARTIES

NV Energy will have the overall responsibility of directing and monitoring the reclamation and habitat restoration actions for this Project and NV Energy's reclamation obligation will only be for up to five years. NV Energy's construction contractor(s) may retain the services of a reclamation specialist subcontractor to implement the reclamation protocols during and following construction.

3.2 DESIGN FEATURES

The Project EIS contains specific design features that pertain to reclamation and habitat restoration, as described below. In addition, Appendix C1 (Noxious Weed Plan) and Appendix C4 (Wildlife Protection Plan) also provide more details related to specific design features that are described below.

3.2.1 Noxious Weeds (NW)

NW 2. Monitoring and continued treatment in areas that were treated prior to construction will commence the first full growing season after Project implementation. Weed treatment will continue until disturbed areas are successfully restored (see restoration criteria detailed in VG 7). Weed treatment will continue during maintenance activities and within the ROW.

NW 4. When cut and fill is required to create access roads and structure sites, topsoil will be stockpiled and covered to prevent weeds from establishing in the soil. This topsoil will be re-spread during restoration.

NW 7. Restoration seed mixes will be certified as weed-free.

NW 8. All gravel and/or fill material will be certified as weed-free.

3.2.2 Vegetation (VG)

VG 4. Trees identified for removal will be whole tree yarded to log landings for disposal. Permits and/or contracts shall be issued prior to felling any trees greater than eight inches diameter at breast height (dbh). All logs and slash will be removed from National Forest System (NFS) land within six weeks to reduce insect and disease infestations. Woodchips not needed for restoration will also be removed from NFS land within six weeks.

VG 5. Where removal of vegetation other than trees is unavoidable, the vegetation will be cut at ground level to preserve the root structure and allow for potential sprouting.

VG 6. All areas of temporary ground disturbance that result from the construction or maintenance of the Project will be restored as required by the land management agency and per any applicable permits. Restoration will include restoring contours to their approximate pre-construction condition, stabilizing the area through seeding, mulching, placement of erosion control fabric, and installing erosion control features. Erosion control includes installing cross drains and placing water bars in the road, as needed.



VG 7. Successfully restored areas will be defined as:

Reference sites will be pre-established and approved by the USFS. Reference sites will include plant communities that are representative of the ecological site and must include plant communities that are in a late-seral and ecologically functioning condition. Appropriate reference sites will be determined by collecting baseline cover data to indicate plant succession and community structure.

3.2.3 Herbicide Use (HE)

- HE 1. Herbicides will be used in accordance with label instructions, except where project design features describe more restrictive measures. An herbicide use plan will be developed and included in the COM Plan.
- HE 2. Prior to the start of application, all spray equipment will be calibrated to ensure accuracy of the delivered amounts of herbicide. Equipment used during herbicide application will be regularly inspected to insure it is in proper working order.
- HE 3. Herbicide spray applications will not occur when wind velocity is five miles per hour or greater to further minimize the potential for drift.
- HE 4. Herbicide applications will not be conducted during rain or immediately following rain when soil is saturated or runoff or standing water is present. Application will occur only under favorable weather conditions, defined as:
 - a) 30% or less chance of precipitation on the day of application based upon National Weather Service weather forecasting for the Reno area;
 - b) If rain, showers or light rains are predicted within 48 hours, the amount of rain predicted shall be no more than ¼ inch of rain; and
 - c) Rain does not appear likely at the time of application.
- HE 5. Preparation of herbicides for application, including mixing, filling of wands and rinsing of spray equipment, will take place outside of wetlands, meadows, riparian zones, wells and springs, and other sensitive sites, and more than 300 feet from surface water. Herbicide preparation will occur only on level, disturbed sites such as the interior of landings.
- HE 6. A spill cleanup kit will be readily available whenever herbicides are transported or stored. A spill kit will be carried by the applicator at all times when using the wicking application method.
- HE 7. Low nozzle pressure (<25 pounds per square inch), and a coarse spray (producing a median droplet diameter of >500 microns) will be used in order to minimize drift during herbicide applications.
- HE 8. Prior to treatments in areas of concentrated public use, the public will be notified about upcoming herbicide treatments via posting signs.



- HE 9. The herbicide spray nozzle will be kept as close to target plants as possible (within 20 inches) while achieving uniform coverage in order to limit overspray and drift to non-target vegetation.
- HE 10. Where riparian vegetation communities occur, herbicide application will be limited to directed foliar spray or wiping methods and spray will be directed away from native vegetation.
- HE 11. Herbicide treatments will not occur within 500 feet of sensitive plant occurrences.
- HE 12. Herbicide application within wet meadows will be limited to treating invasive plant infestations that occupy less than 100 square feet. Herbicide applications will be limited to wiping techniques with aminopyralid, chlorsulfuron, and glyphosate and treatment of the following high priority species: Canada thistle (*Cirsium arvense*), yellow star thistle (*Centaurea solstitialis*), Russian knapweed (*Acroptilon repens*) or tall whitetop (*Lepidium latifolium*) which are difficult to eradicate with non-chemical means. Meadows will be surveyed for special status plant species prior to any chemical treatments and will be monitored post-treatment to determine effects to non-targeted vegetation.
- HE 13. Herbicide application will not occur within the established buffers for aquatic features shown in Table 3-1.

Table 3-1 Minimum Buffers (ft) for Herbicide Application Near Aquatic Features

Herbicide	Application Method	Dry Aquatic Features	Streams ¹ or Ditches with Water ²	Wetland or Meadow
Aminopyralid	Spot & directed foliar spray	25	25	100
	Wiping	15	150	15
Chlorsulfuron	Directed foliar spray	25	100	100
	Wiping	15	15	15
Glyphosate	Directed foliar spray or drizzle	0	25	25
	Cut stump or wiping	0	15	15
Imazapic	Directed foliar spray	25	75	75
Triclopyr (TEA)	Directed foliar spray	25	75	75
	Wiping or cut stump	15	15	15
Clopyralid	Spot & directed foliar spray	25	50	50
	Wiping	15	15	15

¹As measured from the edge of the stream channel. If a defined channel is not present (draws do not have defined channels), measurement is from the bottom of the feature.

²As measured from the edge of the wet area or the meadow vegetation, whichever is greater. Limited conditions allowing for herbicide application within meadows are described in HE 12.

- HE 14. Herbicide application is limited to targeted treatments directed at the plant (spot treatments of the immediate area surrounding the plant are allowed with aminopyralid and clopyralid, only) using a backpack sprayer; broadcast spray methods that dispense chemical over a non-localized area will not be used.

HE 15. Avoid application of Aminopyralid and Clopyralid sprayed mulch materials on revegetation sites.

3.2.4 Forest Health (FH) – Insects and Disease

FH 1. To reduce the build-up or residual tree mortality by pine engraver beetles (*Ips pini*), and reduce fuel loading the following measures shall occur:

- a) Trees greater than three inches dbh (whether in accessible or inaccessible areas) shall be removed (after proper permitting) to established log landings. All slash shall be chipped and hauled off of NFS land for disposal. All logs and slash shall be removed from NFS lands within six weeks of cutting. Any incidental breakage during whole-tree yarding that is three inches in diameter or greater shall be removed and taken off of NFS lands with other residual slash materials.
- b) Timing: In areas where material three inches or greater in diameter must be left on site, cutting shall only occur from August 1 through December 31. Lopping and scattering may only occur with limited material and at the approval of the USFS. All material that is approved to be lopped and scattered must be scattered to ensure slash depth is no greater than six inches. There are no timing restrictions for dead trees.

3.2.5 Water Resources and Soil (WA)

WA 6. Topsoil removed from foundation holes and structure sites will be separated and stockpiled at the edge of active work areas to salvage the seed bank.

WA 10. Stream crossings will be designed for a normal range of flows for the site, and crossings that must remain in place during high runoff seasons will be stabilized. However, all crossings will be temporary and will be removed at the end of the construction season. The water body profile and substrate will be restored when the crossing is removed.

Improvements to existing crossings will be removed or stabilized and retained as part of the Reclamation and Habitat Restoration Plan.

3.2.6 Wildlife and Sensitive Wildlife Species (WL)

WL 7. To aid in providing browse for wintering mule deer, post construction revegetation in areas mapped as crucial winter and winter spring high use habitat will include seed mix of brush species preferred by mule deer (i.e., bitterbrush, mountain big sagebrush, mountain mahogany, serviceberry, snowberry, and Wyoming big sage) as well as appropriate forbs and grasses.

WL 8. To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the Project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by Nevada Department of Wildlife (NDOW) or a Sierra Front Wildlife



Working Group that would include NDOW, Washoe County, USFS, Bureau of Land Management, City of Reno and other interested participants.

3.2.7 Recreation/Roads/Transportation (RT)

- RT 3. All new access roads (i.e., spur roads and centerline travel roads) specifically constructed for this Project will be re-contoured and reclaimed and will have a physical closure installed to prevent motorized access immediately following the completion of construction and restoration. The types of closure and design specification used will be approved by the USFS prior to installation.
- RT 4. Physical barriers such as boulders or natural features designed to harmonize with the natural environment of the surrounding area will be installed to prevent unauthorized vehicle use from occurring on restored roads. The use of gates or other such structures for this purpose will be avoided unless determined necessary by the USFS. Design specifications will be provided by the USFS.
- RT 5. Maintenance activities which cause a road to be opened to unauthorized vehicles or damage to restoration improvements will need to be assessed and barriers reinstalled as needed at the expense of NV Energy.
- RT 6. Restored roads will require a signage and monitoring plan implemented by NV Energy for compliance with the closure which will include inspecting the barricade areas to determine the effectiveness of the blockades at preventing unauthorized motorized vehicle use of the restored access roads. Signs will notify the public that construction access roads are closed and are being restored. Signs will be replaced by NV Energy if vandalism occurs to the signs. Design specifications will be provided by the USFS.
- RT 7. If unauthorized vehicle use occurs on restored roads, barricades and reclamation will be monitored for effectiveness and remedial measures taken. Monitoring will continue until disturbed areas are successfully restored.
- RT 9. All construction vehicle movement will be restricted to the transmission line ROW/easement, pre-designated access roads, public roads, and private roads. All existing roads will be left in a condition equal to or better than their preconstruction condition.



4.0 RECLAMATION OF CONSTRUCTION DISTURBANCE AREAS

All areas of temporary ground disturbance that result from the construction or maintenance of the Project will be restored as required by the land management agency and per any applicable permits.

4.1 ROW/EASEMENT

Prior to construction, noxious weeds will be inventoried, mapped, and treated within the ROW/Easement and areas within 100 feet of Project ground disturbance. Vegetation will not be routinely removed from the permanent ROW/easement except as needed at power pole structure sites and wire stringing sites. During vegetation clearing operations, vegetation will be mowed leaving root systems intact wherever possible. In forested areas, whole trees will be removed using heavy equipment where terrain and slope stability permits and skidded to log landings for disposal. In areas that are not accessible with equipment or with excessive slopes and highly erodible soils, trees would be removed by helicopter. All slash will be chipped and removed from NFS land within six weeks to reduce insect and disease infestations. Tree clearing will be performed in a manner that will not interfere with reclamation activities or inhibit revegetation.

4.2 POWER POLE STRUCTURES

A pole site is the area needed for the construction and installation of the pole structure and will be 0.5 to one-acre in size depending on the type of pole structure. Clearing of vegetation at pole structure sites will be limited to the area excavated for the installation of the pole structures. Pole structure sites in steeper terrain (greater than 10 percent to 12 percent slopes) will be graded level for safe operation of equipment. Equipment pads will not be recontoured, but reseeded so that the pad will be available for future maintenance of the pole.

Excavation for poles and foundations will typically occur with a truck or track-mounted power auger; however, backhoe excavation and blasting may also be used as alternative excavation methods as required. Topsoil removed from foundation holes and structure sites will be separated and stockpiled at the edge of active work areas to salvage the seed bank.

At power pole structure sites in steep terrain, an approximate 0.25-acre level pad will be retained for equipment access to structures for maintenance inspections and repairs and the rest of the structure site disturbance will be recontoured. All structure site disturbance (including the equipment pads retained for future inspections) will be de-compacted, stabilized and reseeded with USFS-approved seed mixes. Different seed mixes and seeding rates will be required for various portions of the Project depending upon the vegetation community, substrate, and elevation. Revegetation methods including seeding is discussed further in Section 5.0.

4.3 NEW TEMPORARY ACCESS ROADS

New temporary access roads (i.e., centerline travel road and spur roads) will be constructed to pole sites, transmission wire setup sites, and staging areas when there are no existing roads available. Access roads will be 30 feet wide and located within the 300- to 600-foot-wide corridor



(variable-width corridor). The variable-width corridor will be centered on the transmission line and will measure 300 feet wide where slopes are 10 percent or less, and 600 feet wide where slopes are greater than 10 percent. While new access roads wider than 30 feet will not be expected, occasional widening beyond 30 feet may be necessary in areas where extensive blading and side cuts are required.

All temporary construction access roads constructed on NFS land will be recontoured and reclaimed. All existing authorized NFS roads and motorized trails that are widened for construction access will be reclaimed and returned to the original roadbed. Non-designated roads on NFS land that will be widened and used for construction access will be reclaimed and reseeded. Restoration will include recontouring roads, installing erosion control features such as drain dips, ripping, chipping, and seeding. Logs, branches, pine needles, brush, and rocks may be used to disguise the road for restoration purposes or other techniques approved by the USFS. Restoration success will be monitored until restoration is deemed successful by the USFS.

Temporary roads will be constructed primarily by mowing or masticating vegetation using a grader, hydro ax, brush hog, or other suitable equipment in a manner that leaves root systems intact to encourage regrowth and minimize soil erosion. Whole tree removal will be required where new access roads cross forested areas. Rocks or other obstructions will be bladed. If rocks cannot be removed with heavy equipment, explosives may be used.

Following construction, all temporary access roads will be recontoured and stabilized by seeding, mulching, placement of erosion control fabric, and installing erosion control features such as water bars. Where deemed appropriate by the USFS, roads near sensitive resources may not be recontoured in order to avoid inadvertent disturbance to resources. Barriers will be installed on all restored access roads located on NFS land to prevent unauthorized vehicle use. Restored roads will require a signage and monitoring plan for compliance with closure which will include inspecting the barricade areas to determine the effectiveness of the blockades at preventing unauthorized motorized vehicle use of the restored access roads. Signs will notify the public that construction access roads are closed and are being restored and will be replaced as needed if vandalism occurs.

NV Energy will monitor the restored roads for unauthorized vehicle use and will ensure the effectiveness of barricades preventing unauthorized use.

Vehicle access for transmission line maintenance is expected to be rare as the poles will be made of fire resistant metal. Access will be necessary approximately every 10 years for close visual inspections and tree removal within the line clearance area. There are no temporary access roads proposed to be kept for operation and maintenance of the new transmission line.

4.4 EXISTING ACCESS ROADS

Existing roads will be used for construction and maintenance access as much as possible; however, some existing roads will be widened up to 30 feet, including cut and fill slopes to accommodate construction equipment. All designated NFS roads widened for construction or maintenance access will be restored to the original roadbed and will be left in a condition equal to or better than their preconstruction condition. Non-designated roads on NFS land that will be widened and used for construction access will be reclaimed and reseeded.



Restoration will include recontouring roads, installing erosion control features such as drain dips, ripping, chipping, and seeding. Logs, branches, pine needles, brush, and rocks may be used to disguise the road for restoration purposes or other techniques approved by the USFS. Restoration success will be monitored until restoration is deemed successful by the USFS.

4.5 STAGING AREAS

Two staging areas will be established to support construction activities for the Project and will measure approximately 500 feet in length by 500 feet in width. The staging areas will use previously disturbed ground and will not be located on NFS land. Vegetation will be removed as need for site preparation and will generally consist of mowing or masticating shrub and grass vegetation in a manner that leaves the root system intact.

Surplus materials, equipment, and construction debris will be removed from staging areas at the completion of construction activities. NV Energy and the construction contractor(s) are responsible for appropriate disposal of all waste products. All wastes generated, including trash, sanitary waste, scraps, salvage materials, hazardous materials, and petroleum products will be disposed of in accordance with applicable local, state, and federal regulations. All man-made construction debris will be removed and disposed of as appropriate at permitted landfill sites.

Following Project construction, staging areas will be restored to their approximate pre-construction condition. Restoration will include restoring contours to their approximate pre-construction condition, stabilizing the area through seeding, mulching, placement of erosion control fabric, and installing erosion control features. Revegetation may include incorporation of chips into the soil, as needed.



5.0 SOIL REVEGETATION RECLAMATION METHODS

The following discusses reclamation methods to be used during Project reclamation activities.

5.1 TOPSOIL

In areas where significant grading will be required, topsoil will be stockpiled and segregated for later reapplication.

Salvaged topsoil and organic matter consist of a mixture of soil, vegetation, and other organic matter salvaged from the upper layer of the existing soil that typically is rich in organic matter and vegetation and usually distinct in color from deeper layers of soil. For this Project, an unconsolidated bulk material mixture consisting of roots and soil will be considered topsoil and organic matter. Topsoil will be maintained with temporary best management practices as detailed in the storm water pollution prevention plan. In no case will visqueen or plastic sheeting be allowed. For piles stockpiled more than two months, annual ryegrass at 10 Pure Live Seed (PLS) pounds per acre will be applied, which will be raked to incorporate into the stockpile.

5.2 SEEDING

All seed will conform with all laws and regulations pertaining to the sale and shipment of seed required by the Nevada State Department of Agriculture (NDA) and the Federal Seed Act. All shipments of seed will be reported to the NDA and are subject for inspection of noxious weeds.

Seed used for reclamation will be certified 100 percent weed free and will have a minimum PLS as specified in Table 5-1. Seeds used will not include any seed of cheatgrass, sweet clover (*Melilotus officinalis*), and Russian thistle (*Salsola tragus*) and crop seed will not exceed 0.25 percent.

Table 5-1 Revegetation Seed Mix

Botanical Name	Common Name/Variety	PLS pounds/acre
<i>Achnatherum hymenoides</i>	Indian ricegrass (nezpar/native)	2.00
<i>Achnatherum occidentale</i>	Western needlegrass	1.00
<i>Agropyron cristatum</i>	Crested wheatgrass	3.00
<i>Argemone munita</i>	Flatbud pricklypoppy	0.25
<i>Artemisia tridentata ssp vaseyana</i>	Mountain sagebrush	0.50
<i>Artemisia tridentata ssp wyomingensis</i>	Wyoming sagebrush	0.50
<i>Cercocarpus ledifolius</i>	Curl-leaf mountain mahogany	1.00
<i>Leymus cinereus</i>	Great Basin wildrye	4.00
<i>Elymus elymoides</i>	Bottlebrush squirreltail	3.00
<i>Ericameria nauseosa</i>	Rubber rabbitbrush	0.50
<i>Eriogonum umbellatum</i>	Sulphur buckwheat	1.00
<i>Lolium multiflorum</i>	Annual rye	4.00
<i>Lupinus argenteus</i>	Silvery lupine	3.00
<i>Monardella odoratissima</i>	Pale monardella	0.50



Botanical Name	Common Name/Variety	PLS pounds/acre
<i>Poa secunda</i>	Sandberg bluegrass	1.00
<i>Purshia tridentate</i>	Antelope bitterbrush	1.00
<i>Sphaeralcea grossulariifolia</i>	Gooseberryleaf globemallow	1.00
Total		27.25

Source: Western Botanical Services, Inc. 2019

5.2.1 Seed Bed Preparation and Application

Seed bed preparation will include de-compacting all compacted soils to achieve 85 percent or less compaction. Rippers or tines will be used to the depth of compaction, which is estimated to be six to 12 inches. Tilling will not be used as ripping perpendicular to the flow line will be the preferred method. Salvaged topsoil will be applied and incorporated as available.

Seeds will be uniformly hand broadcast with hand-held seeders and incorporated by raking, harrowing, or chaining to cover seed to a depth of ¼-to a ½-inch in all disturbed soils with the revegetation seed mix detailed in Table 5-1. Seeders can also be truck-mounted or shoulder models to insure even applications. Seeding will not occur under conditions that would allow the seed to become windborne (generally winds greater than five miles per hour).

5.2.2 Seeding Schedule

Typically seeding will take place in the fall, before snowfall, as snow cover will provide adequate moisture for the seeds to germinate in the spring. The seeding schedule will be refined in response to weather, site conditions, and the construction schedule. Seeding will be coordinated with other reclamation activities and will occur as soon as possible after final grading and topsoil replacement, if weather conditions and the season are suitable.

5.3 MULCHING

Mulch will consist of salvaged native material from the Project area including pine needles and forest duff and in no case will material be removed from undisturbed, adjacent plant communities. Mulch material can also include slash. All organic materials removed during the clearing and grubbing operation including, but not limited to, pine needles, leaves, duff, trees smaller than six inches in diameter at an elevation of five feet above existing ground, stumps, and suitable roots shall be processed and stockpiled and used for mulch as part of the revegetation work. The contractor shall make allowances for chipping larger organic materials such as trees, suitable roots, branches, and stumps so that these materials can be used for revegetation efforts.

Construction material and debris developed during construction activities shall be considered unsuitable and disposed of outside the ROW in an approved location. All disturbed soils will be covered with native mulch to achieve 85 percent cover, one layer deep. If necessary, to achieve specified cover, imported mulch will be used including wood chips or tub grindings with a particle size between 0.5 and two inches in length and not less than 0.5 inches in width and 0.125 inches in thickness, with at least 95 percent conforming to specified sizes. All material will be clean from rock, garbage, weeds, or other deleterious material.



5.4 EROSION CONTROL

No trees will be removed/fell unless the tree has been marked for removal. Trees will be harvested in such a manner as not to injure standing trees and plants which are to be preserved. For all slopes greater than 3:1, erosion control netting will be installed. Erosion control blankets will be 100 percent coir fiber twine, 0.30 inches thick, 6.6 feet by 164 feet, and approximately 50 percent open area of weave (70 or 700 or product equal).

Erosion control netting will be installed as follows:

- At the top of the slope, a six-inch by six-inch trench will be excavated;
- A blanket will be placed in the trench so that the edge of the blanket extends six inches beyond the top of the trench;
- The blanket will be anchored with hardwood stakes on one-foot centers and then the trench backfilled and loose soil compacted;
- Extra blanket will be folded over the blanket and native fill placed over the blanket;
- The edges of adjacent parallel rolls will be overlapped every six inches and stapled every three feet.
- If blankets must be spliced, blankets will be placed end-over-end (shingle style) with two-foot overlap. Overlapped areas will be stapled through, approximately one foot on the center; and
- Hardwood stakes (12 inches in length) will be installed down the slopes in a diamond pattern either every six-inch or 12-inch, as needed (an average of two stakes per square yard).

6.0 RECLAMATION MONITORING

6.1 PERFORMANCE CRITERIA BY VEGETATION TYPE

Restoration success will be monitored by NV Energy until it is deemed successful by the USFS. Successfully restored areas will be defined as:

“Reference sites will be pre-established and approved by the USFS. Reference sites will include plant communities that are representative of the ecological site and must include plant communities that are in a late-seral and ecologically functioning condition. Appropriate reference sites will be determined by collecting baseline cover data to indicate plant succession and community structure (USFS 2018).”

The reclamation contractor will maintain all vegetation installed to meet the following warranty in accordance with the baseline data from the EIS for the following community types and the baseline data collection transects discussed in Section 2.1.

- Jeffrey Pine Alliance: Achieve 9 percent native vegetative cover;
- Great Basin Mixed Chaparral Transition Alliance: Achieve 38 percent native vegetative cover;
- Bitterbrush – Sagebrush Alliance: Achieve 31 percent native vegetative cover;
- Rabbitbrush Alliance: Achieve 41 percent native vegetative cover; and
- Ruderal: Achieve 10 percent native vegetative cover.

Monitoring will continue following reclamation until success criteria is met. Sites where revegetation is not fully restored after approximately five years will be mitigated by improving habitat in other onsite areas or through off-site habitat restoration projects using mitigation funds provided by NV Energy.

6.2 MONITORING

Monitoring will be conducted annually. Post-construction monitoring will continue following reclamation until success criteria are met. If monitoring indicates that Project-affected sites are trending toward successfully meeting soil, vegetation, invasive weeds, and other criteria, monitoring may be conducted less frequently (e.g., every two or three years) subsequently, until success criteria are met. Objectives of monitoring include the following:

- Qualitatively describe the status of revegetation in areas disturbed by the Project.
- Qualitatively survey areas disturbed to identify and remedy areas experiencing revegetation failure.
- Document and map areas where revegetation is not progressing in a desired direction; assess the severity of the problems.
- Quantitatively sample and evaluate representative reclamation areas and reference sites (i.e., baseline data collection transects) to determine whether or not success criteria are met or whether remedial measures are necessary. Monitoring will be conducted using the



point-intercept sampling method with 100-foot transects with sampling occurring every one-foot along the transect. Measurements will include total percent cover (including litter, gravel, and rock), total vegetative cover, and vegetative cover by native species.

If monitoring indicates that sites disturbed by the Project have not been met required reclamation criteria, or are not trending toward meeting reclamation criteria, the erosion control, revegetation, or invasive weed control plans may need to be revised (e.g., schedule, seed mixes, treatments, preparation methods). Remedial measures will be implemented as soon as practical in problem areas. Remedial measures will be determined on a case-by-case basis and may include measures such as supplemental seeding, mulching, additional weed control measures, use of matting, or other erosion control measures, as approved in consultation with the USFS and NV Energy.

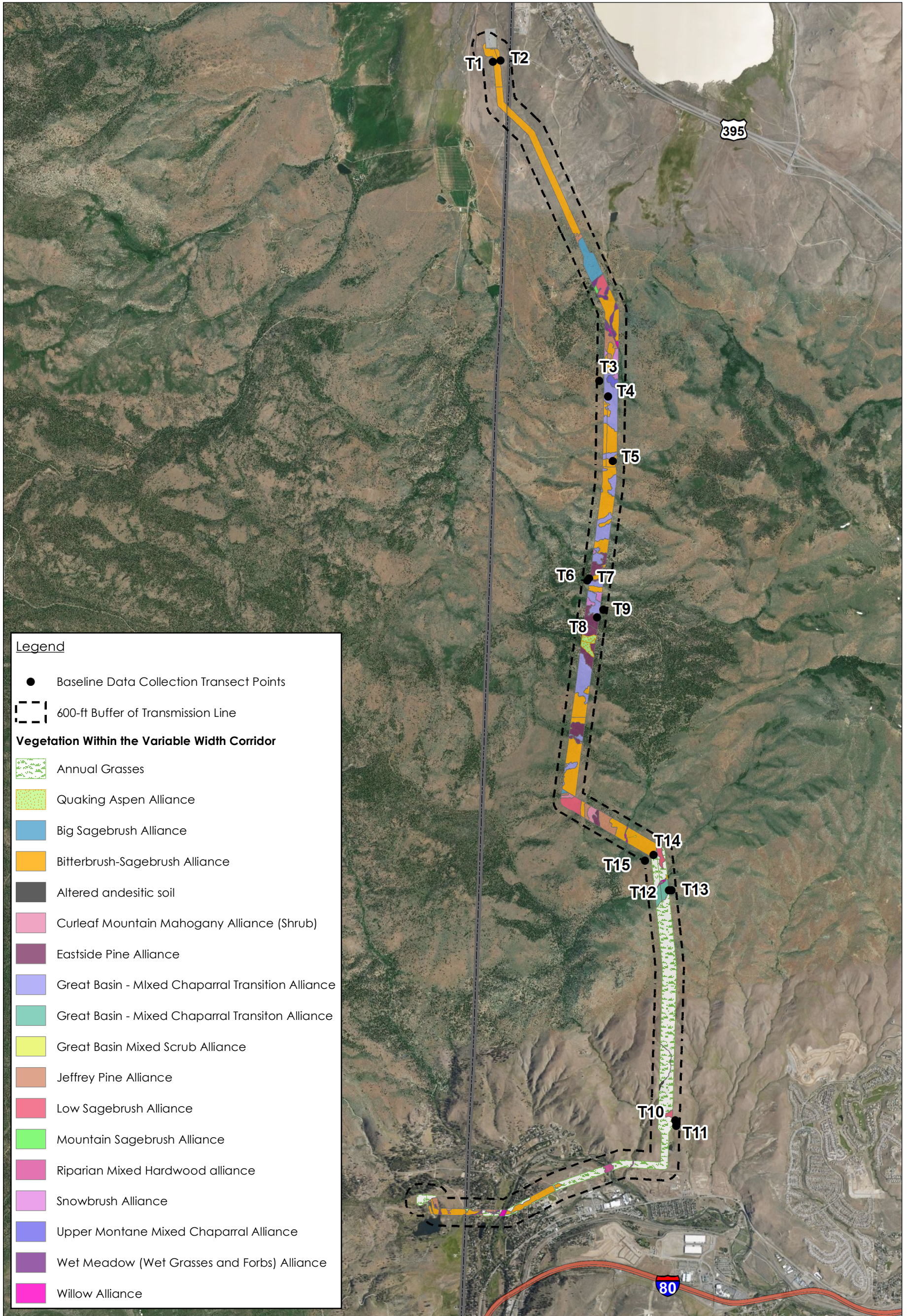


7.0 REFERENCES

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FIGURE

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0 2,000 4,000 Feet
 1 in = 4,000 feet

Sierra County, CA & Washoe County, NV
 NAD 1983 UTM Zone 11N

DRAWN BY: CJ	1ST REVIEW: JT	2ND REVIEW: KC
DATE: 4/10/2019		PROJECT NO: 203703160

NV ENERGY
 BORDERTOWN TO CALIFORNIA 120 KV
 TRANSMISSION LINE CONSTRUCTION,
 OPERATION, AND MAINTENANCE
 (COM) PLAN

Figure 1
Baseline Data
Collection Transects

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

APPENDIX C4
Wildlife Protection Plan

**Wildlife Protection Plan
Bordertown to California 120 kV Transmission Line
Construction, Operation, and Maintenance (COM) Plan**

Prepared for:

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August 2020

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LIST OF ABBREVIATIONS

APLIC	Avian Power Line Interaction Committee
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
dbh	Diameter at breast height
EIS	Environmental Impact Statement
ESA	Endangered Species Act
GP	General Practices
kV	Kilovolt
LCT	Lahontan cutthroat trout
LRMP	Land and Resource Management Plan
MBTA	Migratory Bird Treaty Act
MIS	Management Indicator Species
MIS	Management Indicator Species
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
PAC	Protected Activity Center
Plan	Wildlife Protection Plan
Project	Bordertown to California 120 Kilovolt Transmission Line Project
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-Way
SNFPA	Sierra Nevada Forest Plan Amendment
SV	Plants and Sensitive Plant Communities
U.S.	United States
U.S.C.	U.S. Code
USFS	United States Forest Service
USFWS	U.S. Fish and Wildlife Service
VG	Vegetation
WL	Wildlife and Sensitive Wildlife Species



1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act (NEPA), the Environmental Impact Statement (EIS) and Final Record of Decision (ROD), the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits including the right-of-way (ROW) grant. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Wildlife Protection Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. The objective of this Plan is to address the wildlife and wildlife habitat design features and mitigation measures contained in the Project's Final EIS and to provide guidelines for activities prior to, during, and following construction to protect wildlife that may be directly or indirectly impacted by Project activities.

1.1 REGULATORY REQUIREMENTS

1.1.1 Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA) of 1973, the U.S. Fish and Wildlife Service (USFWS) determines if a species should be listed under the ESA, and whether these species should be listed as candidate, proposed, threatened, or endangered. Endangered means a species that is in danger of extinction throughout all or a significant portion of its range. Threatened species are likely to become endangered in the foreseeable future. The USFWS also maintains a list of species or subspecies (i.e., taxa) that may warrant listing as threatened or endangered and for which the agency has sufficient biological information to support a rule to list as threatened or endangered. These species are referred to as candidate species. Proposed species are species (taxa) for which the USFWS has published a proposal to list as threatened or endangered in the Federal Register.

1.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) (16 United States Code [U.S.C.] 703-712) is administered by the USFWS and is the cornerstone of migratory bird conservation and protection in the United States. The MBTA provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird" (16 U.S.C. 703). However, the MBTA does not regulate habitat. The list of species protected by



the MBTA was revised in March 2010 and includes almost all bird species (1,007 species) that are native to the United States.

1.1.3 Humboldt-Toiyabe National Forest

The Toiyabe National Forest Land and Resource Management Plan (LRMP) outlines the management direction of USFS land (USFS 1986). The regulations require that the USFS maintain viable populations of all vertebrate wildlife and fish species native to the USFS land. Management Indicator Species (MIS) were established to represent significant ecosystems on USFS land and the associated wildlife and fish that depend on the ecosystems. USFS biologists are required to periodically monitor species to ensure management directions are sustaining these ecosystems and species. A variety of factors are included in selecting MIS species. Generally, MIS species include those that are:

- Federally-listed threatened or endangered species;
- State-listed threatened or endangered species;
- Species representative of environmental suitability for other species; and
- Species having significant economic value.

The USFS sensitive species are plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by:

- Significant current or predicted downward trends in population numbers or density; and
- Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution (Forest Service Manual 2670.5).

The Sierra Nevada Forest Plan Amendment (SNFPA) amended the Toiyabe LRMP in 2001 and in again in 2004 (USFS 2004). The SNFPA is designed to facilitate a regionally-consistent management of old forest ecosystem resources across USFS management boundaries and as such is called "framework" (e.g., Sierra Nevada Framework). The umbrella management also applies to other sensitive resources such as aquatic, meadow, and riparian ecosystems. The goals of the plan as they relate to wildlife resources include:

- Improve quantity and quality of useable habitat available for SNFPA species by increasing density of large trees, increase structural diversity of vegetation, and improve the continuity and distribution of old forests across the landscape; and
- Protect and restore desired conditions of aquatic, riparian, and meadow ecosystems in Sierra Nevada national forests.



1.1.4 Bureau of Land Management Eagle Lake Field Office

The Bureau of Land Management (BLM) manages habitat for wildlife and sensitive species outlined in the Eagle Lake Resource Management Plan (RMP) (BLM 2008a) through a variety of mechanisms. Under the authority of the Federal Land Policy and Management Act of 1976, public land must be managed to protect environmental quality and ecological relationships, and where appropriate, to preserve and protect their natural condition. Additionally, the BLM has signed Memorandums of Understandings with the California Department of Fish and Wildlife (CDFW) and Nevada Department of Wildlife (NDOW), where wildlife and wildlife habitat are managed in cooperation with either of these state agencies. Overall the goals for management of habitat for wildlife are to administer public land in a manner that promotes the recovery, restoration, maintenance, or enhancement of endemic wildlife populations.

In addition, the BLM Manual 6840.06 E states that native species may be listed as sensitive if they meet certain criteria (BLM 2008b). The BLM affords these sensitive species the same level of protection as federal candidate species. The BLM's policy for sensitive species is to avoid authorizing actions that would contribute to the listing of a species as threatened or endangered.

1.1.5 California Endangered Species Act

Pursuant to the California ESA, a permit from the CDFW is required for projects that could result in take of a plant or animal species that is state-listed as threatened or endangered. The California ESA defines "take" as an activity that would directly or indirectly kill an individual of a species. Authorization for take of state-listed species can be obtained through a California Fish and Game Code Section 2080.1 consistency determination or a Section 2081 incidental take permit.

1.1.6 California Fish and Game Code - Fully Protected Species

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take of fully protected species. The CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species.

1.1.7 California Species of Special Concern

The CDFW maintains a list of species that may be experiencing or formerly experienced population declines or range retractions that may lead to the species qualifying for California ESA protection, or had naturally small populations exhibiting high susceptibility to risk from factors that could lead to declines qualifying the species for protection under the California ESA. Species under this designation are not afforded legal protection.

1.1.8 State of Nevada Sensitive Species

The NDOW maintains a list of species thought to occur in limited numbers, limited distribution, or may be vulnerable to climatic or landscape scale changes. These are listed as both sensitive



species by Nevada Revised Statute 501.331 and within the Wildlife Action Plan (NDOW 2013) as Species of Conservation Priority. Some of these species are listed as sensitive by the BLM, USFS, or as a conservation priority bird species. Species under this designation are not afforded legal protection.



2.0 OVERVIEW OF WILDLIFE IN PROJECT AREA

2.1 WILDLIFE HABITAT

Bitterbrush-sagebrush (*Purshia tridentata-Artemisia spp.*) habitat is the most widely available wildlife habitat within the Project area. Other prevalent habitats within the variable-width corridor of the Project include forest (i.e., eastside pine), chaparral (with mixed scrub), and annual grasses. Aspen and riparian communities comprise less than one percent of the available habitat within the variable-width corridor of the Project. The Project has substantial non-native annual grasslands present within the variable-width corridor at 24 percent. Annual grasses consist primarily of cheatgrass and other non-native species, which are, in part, a reflection of past wildfires, particularly on the south facing slopes of Peavine Peak. Riparian habitats are available along the Truckee River, and as a result a diversity of species, particularly migratory bird species, may occur within the Project area. The Project area contains approximately 16 acres of aspen and willow habitat combined which provide potentially suitable habitat for a variety of avian species (USFS 2018).

2.2 MANAGEMENT INDICATOR SPECIES

Management Indicator Species (MIS) are identified in the Toiyabe Forest Plan as representing a group of species having similar habitat requirements. Essentially, these species are analogs for all other species that might occur within a given habitat. Managing for these species allows the USFS to preserve a diversity of habitats for more common wildlife. USFS biologists are required to periodically monitor species to ensure management directions are sustaining these habitats and species (USFS 2018).

The MIS expected to occur within the Project area include:

- Mule deer (*Odocoileus hemionus*);
- American marten (*Martes americana*);
- Yellow-rumped warbler (*Setophaga coronata*);
- Williamson's sapsucker (*Sphyrapicus thyrodeus*);
- Hairy woodpecker (*Leuconotopicus villosus*);
- Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*);
- Northern goshawk (*Accipiter gentilis*);
- Yellow warbler (*Setophaga petechia*); and
- Macroinvertebrates.



2.3 GENERAL WILDLIFE

A variety of common wildlife species occur within the Project area because of the diversity of habitat types that are available including: mammals, birds, reptiles and amphibians, and aquatic species. Species presented below either have been documented, are assumed to occur within the Project area, or could occur as ascertained using the California Wildlife Habitat Relationship System tool (USFS 2018).

2.3.1 Mammals

Mammalian species, in addition to mule deer, that commonly occur within the bitterbrush-sagebrush and chaparral habitats are badger (*Taxidea Taxus*), bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), coyote (*Canis latrans*), and various rodents including California ground squirrel (*Otospermophilus beecheyi*), pocket mice, chipmunks, black-tailed jackrabbit (*Lepus californicus*), cottontail (*Sylvilagus spp.*), and yellow-bellied marmot (*Marmota flaviventris*). Within forest and aspen communities (i.e., habitats) American black bear (*Ursus americanus*), yellow-pine chipmunk, raccoon (*Tamias amoenus*), striped skunk (*Mephitis mephitis*), meadow jumping mouse (*Zapus hudsonius*), and deer mice (*Peromyscus spp.*) occur. Within or adjacent to the Truckee River, North American river otter (*Lontra canadensis*) and weasel (*Mustela spp.*) are expected to occur (USFS 2018).

2.3.2 Birds

The Project area is within the Pacific Flyway for migratory birds and within the contact between Great Basin and Sierra Nevada ecosystems. The Project area supports seasonal habitats for hundreds of birds. Aspen habitat is favored by a variety of cavity-nesting birds, such as bluebirds (*Sialia spp.*), sapsuckers (*Sphyrapicus spp.*), downy woodpeckers (*Picoides pubescens*), nuthatches (*Sitta spp.*), and chickadees (*Poecile spp.*). Species of birds that may occur within the brush and conifer habitat of the Project area include: house finch (*Haemorhous mexicanus*), Bewick's wren (*Thryomanes bewickii*), rock wren (*Salpinctes obsoletus*), Cassin's finch (*Haemorhous cassinii*), California quail (*Callipepla californica*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), spotted towhee (*Pipilo maculatus*), dark-eyed junco (*Junco hyemalis*), northern flicker (*Colaptes auratus*), Steller's jay (*Cyanocitta stellari*), scrub jay (*Aphelocoma spp.*), black-headed grosbeak (*Pheucticus melanocephalus*), ruby-crowned kinglet (*Regulus calendula*), Brewer's blackbird (*Euphagus cyanocephalus*), and pine siskin (*Spinus pinus*) (USFS 2018).

The Truckee River provides habitat for waterfowl and water dependent birds such as mallard duck (*Anas platyrhynchos*), common merganser (*Mergus merganser*), wood duck (*Aix sponsa*), American dipper (*Cinclus mexicanus*), belted kingfisher (*Mergaceryle alcyon*), heron and swallows.

A number of raptors may be found within the available habitats. Raptors include red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), osprey (*Pandion haliaetus*), northern harrier (*Circus hudsonius*), northern saw-whet owl (*Aegolius acadicus*), great-horned owl (*Bubo virginianus*),



long-eared owl (*Asio otus*), and western screech owl (*Megascops kennicottii*), among others (USFS 2018).

2.3.3 Reptile and Amphibians

The Project area provides diverse brush habitat for reptiles and amphibians. Common species expected to occur are: Great Basin rattlesnake (*Crotalus oreganus lutosus*), western whipsnake (*Hierophis viridiflavus*), rubber boa (*Charina bottae*), gopher snake (*Pituophis catenifer*), Sierra garter snake (*Thamnophis couchii*), western yellow-bellied racer (*Coluber constrictor mormon*), western fence lizard (*Sceloporus occidentalis*), long-nosed leopard lizard (*Gambelia wislizenii*), zebra-tailed lizard (*Callisaurus draconoides*), and horned lizards (*Phrynosoma spp.*). Amphibians that may occur in riparian and wetland areas include western toad (*Anaxyrus boreas*), Sierran tree (chorus) frog (*Pseudacris sierra*), and American bullfrog (*Lithobates catesbeianus*) (USFS 2018).

2.3.4 Aquatic Species

A range of fish species may occur in Dog Creek and/or the Truckee River. According to NDOW, brown trout (*Salmo trutta*), Lahontan redbreast (*Richardsonius egregius*), mountain sucker (*Catostomus platyrhynchus*), mountain whitefish (*Prosopium williamsoni*), Paiute sculpin (*Cottus beldingii*), rainbow trout (*Oncorhynchus mykiss*), speckled dace (*Rhinichthys osculus*), and Tahoe sucker (*Catostomus tahoensis*) occur within the Project area (USFS 2018).

2.3.5 General Wildlife Habitat Loss

As a result of surface disturbance required for Project construction, general wildlife (including migratory birds) and MIS will encounter a loss of available habitat. Table 2-1 presents the acres of potential habitat within the Project ROW/easement that could be altered or lost from Project construction activities. Most surface disturbance from construction activities would be temporary and vegetation communities would be restored as detailed in the Project design features (Section 3.0).

Table 2-1 Wildlife Habitats within the Project ROW/Easement

Species	Vegetation/Habitat	Acres	
		USFS	Private
Yellow-rumped warbler, Hairy woodpecker, Williamson's sapsucker, Migratory birds	Mixed Conifer – White Fir (<i>Abies concolor</i>), Eastside Pine, and Jeffrey Pine (<i>Pinus jeffreyi</i>)	8.0	2.2
Mule deer (summer use), Migratory birds	Willow (Riparian)	0.1	1.4
Hairy woodpecker, Williamson's sapsucker, Mule deer (summer use includes Aspen), Migratory birds	Aspen and Mixed Riparian Hardwood	1.1	0.8



Species	Vegetation/Habitat	Acres	
		USFS	Private
Mule deer, Migratory birds	Mountain Mahogany (<i>Cercocarpus spp.</i>), Great Basin Mixed Scrub, Bitterbrush-Sagebrush, Chaparral-Snowbrush, and Mountain Sagebrush (<i>A. tridentata spp. vaseyana</i>)	50.7 ¹	18.1
Mule deer (Big sagebrush), Migratory birds	Big Sagebrush, Low Sage (<i>A. arbuscula</i>), Annual Grasses and Forbes and Ruderal, and Urban/Developed	1.7	41.1
Macroinvertebrates	Mixed Riparian Hardwood, Wet Meadow, and Water (Perennial Streams)	0	3.0 ²

¹ Includes approximately 15 acres of Bitterbrush-Sagebrush community on BLM-administered public land at the Bordertown Substation.

² Bull Ranch Creek, Truckee River.
Source: USFS 2018.

2.4 SPECIAL STATUS WILDLIFE SPECIES

Special status wildlife species that have the potential occur in the Project area are detailed in **Table 2-2**.

Table 2-2 Special Status Wildlife Species Potential for Occurrence in the Project Area

Special Status Wildlife Species	Status ¹	Habitat	Potential for Occurrence ²
American badger <i>Taxidea taxus</i>	SSC	Semi and arid shrubland or grassland with friable soils for digging burrows. Forages on pocket gophers, ground squirrels among others.	Likely to occur.
Spotted bat <i>Euderma maculatum</i>	SS, SSC	Roosts on cliffs ranging in habitats from high elevation to deserts. Foraging habitat are areas with moth abundance.	Could occur.
Townsend's big-eared bat <i>Corynorhinus townsendii townsendii</i>	SS, BS, SSC	Highly associated with caves and mines. Found primarily in rural settings from deserts to lower, mid to high-elevation mixed coniferous-deciduous forest and has also been reported to utilize buildings, bridges, rock crevices and hollow trees as roost sites.	Could occur.
Fringed myotis <i>Myotis thysanodes</i>	BS	Variety of habitats, generally lower elevation. Found roosting in trees, caves, buildings and mines. Forages on small beetles.	Could occur.
Pallid bat <i>Antrozous pallidus</i>	BS	Found in a variety of habitats from low elevation coniferous forest, woodlands to sagebrush. Forages on large ground dwelling insects but also moths.	Could occur.



Special Status Wildlife Species	Status ¹	Habitat	Potential for Occurrence ²
Dark-nosed small-footed myotis <i>Myotis melanorhinus</i>	BS, SSC	Habitat includes a variety of vegetation communities, roosts in caves, mines, and trees. Forages in open areas.	Could occur.
Yuma myotis <i>Myotis yumanensis</i>	BS	Habitat includes all landscapes including human built ones, roosts in outcrops, caves or buildings, forages primarily on emergent aquatic insects.	Could occur.
Sierra Nevada snowshoe hare <i>Lepus americanus tahoensis</i>	SSC	Inhabits mid-elevation riparian brush or young conifer thickets.	Could occur.
Northern goshawk <i>Accipiter gentilis</i>	MIS, SS, SNF, SSC, BS	Generally nests within late-seral stage montane forest; and in Nevada commonly nests in aspen.	Could occur.
Golden eagle <i>Aquila chrysaetos</i>	BGE, BS, FP	Nests on cliffs and rocky scarps with large expanses of hunting territory. Also nests in conifers when rocks are unavailable.	Known to occur.
Northern Harrier <i>Circus cyaneus</i>	SSC	Wide-ranging breeders in Nevada and northeastern California. Forages and nests within open habitats such as meadows and grasslands.	Known to occur.
Mountain quail <i>Oreortyx pictus</i>	SS	Montane shrub and riparian habitat with <i>Ceanothus</i> near water sources.	Known to occur.
Swainson's hawk <i>Buteo swainsoni</i>	SSC, BS, CT	Common habitat includes agricultural lands with open foraging habitat, and tall trees for nesting.	Could occur.
Burrowing owl <i>Athene cunicularia</i>	SSC, BS	This small owl nests and roosts within burrows, commonly excavated by fossorial mammals. Habitat is found within open grasslands, or other areas of open areas with sparse vegetation, whether natural or altered.	Could occur.
Long-eared owl <i>Asio otus</i>	SSC	Generally found within riparian, conifer or other woodland habitats which are open or adjacent to meadows and shrublands. Nest in old corvid or hawk nests in trees or on cliff faces.	Could occur.
Flammulated owl <i>Psiloscops flammeolus</i> (syn <i>Otus flammeolus</i>)	SS	Open coniferous forests, nest in dead trees with existing woodpecker holes.	Could occur.
White-headed woodpecker <i>Picoides albolarvatus</i>	SS	Mixed conifer forests, with a diversity of pine species (for seed consumption) and mixed ages, generally nest in dead standing trees.	Known to occur.



Special Status Wildlife Species	Status ¹	Habitat	Potential for Occurrence ²
Yellow warbler <i>Setophaga petechia</i> (syn. <i>Dendroica petechia</i>)	MIS, SSC	Occur along streams or in bushy thickets and willows; sometimes found in montane chaparral; wide ranging.	Could occur.
Olive-sided flycatcher <i>Contopus cooperi</i>	SSC	These flycatchers are mostly associated with edges, openings, and natural and human-created clearings in otherwise relatively dense forests, but they also occupy semi-open forests.	Likely to occur.
Loggerhead shrike <i>Lanius ludovicianus</i>	SSC, BS	Open arid shrublands, woodlands, mountain mahogany, with a few perches/lookouts.	Known to occur.
Northern sagebrush lizard <i>Sceloporus graciosus graciosus</i>	BS	Sagebrush habitats.	Likely to occur.
Lahontan cutthroat trout (LCT) <i>Oncorhynchus clarkii henshawi</i>	T, MIS	Perennial streams and waterbodies on the east side of the northern Sierra Nevada Mountains.	Known to occur.

¹ Status designation:

USFWS ESA

E - Endangered

T - Threatened

Humboldt-Toiyabe National Forest

SS - USFS Region 4 Sensitive Species, Carson District

MIS - USFS Toiyabe Management Indicator Species

SNF - Sierra Nevada Framework Focal Species

BGE - Bald and Golden Eagle Protection Act (USFWS)

Bureau of Land Management

BS - Sensitive Species

State of California: California Endangered Species Act

CT - Threatened

CE - Endangered

California Department of Wildlife

SSC - Species of Special Concern

FP - Fully protected

² Potential for occurrence definitions:

Could occur: Suitable habitat is available in the Project area; however, there are few or no other indicators that the species might be present.

Likely to occur: Habitat conditions, behavior of the species, known occurrences in the Project vicinity, or other factors indicate a relatively high likelihood that the species would occur in the Project area.

Known to occur: The species, or evidence of its presence, was observed in the Project area during surveys or was reported by others.

Source: USFS 2018.

2.4.1 Special Status Wildlife Species Habitat Loss

Table 2-3 details the potential habitat for special status wildlife species that could be altered or lost from Project construction activities. Most surface disturbance from construction activities would be temporary and vegetation communities would be restored as detailed in the Project design features (Section 3.0). When deemed appropriate and applicable, NV Energy will perform



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pre-construction surveys for northern goshawk and flammulated owl or other USFS sensitive species. Additionally, if construction must occur during the typical avian breeding season (April 1 to July 31), surveys will be conducted prior to construction to location active nesting areas. Section 3.0 provides further details on the Project design features that will be implemented by NV Energy to minimize impacts to special status wildlife species from construction activities.

Table 2-3 Special Status Wildlife Species within the Project ROW/Easement

Species	Vegetation/Habitat	Acres	
		USFS	Private
Northern goshawk, Flammulated owl, White-headed woodpecker, Olive-sided flycatcher	Mixed Conifer, Eastside Pine, and Jeffrey Pine	8.0	2.2
Yellow warbler, Northern goshawk, Flammulated owl, Snowshoe hare, Northern harrier	Willow-Willow Scrub (Riparian)	0.1	1.4
Yellow warbler, Northern goshawk, Flammulated owl, Long-eared owl, Bat species (foraging), Sierra Nevada Snowshoe hare, Northern harrier, Olive-sided flycatcher	Aspen and Riparian Mixed Hardwood	1.1	0.8
Mountain quail, Golden eagle (Mountain sagebrush for foraging), American badger, Loggerhead shrike, Sagebrush lizard	Mountain Mahogany, Snowbrush, Great Basin Mixed Scrub, Bitterbrush, Bitterbrush-Sagebrush, Chaparral, and Mountain Sagebrush	50.7 ¹	18.1
Golden eagle (foraging habitat), American badger, Burrowing owl, Swainson's hawk (w/ large nesting trees)	Big Sagebrush, Low Sagebrush, Annual Grasses, Ruderal, and Urban and Developed	1.7	41.1
Bat species, LCT	Riparian Mixed Hardwood, Wet Meadow Water, and Water	0.0	3.0 ²

¹ Includes approximately 15 acres of Bitterbrush-Sagebrush community on BLM-administered public land at the Bordertown Substation.

² Bull Ranch Creek, Truckee River.

Source: USFS 2018.



3.0 PROTECTIVE MEASURES

Design features for the Project will be implemented by NV Energy and its construction contractor(s) to minimize impacts to wildlife associated with Project construction. The design features listed below guide the implementation of proper avoidance periods and buffer zones during construction by species. The Environmental Field Maps in Volume I provide mapped locations of sensitive resources and identify specific design features such as buffers and boundaries for seasonal closure habitat (detailed below), best management practices, and construction details that correspond to the protection of specific resources.

3.1 CONSTRUCTION PHASE

3.1.1 General Wildlife (General Practices [GP])

- GP 1. All environmentally sensitive areas (i.e., culturally sensitive areas, meadows, and special status plant populations) will be temporarily fenced during construction for avoidance.
- GP 2. Prior to construction, all construction personnel will be instructed on the protection of sensitive biological and cultural resources that have the potential to occur on-site by qualified personnel.
- GP 9. Signs, flagging, or other readily visible markings will be used to indicate the presence of guy wires to reduce the potential for people and wildlife to run into the wires.

Wildlife and Sensitive Wildlife Species (WL) 5. Excavations deep enough to potentially entrap wildlife species will be covered and fenced at night or when unattended to prevent livestock or wildlife from falling in. All covers will be secured in place and strong enough to prevent breakage by wildlife.

Plants and Sensitive Plant Communities (SV) 3. There will be no new access roads or widening of existing roads for construction access through meadows. This measure will also protect potential habitat for special status plant populations that are found in wetland and meadow habitats, such as Dog Valley ivesia (*Ivesia aperta* var. *canina*).

3.1.2 Sensitive Wildlife Species

- WL 1. If any USFS or BLM sensitive wildlife or plant species are identified during pre-construction surveys or during construction activities, work in the general area of the identified species will be halted until a USFS biologist or other qualified biologist is consulted to determine an appropriate buffer and other protective measures. The USFS will be notified within 24 hours of the discovery of the species. Buffer distance will be established in consultation with the USFS on a case by case basis depending on species and type and magnitude of construction activity. If avoidance is infeasible, consultation with the USFS, and at its discretion, any cooperating agencies will be contacted prior to continuing work in the immediate area of the species. The same process will be implemented in the event that



any federal- or state-listed species are discovered on public land, with the discovery being reported to the USFS or BLM, depending on the respective land administration.

3.1.3 Migratory Bird Species

- WL 2. If appropriate, additional surveys for northern goshawk and flammulated owl or other Forest Service sensitive species will be conducted prior to construction by a qualified biologist approved by the USFS. Coordination with the USFS will be conducted prior to commencing surveys to determine appropriate survey methodology, timing, and survey area. If nesting is detected, the USFS will be contacted within 24 hours and Forest Plan standard and guidelines (USFS 2004) will be implemented. A designated Protected Activity Center (PAC) will be delineated around the nest site. Within the PAC no construction activities may occur during the "Limited Operating Period" April 15th-September 30th. Pole construction will need to be designed to span the PAC.
- WL 3. To reduce potential disturbance to migratory birds, construction will occur outside the typical avian breeding season (April 1 to July 31). If construction activities cannot be avoided during this time period, surveys will be conducted immediately prior to construction to locate active nesting areas.
- WL 4. If active avian nests are located on NFS land or BLM-administered public land, they will be flagged and avoided until after the breeding period. NV Energy will coordinate with the USFS or BLM biologist to determine appropriate time frames for resuming construction.

Vegetation (VG) 1. Placement of the ROW will avoid wherever possible, isolated groups of trees and/or groups of trees with an average diameter of dominant and co-dominant trees greater than 24 inches at breast height (dbh) as directed/approved by the USFS Silviculturist.

3.1.4 Raptors

- WL 9. To protect raptors such as hawks and eagles from electrocution, transmission line and pole structures will be constructed in conformance with the guidelines contained in Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006, prepared by the Avian Power Line Interaction Committee (APLIC) (2006).

3.1.5 Mule Deer

- WL 6. To avoid impacts to wintering mule deer, construction will not occur from November 25 through May 25 within areas mapped as crucial winter or winter-spring high deer use, including the Mitchell Canyon Deer Management Area. Non-ground disturbing activities, such as surveying, staking, or resource driven activities (e.g., cultural surveys, biological surveys), may occur within this time frame.

This Design Feature will not apply to work within fenced and cleared areas associated with the existing California and Bordertown substations, including the Bordertown



Substation expansion area that needs to be cleared and fenced prior to the Limited Operating Period (LOP) of November 25 through May 25, as long as the initial clearing of vegetation occurs outside the LOP. Once the vegetation is cleared and the Bordertown Substation expansion area is fenced, construction of the actual facility will no longer be bound to the LOP restriction.

3.1.6 Lahontan Cutthroat Trout

WL 10. To limit the potential for impacts to aquatic resources, particularly to Lahontan cutthroat trout, pole sites or roads will not be placed within the 100-year floodplain in Dog Creek, Bull Ranch Creek, and the Truckee River. During construction, no soil disturbing activities will occur within the 100-year floodplain of these streams (**Figure 1**).

3.1.7 Avoidance Timeframes

A table of construction timelines restrictions for wildlife specific to the Project are detailed in **Table 3-1**.

Table 3-1 Avoidance Timetable for Wildlife

Species	Activity to Avoid	Avoidance Period	Notes
Mule deer	Construction	November 25 through May 25	See WL. 6
Northern goshawk (occupied nests)	Construction	April 15 through September 30	See WL. 2.
Flammulated owl (occupied nests)	Construction	April 15 through September 30	See WL. 2.
Migratory birds	Construction	April 1 through July 31	See WL. 3.
LCT	Construction	Year-Round	See WL. 10 (Figure 1).

3.1.8 Change Evaluation

NV Energy may request variances from the above restrictions by using the “Change Evaluation” process. Before any variance from the required design features is allowed, the Change Evaluation process described in Chapter 4, Section 4.9.3 of this COM Plan must be completed. The course of action shall be documented and reported to the USFS (the compliance reporting process is also described in Chapter 4). All efforts will be made to not endanger any special status species.

3.2 RECLAMATION PHASE

3.2.1 Habitat Restoration

NV Energy will promote successful restoration of disturbed habitat by requiring restoration success to be based on reference sites selected by the USFS, as described in VG 7 below and as outlined in the Reclamation and Habitat Restoration Plan (Appendix 3C).



VG 7. Successfully restored areas will be defined as:

Reference sites will be pre-established and approved by the USFS. Reference sites will include plant communities that are representative of the ecological site and must include plant communities that are in a late-seral and ecologically functioning condition. Appropriate reference sites will be determined by collecting baseline cover data to indicate plant succession and community structure.

In addition, to encourage the rapid recovery of vegetation communities that benefit species such as mule deer, NV Energy will only cut brush species at ground level to preserve root systems allowing for re-growth (VG-5 below).

VG 5. Where removal of vegetation other than trees is unavoidable, the vegetation will be cut at ground level to preserve the root structure and allow for potential sprouting.

3.2.1.1 Mule Deer Specific Habitat Restoration

WL 7. To aid in providing browse for wintering mule deer, post construction revegetation in areas mapped as crucial winter and winter spring high use habitat will include a seed mix of brush species preferred by mule deer (i.e., bitterbrush, mountain big sagebrush, mountain mahogany, serviceberry (*Amelanchier spp.*), snowberry, and Wyoming big sage) as well as appropriate forbs and grasses.

WL 8. To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the Project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW or a Sierra Front Wildlife Working Group that would include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants.

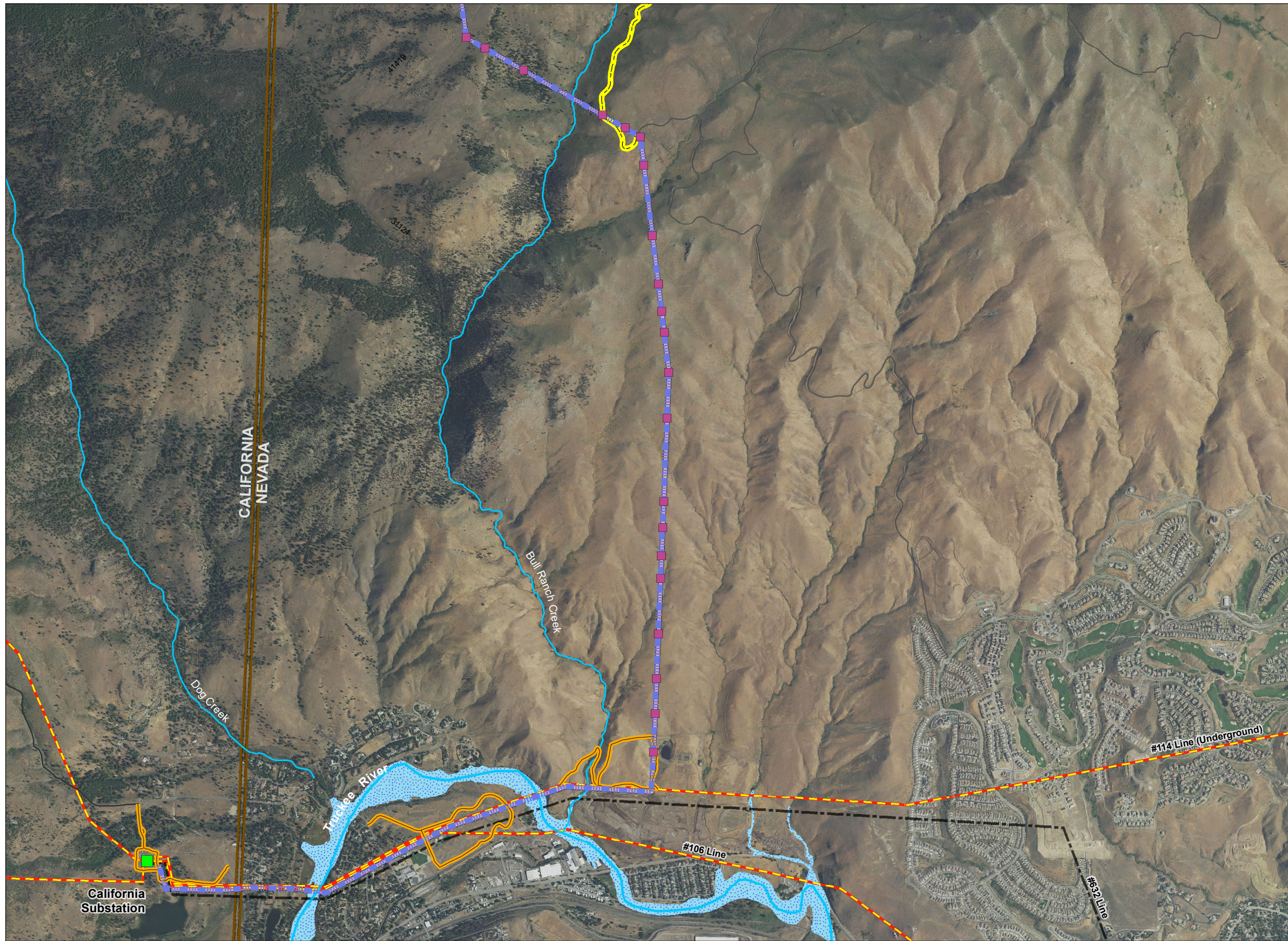


4.0 REFERENCES

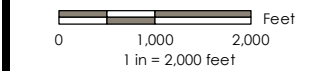
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FIGURE

VA:2037\Active\203703160\03_cad\gib\mxd\Appendix\Figures\Figure_1_LCT_Habitat_Avoidance_Area_11x17.mxd Revised: 2020-05-11 By: chjohnson



- Legend**
- New Pole Structure
 - Substation
 - ▬▬▬ Bordertown to California 120 kV Transmission Line
 - ▬ Stream
- Existing Features**
- ▬▬▬ 120 kV Transmission Line
 - ▬▬▬ 345 kV Transmission Line
 - - - 60 kV Transmission Line
 - ▬ Public and Private Road
 - ▬▬▬ USFS Roads (Temporary Widening)
 - ▬▬▬ Public and Private Roads across Private Land (Temporary Widening; includes Dirt Roads)
 - ▨▨▨ Flood Plain
 - ▭▭▭ State Boundaries



Sierra County, CA & Washoe County, NV
 NAD 1983 UTM Zone 11N

PROJECT NO: 203703160
 DRAWN BY: JT
 1ST REVIEW: CJ
 2ND REVIEW: KC
 DATE: 5/11/2020

NV Energy
 Bordertown to California 120 kV
 Transmission Line Construction,
 Operation, and Maintenance (COM) Plan

Figure 1
LCT Habitat
Avoidance Area

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Service Layer Credits:

APPENDIX C5
Storm Water Pollution Prevention Plans

APPENDIX D1
Inadvertent Discovery Plan

**Inadvertent Discovery Plan
Bordertown to California 120 kV Transmission Line
Construction, Operation, and Maintenance (COM) Plan**

Prepared for:

NV Energy
6100 Neil Road
Reno, Nevada 89511

Prepared by:

Far Western Anthropological Research Group, Inc.
Great Basin Branch
3656 Research Way, Suite 32
Carson City, NV 89706

August 2020

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LIST OF ABBREVIATIONS

COM	Construction, Operations, and Maintenance
kV	Kilovolt
NAGPRA	Native American Graves Protection and Repatriation Act
NRHP	National Register of Historic Places
Plan	Inadvertent Discovery Plan
Project	Bordertown to California 120 Kilovolt Transmission Line Project
SHPO	State Historic Preservation Office
THPO	Tribal Historic Preservation Office
U.S.	United States
USFS	United States Forest Service

1.0 INTRODUCTION

NV Energy and its contractors will construct the Bordertown to California 120 Kilovolt (kV) Transmission Line Project (Project) in compliance with all federal, state, and local regulations as well as the National Environmental Policy Act, the Environmental Impact Statement and Final Record of Decision, the United States (U.S.) Forest Service (USFS) Special Use Permit, and all other applicable permits. The Project area is in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada. The northern boundary of the Project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak. The constructed 120 kV overhead transmission line will be approximately 11.9 miles long and will run between the existing Bordertown and California substations in Sierra County, California.

This Inadvertent Discovery Plan (Plan) is part of NV Energy's compliance obligation and is appended to the Construction, Operations, and Maintenance (COM) Plan. This Plan will be implemented throughout the Project and it details the measures to be taken during construction and operation of the Project should unanticipated buried cultural resources or human remains are identified during Project activities and construction. This Plan details the proper protocols to ensure proper identification, evaluation, and protection of unanticipated cultural resources.

2.0 DISCOVERY OF CULTURAL RESOURCES

The following protocol will be implemented if Project activities or construction discover any cultural resources.

- 1) The Project supervisor or construction contractor(s) will immediately:
 - a. Cease all activity within 100 feet/30 meters of the discovery.
 - b. Notify the USFS Heritage Program Leader, who will notify the applicable State Historic Preservation Office (SHPO), Tribes, Tribes, other consulting parties, and cultural resource consultants assigned to the Project.
 - c. Notify the official Tribal Monitor(s) for each Tribe, if present.
 - d. Leave all artifacts and materials in place but protect the discovery from further damage, theft, or removal.

- 2) The USFS Heritage Program Leader and designated Heritage Specialists will:
 - a. Document the discovery in a manner to support consultation. Documentation should include, but is not limited to, documenting exposed artifacts and features; mapping the extent of artifacts, features, and cultural horizons; and documenting natural and cultural stratigraphy in open trenches or pits.
 - b. Ensure the tribes have been notified and provide the opportunity for tribal representation during documentation of the discovery.
 - c. Evaluate the cultural resources for National Register of Historic Places (NRHP) eligibility. If an eligibility recommendation cannot be made based on the data collected during recordation, additional testing may be required to further delineate the nature, extent, and significance of the discovery. Testing, in consultation with the appropriate SHPO, and Tribes as necessary, will be limited to a sufficient level needed to provide a recommendation of NRHP eligibility.
 - d. If the cultural resources meet NRHP eligibility, the USFS Heritage Program Leader will develop an action plan, mitigation plan, or emergency treatment plan for the affected cultural resources in consultation with the SHPO and Tribes.

- 3) The USFS Heritage Program Leader will:
 - a. Determine NRHP eligibility and consult with the SHPO and Tribes.
 - b. Ensure the USFS follows the Discovery of Human Remains Protocol below, if the discovery contains human remains.
 - c. Ensure the USFS fulfills the requirements of the Native American Graves Protection and Repatriation Act (NAGPRA), as described in the Discovery of Human Remains protocol below, if associated or unassociated funerary objects or objects of cultural patrimony are discovered.
 - d. Recommend the resumption of work if the cultural resources are determined, in consultation with SHPO/THPO, to be ineligible for the NRHP. Resumption will include appropriate monitoring for further cultural resource disturbances.

- e. Consult with the SHPO and consulting parties to avoid, minimize, or mitigate further effects to cultural resources that are determined, in consultation with SHPO, to be eligible for the NRHP. Mitigation efforts may be contingent upon several factors, including the type and extent of the disturbed resource, the extent of the adverse effect, and whether or not it is possible to avoid any further effects to the resource.
- 4) Resumption of work:
- a. Work in the immediate vicinity of the discovered materials may not resume until after the cultural resources are evaluated and adverse effects to historic properties have been avoided, minimized, or mitigated. Resumption of work is the Line Officer's decision. In most cases this will be the USFS District Ranger, but in case where human remains are involved it is recommended that the USFS Supervisor make this decision.

3.0 DISCOVERY OF HUMAN REMAINS

If human remains or remains thought to be human are identified during Project activities and construction, the USFS will ensure that employees or construction contractor(s) comply with federal and state laws. If the discovery is located on federal land, then the federal agency will take the lead on complying with the NAGPRA. If the discovery is located within any other jurisdiction, then state laws will be followed and the respective SHPO will take the lead. State laws include California Health and Safety Code 7050.5, California Public Resources Code 5097.98, and Nevada Revised Statutes 383.150 to 383.190 as amended by Senate Bill 244 in 2017. The following protocol has been developed to assist with compliance in the event of a discovery and is in keeping with federal and state laws:

- 1) The Project supervisor or construction contractor(s) will:
 - a. Ensure that employees or contractors do not take photographs of the human remains out of respect for Tribal concerns and because of law enforcement forensic concerns.
 - b. Be responsible for the security and protection of human remains, funerary artifacts and associated soil during discovery consultations, until disposition of the remains is determined. The area should be cordoned off with fencing or whatever means available.
- 2) The USFS Heritage Program Leader will:
 - a. Notify appropriate law enforcement authorities and/or the County coroner about the human remains and ensure human remains are handled as little as possible by all personnel.
 - b. Fulfill the requirements of federal and state law by consulting with affiliated SHPO, Tribes, and other consulting parties if law enforcement officials determine the human remains are not of recent age or criminal concern.
 - c. Once the discovery is considered not of recent age or criminal concern, Native American human remains will not be handled until an action plan for managing the discovery has been developed.
 - d. Facilitate development of an Action Plan, in consultation with Tribes and SHPO, for managing the discovery.
 - e. Ensure human remains and burials will not be discussed or displayed to the public or media.
 - f. Ensure burial discussions by project personnel are conducted within a professional setting or at the discovery site.
- 3) The USFS Line Officer will:
 - a. Ensure a specialist with expertise in human osteology and human remains make an in-situ assessment of the remains, under the direction of the USFS Heritage

Program Leader, to document the remains and to determine cultural affiliation that would guide the development of a written Action Plan.

- b. Assist the USFS Heritage Program Leader in developing an Action Plan for the evaluation and disposition of the human remains to meet federal and state laws.
 - c. Ensure tribal representatives are afforded the opportunity to conduct rites and ceremonies as deemed appropriate for the discovery.
- 4) Resumption of work:
- a. Work in the immediate vicinity of the human remains may not resume until after the disposition of the human remains is determined and a written binding agreement is executed between the necessary parties in accordance with federal and state law. Resumption of work is the Line Officer's decision. In most cases this will be the USFS District Ranger, but in cases where human remains are involved, it is recommended that the USFS Supervisor make this decision upon the advice of the USFS Heritage Program Leader and law enforcement officers.

APPENDIX E

Permits

(TO BE ADDED WHEN OBTAINED)



FINAL RECORD OF DECISION
BORDERTOWN TO CALIFORNIA
120 KV TRANSMISSION LINE PROJECT
HUMBOLDT-TOIYABE NATIONAL FOREST
WASHOE COUNTY, NEVADA
SIERRA COUNTY, CALIFORNIA

June 2019

**Responsible Official: William A. Dunkelberger, Forest Supervisor
Humboldt-Toiyabe National Forest**

A. Background

In 2011, NV Energy submitted an SF-299 application and preliminary plan of development to the Forest Service (USFS), Humboldt-Toiyabe National Forest requesting a Special Use Permit (SUP) to construct, operate and maintain a 120 kilo-volt (kV) above ground power line that would connect the Bordertown Substation located approximately 18 miles north of Reno, Nevada to the California Substation located near Verdi, Nevada. Both substations are located in Sierra County, California with the majority of the transmission line located in Washoe County, Nevada.

The Forest Service is the lead federal agency completing this EIS in cooperation with the Bureau of Land Management (BLM) Eagle Lake Field Office, Nevada Department of Wildlife (NDOW), Truckee Meadows Regional Planning Agency (TMRPA), Washoe County, Sierra County and the City of Reno. Both the California Public Utilities Commission (CPUC) and the Nevada Public Utilities Commission (PUCN) were invited to participate in the analysis. The CPUC determined that they do not have jurisdiction for this project since NV Energy does not have customers in California and PUCN did not participate because they do not regulate 120 kV transmission lines. The powerline exits each substation within existing utility corridors, located in Sierra County, California. If required, compliance with the California Environmental Quality Act (CEQA) would be completed by Sierra County or Lahontan Quality Control Board following a final record of decision.

Additional authorizations or permits are required where agencies have independent jurisdiction and approval authority over some project segments, including a right-of-way from the BLM for expansion of the Bordertown Substation, and special use permits from the City of Reno, Washoe County, Truckee Meadows Regional Planning Agency and Sierra County. NV Energy will also need to acquire easements across private property.

B. Decision

I have selected the Peavine/Poeville Alternative based upon my review of the analysis disclosed in the Final Environmental Impact Statement (FEIS), project record, and evaluation of the information provided by the applicant. This decision applies only to National Forest System (NFS) land in Washoe County, Nevada. This decision is conditioned on the terms of the special use permit and implementation of project design features, mitigation and monitoring as identified in the Final EIS and in Appendix B, Design Features attached to this Final Record of Decision (ROD). The permit will authorize temporary work areas that are outside of the long-term special use permit area, see **(Figure 2.7-1)**.

Beginning at the Bordertown Substation, in Sierra County, California near Bordertown, Nevada the Peavine/Poeville powerline would parallel the existing Alturas 345 kV transmission line for approximately 2.2 miles, with 0.4 miles within the designated Section 368 energy corridor. The powerline would continue south approximately 6.0 miles generally parallel to the California-Nevada State line, approximately 0.6 to 0.9 miles east on the Nevada side of the state line. The last 2.2 miles would be reconstructed within an existing utility easement, replacing the H-frame pole structures of the inactive #632 line, parallel to the existing #114 120 kV and #106 120 kV powerline line west through Verdi, Nevada to the California Substation located in Sierra County, California.

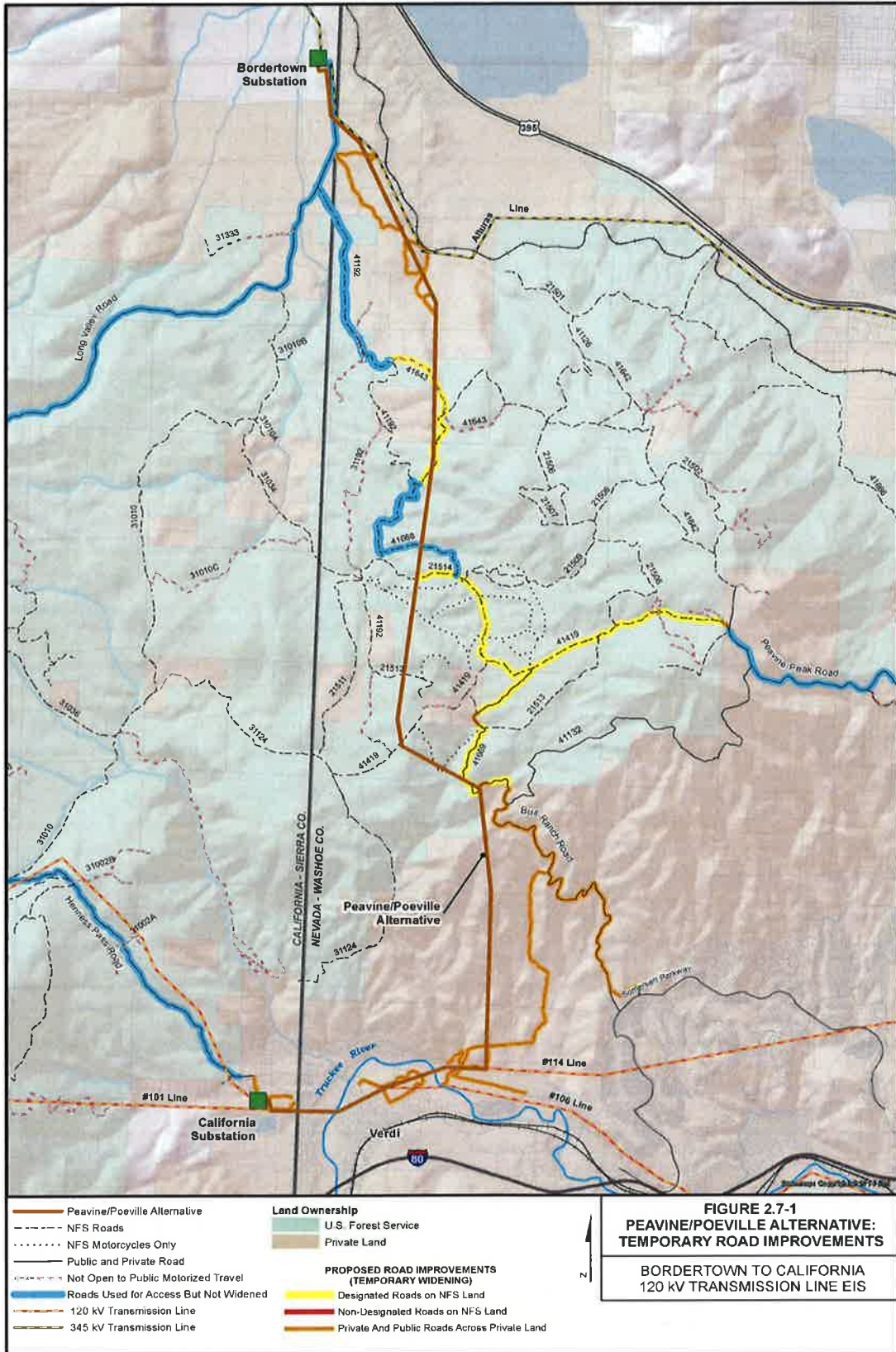
The Peavine/Poeville Selected Alternative would be approximately 11.9 miles long. Approximately 10.8 miles would be constructed in Nevada and 1.1 miles in California. Approximately 4.3 miles or (46.9 acres) would cross NFS land, 0.4 miles or (4.36 acres) would cross BLM land and 7.2 miles or (78.5 acres) would cross private land. The Bordertown Substation would be expanded by approximately 3.7 acres on BLM land. The California Substation would not be expanded, as all needed modifications would be within the existing fenced area of the substation located on private land.

My decision approves the following construction related improvements and restoration activities for the Peavine/Poeville Alternative on NFS land as follows:

Transmission Line: Construction, operation and maintenance of a 120 kV above ground transmission line consisting of poles and electrical wire approximately 4.3 miles in length within a 90-foot wide right-of-way, totaling approximately 46.9 acres. **(Figure 2.7-1)**.

Access Roads: Construction, operation, maintenance, widening, and restoration of access roads **(Figure 2.7-1)**. These include the following categories of roads identified as:

- **Regularly maintained roads:** includes construction access and maintenance of Forest Roads 41192 and 41668, but not widened. The total length is approximately 3.8 miles.
- **Temporary road or trail widening:** these include sections of Forest Roads 41643, 41419, 41669, and motorized trail 21514 to be temporarily widened up to 30 feet to allow for construction access. These routes will be restored to the original road or trail width and revegetated following installation of the transmission line. The total length is approximately 6.7 miles or 17 acres.
- **Temporary centerline travel route and work areas:** an overland travel route will be utilized for construction access within the variable width corridor and centerline of the 90 foot right-of way. Approximately 127.3 acres containing travel routes and work areas will be revegetated following installation of the powerline.



C. Project Design Features and Mitigation Measures

All practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, including a required monitoring plan. Project design features are required to be implemented during construction, operation and maintenance of the powerline and are included in this decision as Appendix B. Mitigation requirements are described below.

D. Required Mitigation

My decision includes mitigation to offset wildlife habitat loss and the development of a historic property treatment plan to mitigate potential adverse effects to cultural resources included as follows:

Wildlife Habitat

To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW or a Sierra Front Wildlife Working Group that would include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants. Appendix B, (WL8).

Cultural Resources

Cultural resources will be managed in accordance with the Memorandum of Agreement among the United States Department of Agriculture, Forest Service, Humboldt-Toiyabe National Forest; the California State Historic Preservation Officer; the Nevada State Historic Preservation Officer; and the Advisory Council on Historic Preservation Regarding the California 120kv Transmission Line By NV Energy on the Humboldt-Toiyabe National Forest, Carson Ranger District, Washoe County, Nevada And Sierra County, California (Bordertown MOA, 2019).

E. Decision Rationale

My decision of the selected alternative provides the needed benefits of reliable electrical transmission capacity to the west side of Reno consistent with the reliability standards that NV Energy is mandated to achieve.

The selected alternative, best meets the purpose and need to provide a back-up power line to serve West Reno within and adjacent to the Humboldt-Toiyabe National Forest in a manner that minimizes crossing NFS land while utilizing regionally and federally designated utility corridors. This alternative minimizes routing across private land, avoids a property listed on the National Register of Historic Places, and avoids designated critical habitat for Webber ivesia (*Ivesia webberi*), a threatened species protected under the Endangered Species Act (ESA). This route maximizes crossing land previously disturbed by wildland fire and minimizes crossing mature forest vegetation types.

My conclusions are based on a review of the FEIS and project record, which documents a thorough analysis of relevant scientific information. I have considered the issues raised by the public during the environmental review. Several of those issues are addressed in the following discussion.

Land Use and Private Property: Land use plans and private property are addressed in Section 3.3.2 of the FEIS. The Peavine/Poeville Alternative crosses 4.3 miles on NFS land, 0.4 miles on BLM land and 7.2 miles on private

land. My selected action will have no impacts to structures from setbacks or separation requirements as the route would cross undeveloped private, NFS and BLM land. The Peavine/Poeville Alternative is consistent with the Toiyabe Land and Resource Management Plan (Forest Plan), BLM Eagle Lake Resource Management Plan (RMP), Sierra County and Truckee Meadows Planning Agency Regional Plan in that it utilizes federal and regionally designated utility corridors. Approximately 4.4 miles of the Peavine/Poeville Alternative would be located within an existing power line corridor consistent with the Truckee Meadows Regional Plan priority hierarchy to “locate new above ground or underground transmission infrastructure in an existing corridor that already contains above ground transmission infrastructure without expanding the corridor width” (Pg. 15 Module 3). The 2012 Sierra County General Plan preference is to locate powerlines that upgrade existing transmission lines and parallel existing transmission lines (Pg. 15-28).

Public Health and Safety: Electric and magnetic fields (EMF) are discussed in Section 3.4 of the FEIS. Presently, there are no federal health-based standards for limiting public exposure to EMFs. Several non- government organizations have recommended science-based exposure limits for EMFs for occupational workers and the general public. The calculated EMFs produced by the Peavine/Poeville Alternative, inside and outside the ROW are below the recommended exposure limits for the general public (FEIS Section 3.4.3.7).

Visual Resources: Visual resources are discussed in Section 3.2 of the FEIS, including Appendix C containing visual simulations. The Peavine/Poeville Alternative will have minimal visual impacts by utilizing the existing utility corridor east of the California Substation by replacing the existing #632 power line in the same location through Verdi see (Key Observation Points 16 and 17) and Section 3.2.4.6 of the FEIS. To further reduce visual effects of powerline transmission poles, design features (VI 1), non-specular conductors will be installed to reduce visual impacts and the number of new poles will be minimized by increasing the pole span length on NFS land in areas designated as Partial Retention as terrain allows (VI 2).

Vegetation Resources: Vegetation resources are discussed in Section 3.7 of the FEIS. The Peavine/Poeville Alternative would minimize crossing mature pine forest communities. Approximately 12 acres of forested habitat will be cleared to maintain safe transmission line clearances (FEIS Section 3.7.2.2).

Special Status Plants: Special status plants are discussed in Section 3.8 of the FEIS. The Peavine/Poeville Alternative avoids impacts to occupied habitat and critical habitat for Webber ivesia (*Ivesia webberi*), a threatened plant species protected under the ESA. Dog Valley ivesia (*Ivesia aperta* var. *canina*), a Forest Service sensitive plant species would also be avoided. Project design features (SV 2), (SV 4 through SV 8), and (HE 11) have been developed to avoid direct effects to special status plant populations and individual plants.

Wildlife Habitat: Wildlife and wildlife habitat is discussed in Section 3.9 of the FEIS. There are temporary and permanent impacts to habitat. The Peavine/Poeville Alternative avoids removal of mature pine forest habitat. The project has been designed to minimize impacts by precluding construction activities from November 25 through May 25 in areas mapped as crucial winter or winter-spring high use areas for mule deer (WL 6) and avoids disturbance to nesting birds by requiring that construction activities occur outside the typical avian breeding season (April 1 to July 31) or requiring surveys to be conducted immediately prior to construction to locate active nesting areas for protection (WL 3). To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the project, would require creation of or improvement of on or offsite wildlife habitat. (WL 8).

Cultural Resources: Cultural resources is discussed in Section 3.5 of the FEIS. The project has been designed to avoid or minimize direct effects to all NRHP listed, eligible or unevaluated sites (CU3) and requires a historic property treatment plan be prepared and implemented where avoidance is not possible. A historic property treatment plan was prepared to mitigate impacts to pre-historic resources (MOA, 2019)

F. Other Required Permits and Approvals

My decision is only one part of the regulatory approvals needed by NV Energy for this project to be approved prior to construction. NV Energy must obtain other agency approvals as described in section 1.9 of the FEIS. The special use permit will not be issued by the Forest Service until NV Energy obtains all applicable permits or licenses.

Alternatives Considered in Detail

In addition to the selected alternative, I considered 4 other alternatives in detail, which are discussed below. A comparison of alternatives considered in detail can be found in Section 2.3 through 2.6 and displayed on Figures 2.1-1 through 2.1-3 in the FEIS. The differences between the action alternatives are the location of the proposed 90-footwide right-of-way and the location of construction access roads, including road widening. The project facilities and substation modifications would be constructed, operated, and maintained under any of the action alternatives. Construction activities, equipment, and materials would apply to all the action alternatives. The number of pole structures and sites, access roads, and transmission wire setup sites required during construction would vary by length and location of each alternative.

No Action Alternative

Under the No Action alternative, the Forest Service would not issue a special use permit. I did not select this alternative because it does not meet to the purpose and need to provide the redundancy needed in NV Energy's power transmission system.

Mitchell Alternative

The Mitchell Alternative would be approximately 11.7 miles long, with 8.4 miles on NFS land. I did not select this alternative because it would impact more forest habitat and would have greater visual effects to private property in Verdi, Nevada and at the Forest Service boundary along Dog Valley/Heness Pass road.

Peavine Alternative

The Peavine Alternative would be approximately 10.3 miles long, with 7.0 acres on NFS land. The first approximately 5.0 miles of the Peavine Alternative would be identical to the Mitchell Alternative. I did not select this alternative because it would impact more forest habitat and would have greater visual effects to private property and at the Forest Service boundary along Dog Valley/Heness Pass road in Verdi, Nevada.

Poeville Alternative

The Poeville Alternative would be approximately 18.0 miles long, with 4.3 miles on NFS land. This alternative had the least number of miles crossing NFS land as any of the other alternatives which is why I originally identified it as the Agency preferred alternative in the Draft EIS. I did not select this alternative because it would have greater impact to private land, greater visual impacts and would potential adversely affect historic properties along the right-of-way including a site listed on the National Historic Register of Historic Places.

G. Alternatives Eliminated from Detailed Study

In addition to the alternatives considered in detail, I also considered 20 additional alternatives. These alternatives were eliminated from further study and analysis as described in the FEIS Section 2.11 as they were either redundant with alternatives considered in detail, were infeasible to construct or would impact occupied habitat for Webber ivesia (*Ivesia webberi*). The proposed action as presented by NV Energy had the potential to impact individual populations and critical habitat of Webber's Ivesia, a plant listed as threatened by the ESA.

H. Public Involvement Conducted

A Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on November 21, 2011 (*Federal Register* Volume 76, Number 224). The Bureau of Land Management, Nevada Department of Wildlife, Truckee Meadows Planning Agency, Washoe County, Sierra County, and City of Reno were cooperating agencies in preparation of the EIS. Public notification of the Proposed Action and project documents have been posted on the Humboldt-Toiyabe National Forest Schedule of Proposed Actions website <http://www.fs.usda.gov/goto/htnf/bordertownline>.

A scoping notice describing the project was mailed to residents and interested parties in November 2011 and February 2012. To gain further participation from the public the USFS hosted public meetings in Cold Springs, Nevada, and Verdi, Nevada. In total, 60 people attended the scoping meetings. Presentations were made to the North Valleys Citizen Advisory Board, Verdi Township Citizen Advisory Board, Ward 5 Northwest Neighborhood Advisory Board, Ward 4 North Valleys and Northeast Neighborhood Advisory Board, Reno City Council, Washoe County Commission, and Sierra County Board of Supervisors. Issues raised during scoping included visual resource concerns, wildlife habitat, private property, electromagnetic fields, fire and fuels, recreation, vegetation including noxious weeds and land use.

A Notice of Availability (NOA) for the Draft EIS was published in the *Federal Register* on December 12, 2014 (*Federal Register* Volume 79, Number 239) initiating a 45-day public comment period. Interested and affected individuals were notified by email and regular mail. Public meetings were held at the Northwest Reno Public Library and a presentation at the North Valleys Citizen Advisory Board. Private property was a concern related to the Poeville alternative as it was the longest of the transmission line routes and crossed the most private land.

The Draft Record of Decision (ROD) and Final EIS was noticed in the *Reno Gazette Journal* initiating a 45-day objection period on March 3, 2018. No objections were received.

A letter of support from the Lahontan Regional Water Quality Control Board dated March 14, 2018 included reminders about general construction permitting if required. The water board does not anticipate taking discretionary action for this project as it has been exempted from the California Environmental Quality Act (CEQA). Other permitting requirements are identified in Section 1.9 of the FEIS.

A letter of from the Environmental Protection Agency dated July 19, 2018 supported the management requirements and mitigation measures identified in the FEIS which have all incorporated in Appendix B of this ROD.

A letter from Sierra County dated January 7, 2019 indicated that a permit would not be required for the California Substation improvements. The improvements are within the existing footprint and no discretionary review or approval from the County is needed and is exempt from the California Environmental Quality Act (CEQA).

I. Environmentally Preferred Alternative

As described in the FEIS, Section 2.10, the Environmentally Preferred Alternative is the No Action alternative because it would not result in disturbance to vegetation, soils or wildlife species, individuals or habitat. There would be no tree removal. There would be no road widening or restoration efforts needed to restore vegetation following construction. There would be no risk of new noxious weed establishment and no effects to habitat supporting pollinators for sensitive plant species. There would be no effects to cultural resources. I did not select this alternative because it would not meet the purpose and need of the project to provide reliable bulk transmission capacity to the West Reno/Verdi area.

J. Tribal Consultation

During the early planning stages of this analysis (2011), the Forest Service conducted informal consultation with the Reno-Sparks Indian Colony, the Washoe Tribe of Nevada and California, and the Pyramid Lake Paiute Tribe to discuss the project and potential effects to cultural resources. Intensive tribal consultation continued throughout the analysis and development of the Bordertown MOA (2019). Consultation will continue throughout implementation of the project.

K. Findings Required by Other Laws and Regulations

The National Forest Management Act (NFMA) requires projects and permits to be consistent with the Land Management Plan (16 USC § 1604(i)). Consistency with the Forest Plan is discussed in Section 3.3.2 of the FEIS. This decision to select the Peavine-Poeville Alternative is consistent with the Humboldt-Toiyabe Land and Resource Management Plan (Forest Plan) long term and multiple use goals and objectives listed in Chapter IV, Pages 1-12. The project was designed in conformance with forest plan standards and incorporates appropriate Forest Plan guidelines for managing sensitivity and visual quality objectives (IV-3), engaging the public in the decision making process (IV-5), protecting soils from being degraded and maintaining water quality (IV6), maintaining forested habitats for nongame and ecologically important species (IV-7), protection of sensitive and threatened species and coordination with State Wildlife Agencies (IV-7), National Register properties will be protected and noxious weed infestations will be treated (IV-12).

This decision also conforms to the following laws, regulations, policy, and executive orders.

LAW, REGULATION, POLICY, OR EXECUTIVE ORDER	STATEMENT OF CONFORMANCE
American Antiquities Act of 1906 (as amended)	Design features (Appendix B) have been developed to prohibit the collection or disturbance of archeological sites encountered during construction. All prior cultural resource surveys and any potential future cultural resource surveys for the proposed project were conducted by qualified archaeologists under a permit issued by the USFS.
American Indian Religious Freedom Act of 1978	Native American Tribes were consulted to determine the presence of American Indian religious sites. See tribal consultation summary (Section 4.2.2 FEIS).
Archeological Resource Protection Act of 1979	Design features (Appendix B, FEIS) have been developed to prohibit the unauthorized collection or disturbance of archeological sites encountered during construction or maintenance of the project.
Bald and Golden Eagle Protection Act of 1940 (as amended)	The proposed project would not result in the “take” of bald eagles or golden eagles. The project would be in conformance with the Bald and Golden Eagle Protection Act of 1940, as amended.
BLM Manual 6500: Wildlife and Fisheries Management (1988)	Design features (Appendix B) have been incorporated into the proposed project to avoid or minimize impacts to wildlife and fisheries as much as feasible.
BLM Manual 6840: Special Status Species Management (2008a)	Design features (Appendix B) have been incorporated into the proposed project to avoid or minimize impacts on BLM special status species.

LAW, REGULATION, POLICY, OR EXECUTIVE ORDER	STATEMENT OF CONFORMANCE
Clean Air Act of 1979 (as amended)	The proposed project would be compliant with the CAA of 1979, as amended, because emissions of criteria pollutants would be below the NAAQS (see Section 3.12 FEIS). Other air pollution problems addressed in the CAA, such as acid rain or depletion of the ozone layer are not relevant to the proposed project.
Clean Water Act of 1977 (as amended)	The discharge of pollutants from a point source would not occur under the proposed project. All impacts to waters of the United States would be permitted under Section 404 of the CWA.
Endangered Species Act of 1973 (as amended)	The proposed project would not jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The proposed project would not result in the “take” of any listed species or species proposed for listing. See agency consultation summary (Section 4.2.1 FEIS).
Executive Order 11988 (floodplains)	The proposed project would not require occupancy within the 100-year floodplain. The proposed project would not modify the flood flow retention capability of the 100-year floodplain (see Section 3.6.2.2 FEIS).
Executive Order 11990 (wetlands)	Compliant with Executive Order 11990, design features (Appendix B) have been developed to minimize impacts to wetlands on NFS land and BLM-administered public land.
Executive Order 12898 (environmental justice)	Compliant with Executive Order 12898, the USFS has completed an environmental justice analysis. A summary of the analysis conclusions is provided in Section 3.1.1.2.
Executive Order 13007 (American Indian sacred sites)	Native American Tribes were consulted to determine the presence of American Indian sacred sites. See tribal consultation summary (Section 4.2.2).
Executive Order 13175 (consultation and coordination with Indian Tribal Governments)	Consultation with Native American Tribes was conducted in accordance with Executive Order 13175. See tribal consultation summary (Section 4.2.2).
Executive Order 13186 (Migratory Bird Treaty)	Pursuant to Executive Order 13186, the potential effects of the proposed project on migratory birds are evaluated in Section 3.9. Design features (Appendix B) have been developed to avoid impacting nesting migratory birds during construction.
Federal Land Policy Management Act of 1976	In accordance with the Federal Land Policy Management Act of 1976, this EIS evaluates the proposed project in terms of its conformity with the Eagle Lake RMP (BLM 2008b) and its potential effects on the various resources contributing to the multiple uses for which the BLM-administered public land in the project area is managed.
Historic Sites Act of 1935	The potential effects of the proposed project on historic properties listed on the NRHP or eligible for such listing have been evaluated. See SHPO consultation summary (Section 4.2.3 FEIS).

LAW, REGULATION, POLICY, OR EXECUTIVE ORDER	STATEMENT OF CONFORMANCE
Memorandum of Understanding to Promote the Conservation of Migratory Birds (BLM and USFWS 2010)	Pursuant to the Memorandum of Understanding to Promote the Conservation of Migratory Birds (BLM and USFWS 2010), the potential effects of the proposed project on migratory birds are evaluated in Section 3.9. Design features (Appendix B) have been developed to avoid impacting nesting migratory birds during construction.
Migratory Bird Treaty Act of 1918 (as amended)	Design features (Appendix B) have been incorporated into the proposed project requiring pre-disturbance migratory bird nesting surveys if surface disturbance is unavoidable during the migratory bird nesting season. The proposed project would not result in the “take” of migratory birds, their eggs, or their nests.
National Bald Eagle Management Guidelines (USFWS 2007)	The proposed project would not result in the “take” of bald eagles or impact bald eagles. The proposed project would be in conformance with the guidelines. (Section 3.10.2 FEIS)
National Forest Management Act of 1976	In accordance with the National Forest Management Act of 1976, this EIS evaluates the proposed project in terms of its conformity with the Forest Plan (USFS 1986) and its potential effects on the various resources contributing to the multiple uses for which the NFS land in the project area is managed. (Section 3.3.2.1 FEIS)
National Historic Preservation Act of 1966 (as amended)	In accordance with Section 106 of the NHPA, the potential effects of the proposed project on historic properties listed on the NRHP or eligible for such listing were evaluated prior to signing the ROD. See agency consultation summary (Section 4.2.3). The Forest Service prepared the Bordertown MOA pursuant to the NHPA.
Native American Graves Protection and Repatriation Act of 1990	In the event that Native American human remains or grave goods are encountered during construction, personnel will follow the Inadvertent Discovery Plan in Appendix C of the Bordertown MOA (2019). Native American Tribes would be consulted in the event that Native American human remains are encountered.

L. Implementation Date

This Final ROD can signed as the following requirements have been met:

1. Objections. No objections were received during the 45-day formal objection period initiated by the legal notice in the Reno Gazette Journal on March 9, 2018.
2. Thirty days following the publication of the notice of availability (NOA) for the Final EIS in the federal register (40 CFR 1506.10). The Notice of Availability of a Final EIS was published in the Federal Register on June 22, 2018.
3. Section 106 of the National Historic Preservation Act compliance. The Bordertown MOA was signed May 10, 2019. A letter dated May 24, 2019 from the Advisory Council on Historic Preservation provided the fully executed agreement.

This project will be authorized by a Forest Service special use permit when:

1. NV Energy obtains all applicable permits and approvals including but not limited to special use permits from the BLM, Truckee Meadows Planning Agency, Washoe County, City of Reno, and private easements, see Section 1.9 of the FEIS. The project will be phased with improvements beginning at the California substation on private land and Bordertown Substation on Bureau of Land Management to occur in 2020 with powerline construction anticipated in 2021.
2. The wildlife habitat restoration account is funded with the Nevada Department of Wildlife.
3. The construction, operation, maintenance plan is approved by the Forest Service.

M. Contact Person

For additional information concerning this final record of decision contact Marnie Bonesteel, Lands Special Uses Program Manager, Humboldt-Toiyabe National Forest, at (775) 352-1240, or marnie.bonesteel@usda.gov



William A. Dunkelberger, Forest Supervisor
Humboldt-Toiyabe National Forest



Date

Appendix B Project Design Features

General Practices (GP)

- GP 1. All environmentally sensitive areas (i.e., culturally sensitive areas, meadows, and special status plant populations) will be temporarily fenced during construction for avoidance.
- GP 2. Prior to construction, all construction personnel will be instructed on the protection of sensitive biological and cultural resources that have the potential to occur on-site by qualified personnel.
- GP 3. Construction activities may require temporary access through existing fences and gates on public and private land. Fencing will be replaced when construction activities are completed. Replacement fencing will be built to agency or landowner specifications, consistent with the fencing that was removed. During construction, fences with open gates will remain open and fences with closed gates will remain closed. Fences crossed during construction will be braced and secured prior to cutting the fence to prevent slackening of the wire.
- GP 4. Prior to any construction activities, all utilities will be located by utilizing “Call before you dig” to avoid disruption to any services. If blasting is required within proximity to the Kinder Morgan buried gas pipeline, NV Energy will coordinate with Kinder Morgan and use a qualified licensed blaster.
- GP 5. Concrete wash out stations will be pre-approved and the water will be captured and disposed off NFS Lands and at an approved facility.
- GP 6. Long-term equipment staging and storage areas will not be located on NFS land.
- GP 7. Near sensitive receptors (i.e., occupied residences), noise-generating activities (e.g., blasting) will be limited to Monday through Friday from 7:00 a.m. to 7:00 p.m. Otherwise, work may occur 12 hours per day any day of the week.
- GP 8. Annual inspection will be made via helicopter or from the ground by walking to pole structures from existing roads.
- GP 9. Signs, flagging, or other readily visible markings will be used to indicate the presence of guy wires to reduce the potential for people and wildlife to run into the wires.

Noxious Weeds (NW)

- NW 1. Noxious weeds occurring on either the Nevada or California State list will be mapped and the full extent of the population will be treated prior to and following construction. Inventory and treatment areas will extend 100 feet from the ROW and all ground disturbed by project activities. Project disturbances include roads proposed for widening, construction access roads, equipment and material staging areas, and vegetation removal, including skid trails and landings.
- NW 2. Monitoring and continued treatment in areas that were treated prior to construction will commence the first full growing season after project implementation. Weed treatment will continue until disturbed areas are successfully restored (see restoration criteria). Weed treatment will continue during maintenance activities and within the ROW.
- NW 3. All equipment utilized off of existing roads and motorized trails will be cleaned with a high-pressure power washer of all mud, dirt, and plant parts. Following cleaning, equipment will be inspected for plant parts (e.g., leaves, stems, seeds). Equipment will be cleaned and inspected again prior to re-entry if it leaves the project site. Equipment will be inspected and cleaned again before moving from an area within the project area with known noxious weed species.

Inspections will be completed and documented by qualified personnel such as a USFS noxious weed specialist or USFS botanist.

- NW 4. When cut and fill is required to create log landings, topsoil will be stockpiled and covered to prevent weeds from establishing in the soil. This topsoil will be re-spread during restoration of the landings.
- NW 5. Staging areas will not be located in weed infested areas. Staging areas will be inspected by qualified personnel for pre-approved use to reduce the risk of introducing noxious weeds into the project area.
- NW 6. Construction of access roads will not occur in areas heavily infested with noxious or invasive weeds.
- NW 7. Restoration seed mixes will be certified as weed-free.
- NW 8. All gravel and/or fill material will be certified as weed-free.
- NW 9. NV Energy will coordinate with other county, state and federal agencies to address and treat landscape level infestations of invasive plant species.
- NW 10. For invasive plants that can be effectively controlled through grubbing or manual removal, methods that prevent seed spread or re-sprouting will be used. If flowers or seeds are present, the weed will be pulled carefully to prevent seeds from falling and will be placed in an appropriate container for disposal. If flowers and seedheads are not present or are removed and disposed of as described above, the invasive plant may be pulled and placed on the ground to dry out.
- NW 11. The appropriate method of control specific to the type of noxious weed will be used. Specific methods will be identified in the COM Plan.

Vegetation (VG)

- VG 1. Placement of the ROW will avoid wherever possible, isolated groups of trees and/or groups of trees with an average diameter of dominant and co-dominant trees greater than 24 inches at breast height (dbh) as directed/approved by a USFS Forester.
- VG 2. All trees measuring 8 inches or greater in dbh that need to be removed shall be identified and marked for removal by a USFS Forester prior to felling on NFS land.
- VG 3. For trees measuring 8 inches or greater in dbh, stump height shall not exceed 12 inches above ground level on the uphill side or 12 inches above natural obstacles. Trees less than 8 inches in dbh, stump heights shall not exceed 6 inches above ground level on the uphill side or 6 inches above natural obstacles.
- VG 4. Trees identified for removal will be whole tree yarded to log landings for disposal. Permits and/or contracts shall be issued prior to felling any trees greater than 8 inches dbh. All logs and slash will be removed from NFS land within 6 weeks to reduce insect and disease infestations. Woodchips not needed for restoration will also be removed from NFS land within 6 weeks.
- VG 5. Where removal of vegetation other than trees is unavoidable, the vegetation will be cut at ground level to preserve the root structure and allow for potential sprouting.
- VG 6. All areas of temporary ground disturbance that result from the construction or maintenance of the project will be restored as required by the land management agency and per any applicable permits. Restoration will include restoring contours to their approximate pre-construction condition, stabilizing the area through seeding, mulching, placement of erosion control fabric, and installing erosion control features. Revegetation may include incorporation of chips into the

soil, as needed. Erosion control includes installing cross drains and placing water bars in the road, as needed.

- VG 7. Successfully restored areas will be defined as:
Reference sites will be pre-established and approved by the USFS. Reference sites will include plant communities that are representative of the ecological site and must include plant communities that are in a late-seral and ecologically functioning condition. Appropriate reference sites will be determined by collecting baseline cover data to indicate plant succession and community structure.
- VG 8. Project implementation will comply with conditions in Lahontan Water Quality Control Board timber harvest waiver.

Herbicide Use (HE)

- HE 1. Herbicides will be used in accordance with label instructions, except where project design features describe more restrictive measures. An herbicide use plan will be developed and included in the COM Plan.
- HE 2. Prior to the start of application, all spray equipment will be calibrated to insure accuracy of the delivered amounts of herbicide. Equipment used during herbicide application will be regularly inspected to insure it is in proper working order.
- HE 3. Herbicide spray applications will not occur when wind velocity is 5 miles per hour or greater to further minimize the potential for drift.
- HE 4. Herbicide applications will not be conducted during rain or immediately following rain when soil is saturated or runoff or standing water is present. Application will occur only under favorable weather conditions, defined as:
- a) 30% or less chance of precipitation on the day of application based upon National Weather Service weather forecasting for the Reno area;
 - b) If rain, showers or light rains are predicted within 48 hours, the amount of rain predicted shall be no more than ¼ inch of rain; and
 - c) Rain does not appear likely at the time of application.
- HE 5. Preparation of herbicides for application, including mixing, filling of wands and rinsing of spray equipment, will take place outside of wetlands, meadows, riparian zones, wells and springs, and other sensitive sites, and more than 300 feet from surface water. Herbicide preparation will occur only on level, disturbed sites such as the interior of landings.
- HE 6. A spill cleanup kit will be readily available whenever herbicides are transported or stored. A spill kit will be carried by the applicator at all times when using the wicking application method.
- HE 7. Low nozzle pressure (<25 pounds per square inch), and a coarse spray (producing a median droplet diameter of >500 microns) will be used in order to minimize drift during herbicide applications.
- HE 8. Prior to treatments in areas of concentrated public use, the public will be notified about upcoming herbicide treatments via posting signs.
- HE 9. The herbicide spray nozzle will be kept as close to target plants as possible (within 20 inches) while achieving uniform coverage in order to limit overspray and drift to non-target vegetation.

- HE 10. Where riparian vegetation communities occur, herbicide application will be limited to directed foliar spray or wiping methods and spray will be directed away from native vegetation.
- HE 11. Herbicide treatments will not occur within 500 feet of sensitive plant occurrences.
- HE 12. Herbicide application within wet meadows will be limited to treating invasive plant infestations that occupy less than 100 square feet. Herbicide applications will be limited to wiping techniques with aminopyralid, chlorsulfuron, and glyphosate and treatment of the following high priority species: Canada thistle (*Cirsium arvense*), yellow star thistle (*Centaurea solstitialis*), Russian knapweed (*Acroptilon repens*) or tall whitetop (*Lepidium latifolium*) which are difficult to eradicate with non-chemical means. Meadows will be surveyed for special status plant species prior to any chemical treatments and will be monitored post-treatment to determine effects to non-targeted vegetation.
- HE 13. Herbicide application will not occur within the established buffers for aquatic features shown in **Table B-1**.

Table B-1 Minimum Buffers (ft) for Herbicide Application Near Aquatic Features

Herbicide	Application Method	Dry Aquatic Features	Streams ¹ or Ditches with Water ²	Wetland or Meadow
Aminopyralid	Spot & directed foliar spray	25	25	100
	Wiping	15	150	15
Chlorsulfuron	Directed foliar spray	25	100	100
	Wiping	15	15	15
Glyphosate	Directed foliar spray or drizzle	0	25	25
	Cut stump or wiping	0	15	15
Imazapic	Directed foliar spray	25	75	75
Triclopyr (TEA)	Directed foliar spray	25	75	75
	Wiping or cut stump	15	15	15
Clopyralid	Spot & directed foliar spray	25	50	50
	Wiping	15	15	15

¹As measured from the edge of the stream channel. If a defined channel is not present (draws do not have defined channels), measurement is from the bottom of the feature.

²As measured from the edge of the wet area or the meadow vegetation, whichever is greater. Limited conditions allowing for herbicide application within meadows are described in HE 17.

- HE 14. Herbicide application is limited to targeted treatments directed at the plant (spot treatments of the immediate area surrounding the plant are allowed with aminopyralid and clopyralid, only) using a backpack sprayer; broadcast spray methods that dispense chemical over a non-localized area will not be used.
- HE 15. Avoid application of Aminopyralid and Clopyralid sprayed mulch materials on revegetation sites.

Forest Health (FH) - Insects and Disease

- FH 1. To reduce the build-up or residual tree mortality by pine engraver beetles (*Ips pini*), and reduce fuel loading the following measures shall occur:
- a. Trees greater than 3 inches diameter at breast height (dbh) (whether in accessible or inaccessible areas) shall be removed (after proper permitting) to established log landings. Slash shall be chipped and hauled off of NFS land for disposal. All logs and slash shall be removed from NFS lands within 6 weeks of cutting. Any incidental breakage during whole-tree yarding that is 3 inches in diameter or greater shall be lopped and scattered to within 18 inches of the ground in open areas.
 - b. Timing: In areas where material 3 inches or greater in diameter is left on site, cutting shall only occur from August 1 through December 31. Material must be lopped and scattered to within 18 inches of the ground in open areas. There are no timing restrictions for dead trees or species other than pine.

Water Resources and Soil (WA)

- WA 1. As a part of the COM Plan, SWPPP will be prepared to minimize erosion from the project construction worksites and to contain sediment. The SWPPP will be prepared in accordance with the National Pollutant Discharge Elimination System (NPDES) General Construction Stormwater Permit. At a minimum, it will identify the existing drainage patterns of the construction work sites and ROW/easement, nearby drainages and washes, potential pollutant sources other than sediment, and erosion and sediment control measures and BMPs that will be implemented to protect stormwater runoff. The SWPPP will include maps with locations for erosion and sediment control measures, and BMPs. The SWPPP will be kept on site throughout the duration of construction.
- WA 2. Erosion and stormwater controls will be inspected on the ground at least once every seven days and within 24 hours of a storm event of 0.5 inch or greater. Weather forecasts and data available from the National Weather Service in Reno will be used to determine total precipitation associated with a storm event. Qualified personnel of NV Energy or its contractors with specific training in erosion and sediment control will perform the inspections.
- WA 3. Construction equipment staging areas, and storage of equipment fuels will not be located within 300 feet of perennial streams or within 150 feet of intermittent and ephemeral streams. Staging areas and fuel storage will also not be located within 150 feet of wetlands or other water feature.
- WA 4. Pole sites and staging areas will not be constructed within the 100-year floodplain of any stream or within wetlands.
- WA 5. Construction equipment will not be operated on unstable soils or on soils too wet to adequately support equipment in order to prevent rutting, puddles on soil surface, or runoff of sediments directly into water bodies.
- WA 6. Topsoil removed from foundation holes will be separated and stockpiled at the edge of active work areas to salvage the seed bank.
- WA 7. Water drafting (i.e. water withdrawal) from streams will not be permitted. Water shall be provided by truck for dust abatement and other project needs.

Temporary Stream Crossings

- WA 8. Improvements to any existing road crossing will be designed to minimize surface disturbance.

- WA 9. Crossings will be located where the stream channel is narrow, straight, and uniform, and has stable soils and relatively flat terrain. Stream crossings will be oriented perpendicular to the stream channel. All stream crossings will be designed and installed such that sufficient load-bearing strength for the expected equipment is provided.
- WA 10. Stream crossings will be designed for a normal range of flows for the site, and crossings that must remain in place during high runoff seasons will be stabilized. However, all crossings will be temporary and will be removed at the end of the construction season. The water body profile and substrate will be restored when the crossing is removed.
- WA 11. Stream crossings will be regularly monitored to evaluate the condition. Any repairs or improvements to the crossings identified during monitoring will be promptly addressed.
- WA 12. Surface drainage and roadway stabilization measures will be used to disconnect the access road from the stream in order to avoid or minimize water and sediment from being channeled into surface waters and to dissipate concentrated flows.
- WA 13. On perennial streams, existing crossings will be utilized and no new crossings will be constructed.

Plants and Sensitive Plant Communities (SV)

- SV 1. If any Forest Service or BLM sensitive plant or federal- or state-listed species are identified during construction activities, the USFS will be contacted within 24 hours. Depending on the plant species appropriate protective measures will be implemented.
- SV 2. Prior to construction, once access roads and pole locations are known, the following tasks will be completed for areas where surface disturbance is planned:
 - a. Pre-construction surveys for jaw-leaf lupine, andesite popcorn flower, and moonwort ferns;
 - b. Mapping and flagging of sensitive plant species, wetland areas, and noxious weeds; and
 - c. Noxious weed infestations will be treated according to design features NW1 and NW 2.
- SV 3. There will be no new access roads or widening of existing roads for construction access through meadows. This measure will also protect potential habitat for special status plant populations that are found in wetland and meadow habitats, such as Dog Valley ivesia.
- SV 4. Poles, staging areas, and line clearance areas, and any project-related ground disturbance will avoid all special status plant populations.
- SV 5. Where existing roads are used for travel to the project site (but not widened), any road maintenance within 100 feet from special status plant populations will focus on avoiding impacts. A permanent physical barrier, such as lining the roads with rock or fencing the road corridor, will be constructed to prohibit vehicle access to sensitive plant populations and contain travel within the existing road corridor.

Webber Ivesia and Dog Valley Ivesia

- SV 6. Construction of new access roads (i.e., spur roads and centerline travel roads) and widening of existing roads and motorized trails will not occur within 500 meters (1,640 feet) of populations of Dog Valley ivesia (*Ivesia aperta* var. *canina*) and Webber ivesia (*Ivesia webberi*) occurring on NFS land. Allowable maintenance of roads within these habitat areas that do not require widening include blading and installation of erosion control measures. Construction of new temporary access roads and widening of existing roads and motorized trails will not occur within 200 feet of other special status plant populations that occur on NFS land. Within these buffer

distances, travel and road maintenance on existing roads and motorized trails may be permitted but road improvements including widening of the existing travelled way are prohibited.

- SV 7. The transmission line will be excluded from the occupied habitat unit for Webber ivesia populations occurring on NFS land. (Occupied habitat includes the low sage habitat where the plants are present and a 500-meter buffer from the edge of the occurrence. The 500-meter buffer would include low sage and adjacent shrub steppe habitats to accommodate pollinators associated with the rare plant community).
- SV 8. Techniques to span over Webber ivesia potential habitat (i.e., unoccupied suitable habitat) will be evaluated with a USFS botanist. Unavoidable pole placement within habitat will require use of a helicopter. Access roads will not be constructed within potential habitat. Potential habitat includes low sage plant communities with specific habitat attributes: presence of a rocky pavement surface, presence of an argillic soil horizon, plant community composition and presence of associated plants, topographic position of the site, and, known elevation range. Areas defined as potential habitat will require the 500-meter buffer.

Wildlife and Sensitive Wildlife Species (WL)

- WL 1. If any Forest Service or BLM sensitive wildlife or plant species are identified during pre-construction surveys or during construction activities, work in the general area of the identified species will be halted until a USFS biologist or other qualified biologist is consulted to determine an appropriate buffer and other protective measures. The USFS will be notified within 24 hours of the discovery of the species. Buffer distance will be established in consultation with the USFS on a case by case basis depending on species and type and magnitude of construction activity. If avoidance is infeasible, consultation with the USFS, and at its discretion, any cooperating agencies will be contacted prior to continuing work in the immediate area of the species. The same process will be implemented in the event that any federal- or state-listed species are discovered on public land, with the discovery being reported to the USFS or BLM, depending on the respective land administration.
- WL 2. If appropriate, additional surveys for Northern goshawk and flammulated owl or other Forest Service sensitive species will be conducted prior to construction by a qualified biologist approved by the USFS. Coordination with the USFS will be conducted prior to commencing surveys to determine appropriate survey methodology, timing, and survey area. If nesting is detected the Forest Service will be contacted within 24 hours and Forest Plan standard and guidelines (USFS 2004) will be implemented. A designated Protected Activity Center (PAC) will be delineated around the nest site. Within the PAC no construction activities may occur during the "Limited Operating Period" April 15th- September 30th. Pole construction will need to be designed to span the PAC.
- WL 3. To reduce potential disturbance to migratory birds, construction will occur outside the typical avian breeding season (April 1 to July 31). If construction activities cannot be avoided during this time period, surveys will be conducted immediately prior to construction to locate active nesting areas.
- WL 4. If active avian nests are located on NFS land or BLM-administered public land, they will be flagged and avoided until after the breeding period. NV Energy will coordinate with the USFS or BLM biologist to determine appropriate time frames for resuming construction.
- WL 5. Excavations deep enough to potentially entrap wildlife species will be covered and fenced at night or when unattended to prevent livestock or wildlife from falling in. All covers will be secured in place and strong enough to prevent breakage by wildlife.

- WL 6. To avoid impacts to wintering mule deer, construction will not occur from November 25 through May 25 within areas mapped as crucial winter or winter-spring high deer use, including the Mitchell Canyon Deer Management Area. Non-ground disturbing activities, such as surveying, staking, or resource driven activities (e.g., cultural surveys, biological surveys), may occur within this time frame.
- WL 7. To aid in providing browse for wintering mule deer, post construction revegetation in areas mapped as crucial winter and winter spring high use habitat will include seed mix of brush species preferred by mule deer (i.e., bitterbrush, mountain big sagebrush, mountain mahogany, serviceberry, snowberry, and Wyoming big sage) as well as appropriate forbs and grasses.
- WL 8. To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW or a Sierra Front Wildlife Working Group that would include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants.
- WL 9. To protect raptors such as hawks and eagles from electrocution, transmission line and pole structures will be constructed in conformance with the guidelines contained in Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006, prepared by the Avian Power Line Interaction Committee (2006).
- WL 10. To limit the potential for impacts to aquatic resources, particularly to Lahontan cutthroat trout, pole sites or roads will not be placed within the 100-year floodplain in Dog Creek, Bull Ranch Creek, and the Truckee River. During construction, no soil disturbing activities will occur within the 100-year floodplain of these streams.

Cultural Resources (CU)

- CU 1. All personnel working on the project should be familiar with, and be in possession of, the Bordertown Inadvertent Discover Plan (Appendix C of the Bordertown MOA).
- CU 2. If previously unidentified cultural resources are found, work will be halted immediately within a minimum distance of 300 feet from the discovery. Personnel must adhere to Bordertown Inadvertent Discovery Plan (Appendix C of the Bordertown MOA).
- CU 3. In the event the project changes during implementation, the Forest Service will reinstate consultation per regulations at 36 CFR 800 and in compliance with Section 106 of the National Historic Preservation Act.
- CU 4. Archaeological monitors are required per the Bordertown MOA (2019). They will assess avoidance measures and monitor disturbance activities near culturally sensitive areas.
- CU 5. If human remains are encountered during construction activities, all work within 300 feet of the remains will halt and the requirements of personnel identified in the Bordertown Inadvertent Discovery Plan will be followed.
- CU 6. Per the Bordertown Inadvertent Discovery Plan, if the remains are Native American, USFS will follow the procedures set forth in 43 CFR 10, Native American Graves Protection and Repatriation Regulations and notify the appropriate Native American Tribe(s) immediately. If the Native American human remains are located on state or private land, the appropriate SHPO will be notified immediately. In Nevada, Native American human remains are protected under the provisions of the Protection of Indian Burial Sites section of the Nevada Revised Statutes (NRS) in Chapter 383. The

Nevada SHPO will consult with the Nevada Indian Commission and notify the appropriate Native American Tribe. Procedures for inadvertent discovery are listed under NRS 383.170. If the discovery of Native American human remains is made on State or private land in California, the California SHPO and the Native American Heritage Commission will be contacted. The Native American Heritage Commission will provide the name of a Most Likely Descendent who will then make recommendations for treatment and disposition of the remains and associated items.

Hazardous Materials and Waste (HM)

- HM 1. A Spill Prevention, Control, and Countermeasure Plan (SPCC) will be implemented during construction to prevent any spills. The SPCC, which will include cleanup procedures, will become part of the COM plan.

Recreation/Roads/Transportation (RT)

- RT 1. The use of any roads or trails will require compliance with the Carson Ranger District Motor Vehicle Use Map (MVUM), including any restrictions for seasonal use.
- RT 2. All new temporary access roads and all improvements to existing roads will comply with: 1) The Forest Service National Supplements to the FP-03 (USFS, 2010); 2) the USFS Road Construction Handbooks (FSH 7709.56 and FSH 7709.57); and, 3) the Forest Plan.
- RT 3. All new access roads (i.e., spur roads and centerline travel roads) specifically constructed for this project will be re-contoured and reclaimed and will have a physical closure installed to prevent motorized access immediately following the completion of construction and restoration. The types of closure and design specification used will be approved by the USFS prior to installation.
- RT 4. Physical barriers such as boulders or natural features designed to harmonize with the natural environment of the surrounding area will be installed to prevent unauthorized vehicle use from occurring on restored roads. The use of gates or other such structures for this purpose will be avoided unless determined necessary by the USFS.
- RT 5. Maintenance activities which cause a road to be opened to unauthorized vehicles or damage to restoration improvements will need to be assessed and barriers reinstalled as needed at the expense of NV Energy.
- RT 6. Restored roads will require a signage and monitoring plan implemented by NV Energy for compliance with the closure which will include inspecting the barricade areas to determine the effectiveness of the blockades at preventing unauthorized motorized vehicle use of the restored access roads. Signs will notify the public that construction access roads are closed and are being restored. Signs will be replaced by NV Energy if vandalism occurs to the signs.
- RT 7. If unauthorized vehicle use occurs on restored roads, barricades and reclamation will be monitored for effectiveness and remedial measures taken. Monitoring will continue until disturbed areas are successfully restored.
- RT 8. Public access will be maintained with minimal delays during the construction and maintenance of the project. If there are traffic delays, NV Energy will post delay information at National Forest portals.
- RT 9. All construction vehicle movement will be restricted to the transmission line ROW/easement, pre-designated access roads, public roads, and private roads. All existing roads will be left in a condition equal to or better than their preconstruction condition.

Visual Resources (VI)

- VI 1. Non-specular conductors will be installed to reduce visual impacts.
- VI 2. The number of new poles will be minimized by increasing the pole span length on NFS land where the area is designated as Partial Retention for Visual Quality Objectives as terrain allows.

Fire Prevention and Response (FP)

- FP 1. Fire Prevention Plan will be implemented during construction activities to prevent and suppress fire. The Fire Prevention Plan will be included in the COM Plan.

Air Quality (AQ)

- AQ 1. Vehicle and equipment speeds will be limited to 20 miles per hour on unpaved roads and on the ROW/easement.
- AQ 2. All areas subject to ground disturbance will be watered as needed to control dust.
- AQ 3. Paved roads will be swept if visible soil material is tracked onto them by construction vehicles.
- AQ 4. Excavation and grading activities will be suspended when winds (instantaneous gusts) exceed 50 miles per hour and visible dust persists that creates a health hazard to neighboring property owners and/or visibility impacts to vehicular traffic.
- AQ 5. In order to reduce construction equipment emissions, engines on construction-related vehicles will:
 - a) Be tuned to the engine manufacturer's specification in accordance with an appropriate time frame;
 - b) Not be idle for more than five minutes (unless it is necessary for the operating scope of the equipment and operation);
 - c) Not be tampered with in order to increase engine horsepower;
 - d) Include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the project site; and
 - e) Use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area.

TAB D



**Neighborhood Meeting
Sign-In Sheet**

Project Name: _____

Meeting Location: _____

Meeting Date: _____

	First and Last Name (please print legibly)	Address	Email (or) Phone
1	Meeting conducted by Zoom - Please see uploaded registrant and participant list for further details		
2			
3			
4			
5			
6			
7			
8			

Disclaimer: A copy of this sign-in sheet will be submitted to Washoe County Planning Division along with the project application.

**Neighborhood Meeting
Comment Card**

Project Name: _____

Name: _____

Company/Organization (if applicable): _____

Address: _____

.....
Comment:

Meeting Conducted by Zoom - No comment cards in this format were received. Please see
chat text from Zoom and emailed questions, concerns and issues (provided with this file) as well
the audio recording of the meeting, all uploaded to the Washoe County Neighborhood Meeting
HUB for this project.

**Neighborhood Meeting
Comment Card**

Project Name: _____

Name: _____

Company/Organization (if applicable): _____

Address: _____

.....
Comment:

Project Name: _____
Meeting Location: _____
Meeting Date: _____

**Neighborhood Meeting
SUMMARY**

Virtual Meeting Option Provided: YES NO
Hosted By (Name): _____ (Company): _____
Contact (Email): _____ (Phone): _____

.....

Public Concerns:

1. _____
2. _____
3. _____
4. _____
5. _____

~~Changes Made to Proposal (if applicable):~~ Responses/Project Info to Public Concerns.

1. _____
2. _____
3. _____
4. _____
5. _____

Any Additional Comments:

Emailed questions from residents, prior to Neighborhood meeting

Following is a copy of the email text messages that have been received over the past 5 days, after the postcards were delivered to residents. A summary of the comment is provided before each copied message. We can discuss appropriate answers to these question tomorrow (Tuesday) when we meet.

Received 8/26

**Issues expressed - Addresses number of lines that will be in an existing corridor (I think)
Minimum clearance distance changes that may impact their property.**

Hello

I recently received a postcard regarding the NV Energy Line 1104 project and I have some questions. First would this project be adding 120kV to the current line or replacing the current line? Second, how would this line affect the minimal clearance distance for building? We own a parcel of land along these transmission lines and the line already greatly affects our allowable building area. If this new line affects it more, it will eliminate our ability to build our home. Please advise what might happen.

Thank you for any and all information you have.

Jessica Yurtinus

Received 8/25

**Issues Expressed - where does the line head north, near the West Meadows subdivision?
What will the addition of the 120 kV line look like?
Is the line needed specifically to serve a new project in the area?
Reason for O/H v. U/G?**

Hi Dave,

I have a few questions regarding the proposed NV Energy Line 1104.

I was just reviewing the parcel list from the provided mailer and cross referencing with the Washoe county mapping system and I'm not following the path of the line around the north end of West Meadows neighborhood. Specifically when does the line head north, and on what parcel?

Can you describe to me (or provide a photo) what an additional 120 V of power line will look like? Currently there are large lines on the north side of the West Meadows Community and I'm curious of the additional visual impact.

Is this power demand a result of the Stan Lucas' Mortensen Ranch development?

Finally, can you speak to the reason for the choice to use overhead powerlines vs underground. I suspect it has to do with cost, but I don't want to infer.

Thank you,

Ruth

Ruth Ebens | Patagonia Inc.

ruth.ebens@patagonia.com

Pronouns: she/her/hers

775.997.3451 | cell

Received 8/25

Issues expressed – High fire danger and why not go underground because of this. Issue with his Experiences with NV Energy maintenance in the past. Path close to Verdi ES. Visual impact and home values being reduced.

I live in the West Meadows subdivision in Verdi. I have some major concerns regarding the proposed project, "Line 1104". I would like to see this addressed at the upcoming Neighborhood Meeting on August 30, 2023.

1) Given the high fire danger in this area from long periods of heat and regular high winds, why are you not planning to take Line 1104 underground?

There are hundreds of homes in the hills around Verdi and hundreds more scheduled to be built. I have seen firsthand the devastation wind-powerline fires can cause; in Sonoma County California thousands of homes were lost because of this. These lines need to go underground.

2) NVE line powerline maintenance does not seem to be the best. I have reported unconnected stay-lines on wood power poles behind my house during high winds. They have never been fixed. On windy days these lines flap around like kites. (Picture of power pole attached.) These power poles are in line with the proposed project "Line 1104", per the information that I have seen. A) Will proposed Line 1104 replace this group of damaged wood power poles?, B) Will Line 1104 be an additional line?, C) What assurances does the neighborhood have that Line 1104 will be better care for than the current lines?

3) It seems that the proposed path of the overhead lines of 1104 is very close to Verdi Elementary school. Do high voltage lines, being close to a school (that will be growing) present a danger?

4) With the addition of Line 1104, the Verdi Valley close to the Truckee River will look like a spaghetti bowl of wires and poles. This will result in home values being reduced. My home has a view of the proposed project.

With addition of Line 1104, can other lines be removed, thus cleaning up the overall look of the area?

Thank you for the notice of this proposed project. Once again it greatly concerns me.

Thomas Silewicz

Received 8/24

Issues Expressed -

Wants copy of FEIS and ROD

Fire dangers

Escape route if fire breaks out.

Dear David

Thanks for your prompt response.

I would like more information such as a detailed map showing the construction roads as shown on page 13 of the attached document.

Also i would like to read the USFS final ROD and EIS documents.

The concern that I and other residents in West Reno-Somerset PUD and Verdi is all about wildfire danger. Since this project planning began in 2011 and was reviewed at a Washoe County Community Advisory Board in 2018, we have all learned more about transmission line failures during high wind causing terrible damage in areas such as Greenville California, Paradise California, and Carson City/Tahoe.

Did the ROD and EIS address wildfire dangers and the option to underground the transmission line?

You likely know that a large population increase in Verdi/West Reno/Somerset is underway through the recent District Court order involving the Mortensen Garson Overlay District [MGOD]. Recently the court ordered a 640 home project whose PUD will be intersected by the proposed transmission line. There are other developments underway in this area that has a high fire risk with only one southern evacuation route into I-80. You may know that about six high kV lines on poles cross I-80 at Mogul. If these lines should fail and close the road while current or the proposed Bordertown-Poeville line in our area cause a wildfire, our population will be stranded.

On Aug 23, 2023, at 5:42 PM, David Snelgrove <dsnelgrove@cfareno.com> wrote:

Warren:

Attached is the transmission line route map that we have uploaded to the Washoe County Neighborhood Meeting HUB site. It is not incredibly detailed but should give a general idea of location.

I hope this helps. Please feel free to reach out to me if you have any other questions.

Thank you.



A DBE/MBE/SBE Certified Company

David Snelgrove, A.I.C.P. | Planning Manager

CFA, Inc. | Direct: (775) 856-7073 | [Email: dsnelgrove@cfareno.com](mailto:dsnelgrove@cfareno.com)

1150 Corporate Blvd. | Reno, Nevada 89502



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From: WARREN LYONS <warrenlyons@verizon.net>

Sent: Wednesday, August 23, 2023 5:35 PM

To: David Snelgrove <dsnelgrove@cfareno.com>

Cc: Warren Lyons <warrenlyons@verizon.net>

Subject: Nv energy line 1104

REceived the email notice. The links to a meeting do not provide a map showing the route for the line

Please send me a map showing the proposed line

Warren Lyons

warrenlyons@verizon.net

215-787-7922

9052 Cabin Creek Trail

Reno NV 89523

Received 8/24

**Issues expressed – Doesn't like powerline project due to limited mapping information
Wildfire concern.**

I strongly object to the line as currently plotted on the map provided. In part due to the lack of existing monuments/roadway markers and property lines. Secondly overhead lines have been the primary cause of wildfires. These lines should be buried underground and brought in the most direct way to Interstate 80. They should not transverse the community of Verdi which has burned a number of times in its history.

As proposed I think you put the community of over 2000 people at extreme risk.

--

Philip F Povey

Received 8/25 –

Issues Expressed - Will Additional poles and lines be added?

Mr. Snelgrove,

We received a Notice of Neighborhood Meeting to review the proposed 120kV overhead power transmission line proposed between Bordertown Substation and Verdi Substation. Does this include adding, or upgrading a line? Does it include installing new poles or using existing infrastructure? We are unable to access the website for project information so please advise what this entails.

We look forward to hearing from you.

Thank you,

Sally and Ken Oliver
370 River Pines Dr.
Verdi, NV 89439

Received 8/23 –
Issues Expressed -

Couldn't figure out the route or impact to his property.
I sent him the FEIS and ROD for a greater definition of the line location.
He wants to know what impact this will have on his property. Any graphics could help.

Dave,

Im not sure we've spoken since when I did The Eddy, but good to re-initiate conversations.

I am reaching out because got a notice in the mail that there will be a 120 KVA power line improvement project between the aforementioned locations, which is a deceiving description because in searching the APNs listed it will be going thru my backyard. The APNs are all over the place and dont make a ton of sense as presented, but it is clear that the power lines may be adding to/replacing the current lines running adjacent to my residence at 038-280-45.

I'm trying to keep my wife at bay, and as a developer avoid the immediate NIMBY response, so I was hoping you could send me some more detailed info prior to the Neighborhood meeting on 8/30/23. If we need to have a call to add context, please feel free to reach out.

Please and Thank You.



Kurt Stitser, LEED AP
Chief Operating Officer
(775) 737-3301

Zoom Chat Report

18:03:21 From Adrian Argyris To Everyone:

I have people contacting me saying they can not get into the meeting

18:03:57 From Warren Lyons To Everyone:

The cost benefit analysis of undergrounding the proposed transmission line as noted in the EIS and USFS Record of Decision, and in statements made to prior Washoe County community advisory boards, concluded that undergrounding is 7 to 10 times the cost of overheading.

This analysis is missing the issue of wild fire risk caused by transmission line failures. With over 8000 homes at c. \$500 per home equals 4 billion. We need to revisit the option to underground.

18:04:00 From Kurt Stitser To Everyone:

have them use the Meeting ID and Passcode rather than trying to type in the hyperlink

18:10:31 From Kurt Stitser To Everyone:

Once the proposed power line connects into existing transmission corridors near both Bordertown and Verdi, will the new line(s) be suspended from the same power pole structures, or will new power poles need to be installed/replaced?

18:15:08 From Casey Coffman To Everyone:

Will this project affect easement corridors in the Verdi Lake Estates neighborhood?

18:20:20 From Warren Lyons To Everyone:

Verdi-Somerset is in ward 5

18:20:46 From Kurt Gensheimer To Everyone:

Can you please provide a link to the USFS record of decision here in the chat? Thanks.

18:22:49 From Warren Lyons To Everyone:

Please address the option for under grounding to reduce risk

18:23:31 From Kenny Brown To Everyone:

<https://www.fs.usda.gov/project/?project=36656&exp=overview>

18:23:47 From D Kerr To Everyone:

What home development is near 15 & 16

18:30:38 From Kenny Brown To Dave Snelgrove(Privately):

Kelle George has her hand raised

18:35:37 From Casey Coffman To Everyone:

how do the dimensions of the new Verdi poles compare to the existing ones

18:39:18 From Casey Coffman To Everyone:

once again can you tell us about the height and width of the new poles

18:51:41 From Warren Lyons To Everyone:

Could we get a photo of #16 the triple turn tower

18:55:14 From Ruth Ebens To Everyone:

In this day and age, do we not think to the environment (fire potential) and future and run lines under ground?

18:55:45 From Adrian Argyris To Everyone:

Thank you -

Collated chat and zoom meeting questions

Kurt Stitser

Once the proposed power line connects into existing transmission corridors near both Bordertown and Verdi, will the new line(s) be suspended from the same power pole structures, or will new power poles need to be installed/replaced?

Voltage of new lines? Similar to existing?

Casey Coffman

Will this project affect easement corridors in the Verdi Lake Estates neighborhood? Reduce? Enlarge?

How do the dimensions of the new Verdi poles compare to the existing ones?

Once again can you tell us about the height and width of the new poles. Any sounds associated with lines?

Warren Lyons

Please address the option for under grounding to reduce risk

Could we get a photo of #16 the triple turn tower

D. Kerr

What home development is near 15 & 16

Are lines 17 - 20 near any home developments?

How close are lines 17-20 to the Stan Lucas project? Will it impact the Cliffs?

Adrian Argyrsis

Lives on Hill Lane. Line materials. Triple coated line?

Kellie George

Airplane lights, markers?

Different routes? How was route determined? Road alignments determined?

Sally Oliver

Will structures be removed?





How tall will structures be? How will affect views?





























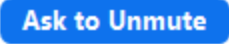

Jan Mooney

Pole on property line. Dark Brown, metal, tall.

Kendall Inskip

Access property through an ATV track. Widening of the dirt road. Timeframe for road widening in the back country and will they be able to use it.

 <p>Kenny Brown</p> <p><small>Dave Snelgrove</small></p>	 <p>Ken and Sally Ol...</p> <p><small>Jan Mooney</small></p>		
 <p>Warren Lyons</p> <p><small>Kendall Inskip</small></p>	 <p>Corey Tague</p> <p><small>Kellie George</small></p>		
<p>Laura Clifford</p> <p><small>Laura Clifford</small></p>	<p>Kurt Gensheimer</p> <p><small>Kurt Gensheimer</small></p>	<p>Casey Coffman</p> <p><small>Casey Coffman</small></p>	<p>D Kerr</p> <p><small>D Kerr</small></p>
<p>Ruth Ebens</p> <p><small>Ruth Ebens</small></p>			

- KB** Kenny Brown (Co-host, me)  
- DS** Dave Snelgrove (Host)    
- CT** Corey Tague  
- KA** Ken and Sally Oliver  
- CC** Casey Coffman  
- DK** D Kerr  
- JM** Jan Mooney  
-  Kellie George  
-  Kendall Inskip  
- KG** Kurt Gensheimer  
- LC** Laura Clifford  
- RE** Ruth Ebens  
- WL** Warren Lyons  

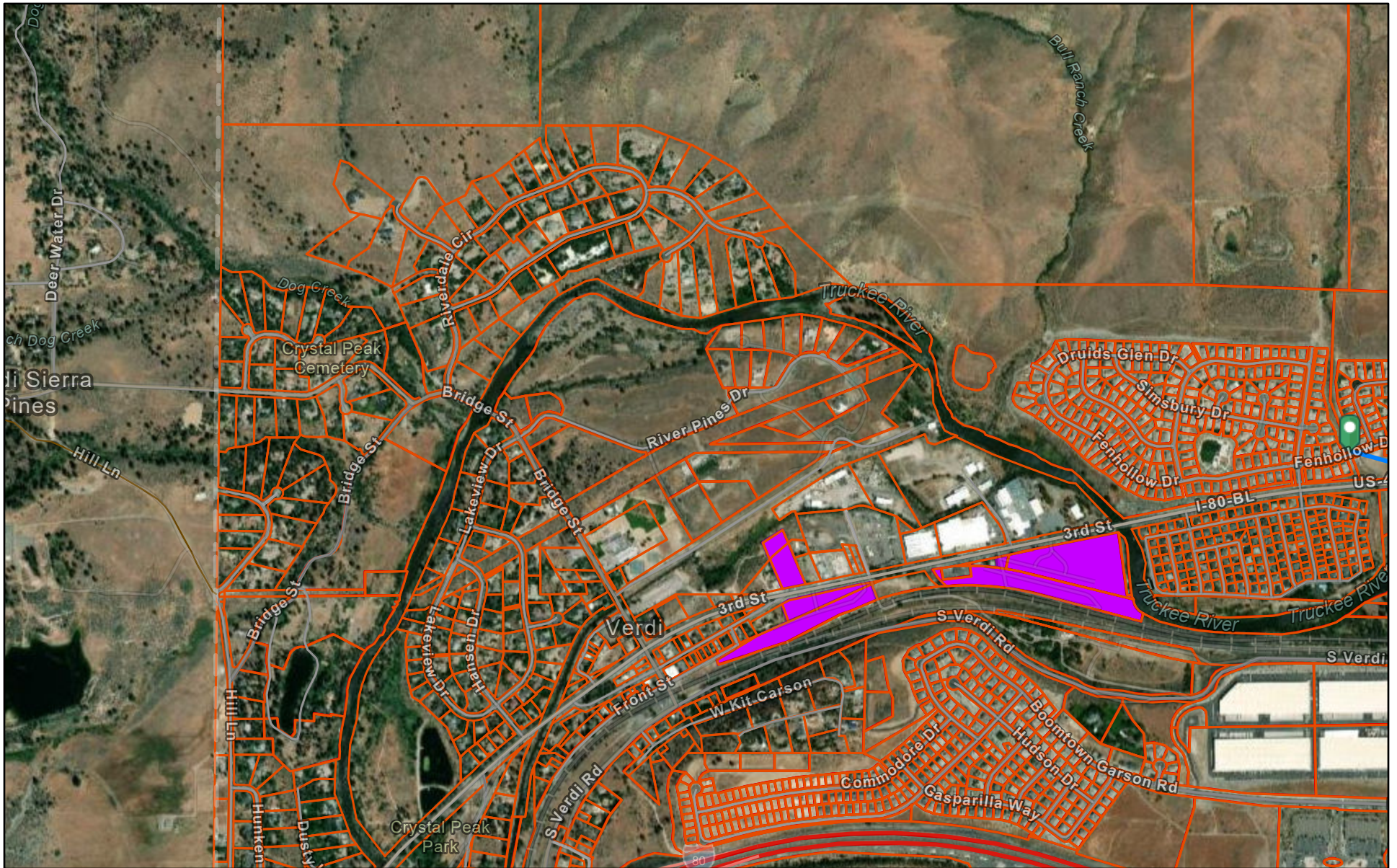
User Name	User Email	Meeting ID	Topic	Host
Dave Snelgrove	dsnelly@charter.net	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Kenny Brown	kbrown@charter.net	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Warren Lyons	warrenlyons@verizon.net	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Corey Tague	corey.tague@nvenergy.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Laura Clifford	laura.clifford@nvenergy.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Adrian Argyris	dawgiewalks54@yahoo.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Casey Coffman	casey@trueroofingca.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Kurt Gensheimer	kurt@sierratrails.org	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Kendall Inskip	kinskip@washoeschools.net	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Kellie George	kellie@kelliergeorge.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Kurt Stitser	kstitser@realmconstructors.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Casey Coffman	casey@trueroofingca.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Jan Mooney	jmooney7308@att.net	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Adrian Argyris	dawgiewalks54@yahoo.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
D Kerr	kerrd@jbc80.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Ken and Sally Oliver	kandsoliver@gmail.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove
Ruth Ebens	ruth.ebens@patagonia.com	818 4835 4749	NV Energy Line 1104 - Neighborhood Meeting	Dave Snelgrove

Host Account Name	Participants	Start Time	End Time	User Join Status	Join Time	Leave Time	Screen Share Used
Dave Snelgrove	1	8/30/2023 17:13	8/30/2023 19:03	In Meeting	8/30/2023 17:24	8/30/2023 17:25	No
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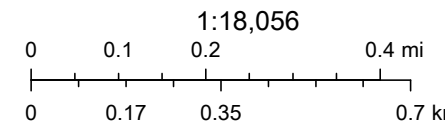
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| Roads | — LOCAL STREET | — DIRT ROAD |
| — INTERSTATE | — MAJOR ROAD | — Other |
| — RAMP | — CUL-DE-SAC | — Parcels - Washoe County |

- Parcels - City of Reno
- Mobile Home Communities



Esri Community Maps Contributors, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of

NV Energy 1104 Line - Mobile Home Park Addresses

APN	Park Name	Property Owner	Unit Address(es)	City	State	Zip
038-060-20	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 5	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 6	Reno	NV	89439
038-071-06	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 1	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 2	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 3	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 4	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 5	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 6	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 7	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 8	Reno	NV	89439
	MHM Mobile Home Park	H A N Z LLC	1100 Highway 40 W 9	Reno	NV	89439
	038-075-36	Crystal Trailer Park	Highfield, Glen R	1155 Highway 40 W	Reno	NV
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W 2A	Reno	NV	89439
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W 3A	Reno	NV	89439
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W 4A	Reno	NV	89439
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W 5A	Reno	NV	89439
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W 6A	Reno	NV	89439
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W 7A	Reno	NV	89439
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W 8A	Reno	NV	89439
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W A	Reno	NV	89439
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W B	Reno	NV	89439
Crystal Trailer Park		Highfield, Glen R	1155 Highway 40 W C	Reno	NV	89439
038-075-37	Crystal Trailer Park	UNION PACIFIC RAILROAD COMPANY	1155 HIGHWAY 40 W 10B	Reno	NV	89439
	Crystal Trailer Park	UNION PACIFIC RAILROAD COMPANY	1155 HIGHWAY 40 W 11B	Reno	NV	89439
	Crystal Trailer Park	UNION PACIFIC RAILROAD COMPANY	1155 HIGHWAY 40 W 12B	Reno	NV	89439
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	Crystal Trailer Park	UNION PACIFIC RAILROAD COMPANY	1155 HIGHWAY 40 W 1BB	Reno	NV	89439

	Riverbelle Trailer Park	UNION PACIFIC RAILROAD COMPANY	1795 HIGHWAY 40 W 59	Reno	NV	89439
	Riverbelle Trailer Park	UNION PACIFIC RAILROAD COMPANY	1795 HIGHWAY 40 W 60	Reno	NV	89439
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	Riverbelle Trailer Park	UNION PACIFIC RAILROAD COMPANY	1795 HIGHWAY 40 W 74	Reno	NV	89439



United States
Department of
Agriculture

Forest Service



March 2018

Final Environmental Impact Statement

Bordertown to California 120 kV Transmission Line Project

Humboldt-Toiyabe National Forest, Carson Ranger District
Sierra County, California, and Washoe County, Nevada



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Title: Bordertown to California 120 kV Transmission Line Project
Final Environmental Impact Statement
Sierra County, California and Washoe County, Nevada

Lead Agency: USDA, Forest Service

Cooperating Agencies: Bureau of Land Management, Nevada Department of Wildlife, Truckee Meadows Planning Agency, Washoe County, Sierra County, and City of Reno

Responsible Official: William A. Dunkelberger, Forest Supervisor
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Abstract: The U.S. Forest Service, Humboldt-Toiyabe National Forest proposes to issue a special use permit for the construction, operation, and maintenance of a new 120 kilovolt overhead transmission line connecting the Bordertown and California substations, west of Reno, Nevada. The Bureau of Land Management, Eagle Lake Field Office would issue a right-of-way grant to expand the Bordertown Substation to accommodate the new transmission line. Temporary improvements to existing roads and the construction of new temporary roads would allow for the installation and maintenance of the transmission line.

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EXECUTIVE SUMMARY

Introduction

The United States Forest Service (USFS), Humboldt-Toiyabe National Forest has prepared this Environmental Impact Statement (EIS) pursuant with the requirements of the National Environmental Policy Act (NEPA) and its implementing regulations issued by the Council on Environmental Quality (40 Code of Federal Regulations 1500-1508). The USFS is the lead agency for this EIS, and the Bureau of Land Management (BLM) Eagle Lake Field Office, City of Reno, Washoe County, Sierra County, Truckee Meadows Regional Planning Agency, and Nevada Department of Wildlife are cooperating agencies.

This EIS is intended to inform the public and disclose the direct, indirect, and cumulative environmental impacts that would result from the construction, operation and maintenance of a new electric transmission line proposed in Sierra County, California, and Washoe County, Nevada.

Summary of the Proposed Project

The proposal is to construct a new 120-kilovolt electric transmission line between the existing Bordertown and California substations. Depending on the alignment selected, the transmission line would be approximately 10.3 to 18.0 miles long. Expansion of the existing Bordertown Substation is proposed to accommodate the transmission line.

The proposed transmission line would require a Special Use Permit (SUP) from the USFS for a transmission line right-of-way (ROW) across National Forest System (NFS) land and a ROW Grant from the BLM for the substation expansion and section of transmission line across BLM-administered public land. Easements would be acquired on private land that would be crossed by the proposed transmission line. Private land would remain under ownership of the title holder, and private property owners would be compensated for the easement. NV Energy would own, operate, and maintain the proposed transmission line. The ROW and easements would measure 90 feet in width, with the transmission line generally in the center.

While the proposed transmission line would be constructed within the ROW/easements, temporary ground disturbance required for construction would occur within and outside of the ROW/easements. In general, ground disturbance outside of the ROW would consist of construction of access roads, widening existing roads, use of staging areas, and construction within transmission wire setup sites. The USFS would issue a temporary SUP for temporary roads and construction activity located outside of the transmission line ROW. Restoration would be required at the completion of construction to recontour and revegetate areas disturbed areas in the project area. Trees beneath the transmission line and within 21 feet of any direction of the transmission line conductors would be removed for safety reasons. Trees within the ROW would continue to be removed through the operational life of the transmission line.

Project construction would commence as soon as all necessary agency approvals and permits are obtained and all ROW authorizations and easements are secured. Construction of the project would take 8 to 12 months. NV Energy would inspect the transmission line annually to determine if maintenance is needed. An inspection that involves climbing pole structures is anticipated once

every 10 years. Restoration would be implemented following any maintenance activities that result in or require ground disturbance.

Project Alternatives

The transmission line alternative originally proposed, referred to as the “Stateline Alternative”, was eliminated from detailed analysis in this EIS and is not considered a viable alternative because it would be either environmentally unreasonable or technically infeasible to implement (see **Section 2.11.1**). Four action alternatives were developed and are evaluated in this EIS: the Mitchell Alternative, the Peavine Alternative, the Poeville Alternative, and the Peavine/Poeville Alternative (**Figure 2.1-1**). The Mitchell and Peavine alternatives, as well as the Stateline Alternative were initially developed from a Constraint Study prepared by JBR Environmental Consultants, Inc. (JBR) (2009a). The Mitchell Alternative was revised after dismissal of the Stateline Alternative to avoid routing on the portion of the Stateline Alternative that was no longer feasible. The Poeville Alternative was developed by the USFS interdisciplinary team in order to maximize compliance with management goals and directives of the *Land and Resource Management Plan* for the Toiyabe National Forest (1986). The Peavine/Poeville Alternative was developed in response to public scoping comments.

The NEPA requires that an EIS include analysis of the “No Action Alternative,” against which the effects of the “action” alternatives can be evaluated and compared. Accordingly, the No Action Alternative is evaluated as an alternative in this EIS. Under the No Action Alternative, there would be no new transmission line, no substation expansion or temporary access roads constructed between the Bordertown and California substations.

A number of other alternatives were considered and eliminated from further analysis in this EIS. These alternatives and the reasons for their elimination from further analysis are summarized in **Chapter 2**.

Agency Selected Alternative

The Peavine/Poeville Alternative is the Agency Selected Alternative. This alternative would use a regionally designated utility corridor east of the California Substation and federally designated portions of the Section 368 Energy Corridor near Bordertown Substation. This alternative minimizes routing across private land and avoids a property listed on the National Register of Historic Places (NRHP). This route maximizes crossing land previously disturbed by wildland fire and minimizes crossing pine forest communities and avoids designated critical habitat for Webber ivesia (*Ivesia webberi*), a threatened plant species protected under the Endangered Species Act (ESA).

Environmentally Preferable Alternative

The No Action Alternative is the environmentally preferable alternative because it would not result in disturbance to vegetation, soils, or habitat loss. There would be no tree removal, and no road widening or restoration efforts needed to restore vegetation following construction. There would be no risk to new noxious weed establishment. There would be no effects to habitat that support pollinator habitat for sensitive plant species. There would be no effect to cultural resources. This alternative does not meet the purpose and need for the project (**Section 1.3**).

Issues Summary

Using the comments from the public and other agencies, the interdisciplinary team developed a list of issues to address. The following key issues were identified during scoping for this project:

Visual Resource Issue: Transmission line power poles and conductor wires may reduce the existing scenic quality in the proposed ROW/easement and interrupt the scenic integrity of the viewshed.

- a. Issue measured by: Loss of the visual quality and scenic attributes of the characteristic landscape at key observation points (KOPs).
- b. Issue measured by: Consistency with the goals and objectives of the existing visual quality objectives (VQOs) assigned to the NFS land and visual resource management (VRM) Class III designation assigned to BLM-administered public lands that would be crossed by an action alternative.
- c. Issue measured by: Number of residences within 0.25 mile of the proposed transmission line.
- d. Issue measured by: Acres of forest vegetation cleared for the proposed transmission line.

Private Property Value Issue: The presence of a new transmission line adjacent to or crossing private land may reduce private property values.

- a. Issue measured by: Number of private property parcels crossed by the proposed transmission line ROW/easement.
- b. Issue measured by: Estimated depreciation of property value.
- c. Issue measured by: Consistency with local land use plans.

Public Health and Safety Issue: A new transmission line could increase electromagnetic fields that may affect the health and safety of children at Verdi Elementary School and the public living in rural communities of Verdi, Long Valley, and North Virginia Street.

- a. Issue measured by: Measurement of maximum electric field during project operation.
- b. Issue measured by: Measurement of maximum magnetic field during project operation.
- c. Issue measured by: Risk to public health and safety.

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CHAPTER 1 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The United States Forest Service (USFS), Humboldt-Toiyabe National Forest, Carson Ranger District has prepared this Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This EIS is intended to inform the public and discloses the direct, indirect, and cumulative impacts that would result from the Proposed Action and alternatives to the Proposed Action. Additional documentation, including the detailed analyses of project-area resources, may be found in the planning record located at the Humboldt-Toiyabe National Forest, 1200 Franklin Way, Sparks, Nevada 89431.

1.2 BACKGROUND

NV Energy filed an Application for Transportation and Utility System and Facilities on Federal Lands (Standard Form 299), seeking authorization to construct, operate, and maintain a transmission line across National Forest System (NFS) land managed by the Humboldt-Toiyabe National Forest and public land administered by the Bureau of Land Management (BLM). The application included the submittal of a Preliminary Plan of Development (JBR Environmental Consultants, Inc. [JBR] 2009b) describing the project facilities, right-of-way (ROW) requirements, construction methods, and operations and maintenance activities. If this project is approved, the USFS would issue a Special Use Permit (SUP) for a transmission line ROW, and the BLM would issue a ROW Grant. For temporary roads and construction access located outside of the transmission line ROW, the USFS would issue a temporary SUP. NV Energy would purchase easements from private landowners for construction and operation of the line across private property.

Prior to filing an application with the USFS, NV Energy conducted a Geographic Information System (GIS) analysis to identify locations where a transmission line would be undesirable (constraints), as well as locations where it would be more desirable (opportunities). The study is documented in the *NV Energy Bordertown Substation to California Substation 120 kV Transmission Line Constraint and Opportunity Study (Constraint Study)* (JBR 2009a).

1.2.1 Project Area

The project area is located in Washoe County, Nevada, and Sierra County, California, west and northwest of the city of Reno, Nevada (**Figure 1.2-1**). The northern boundary of the project area is near Bordertown, Nevada, and U.S. Highway 395 and the southern boundary is near Interstate 80 between Verdi, Nevada, and Mogul, Nevada. The western boundary is approximately three miles west of and roughly parallel with the California state line and the eastern boundary extends to the Peavine area generally east of Peavine Peak.

1.2.2 Electrical System Overview

Key components of an electrical system include generation, transmission, voltage regulation, and distribution to consumers. Electricity is generated at power plants and distributed via overhead transmission lines to substations. Substations regulate or reduce the electric voltage to levels that can be conveyed to the customer through distribution lines. A graphic representation of the

electrical distribution system that provides customers in Verdi and west Reno with power is displayed on **Figure 1.2-2**.

As **Figure 1.2-2** shows, bulk power is generated at the Tracy Power Plant and from other sources transmitted from northern California. Bulk power is distributed to various substations in Reno as 345 kilovolt (kV) energy via overhead transmission lines, such as the Alturas 345 kV transmission line. Bulk power serving customers in west Reno is reduced to 120 kV energy at the North Valley Road Substation, which is located in north-central Reno. The #141 and #142 120 kV transmission lines are used to distribute the 120 kV energy between the North Valley Road Substation and the Northwest and Reno substations, respectively.

1.3 PURPOSE AND NEED FOR ACTION

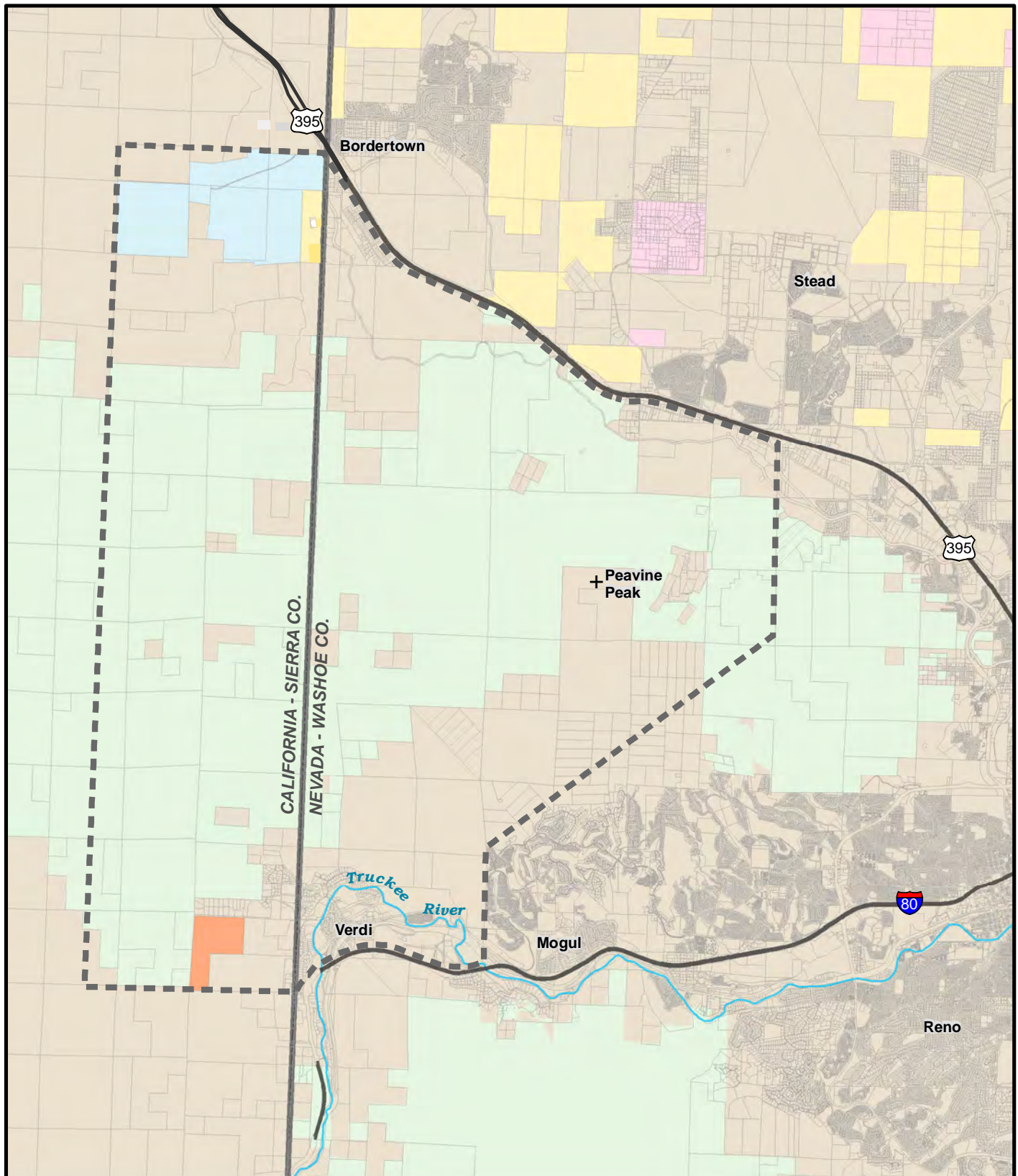
Under the Council on Environmental Quality (CEQ) Code of Federal Regulations (CFR) for the NEPA (40 CFR Section 1502.13), an EIS must identify the underlying purpose and need to which the lead agency is responding to in proposing the action and alternative actions.

The purpose of the project is to provide a backup power line that would continue to serve the west side of Reno in the event that the existing power lines currently serving the area fail. Installing a power line between the Bordertown and California substations will allow NV Energy to provide the power needed to meet reliability requirements of their electrical system.

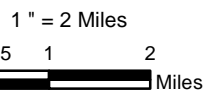
The North American Electric Reliability Corporation (NERC) requires NV Energy to provide reliable bulk transmission capacity consistent with Standard TPL-004-0. Currently, almost all of the bulk power serving the electric load in the West Reno/Verdi area is transmitted from the North Valley Road Substation on the 120 kV #141 line (turns into the #114 line) and #142 line (turns into the #106 line). Energy demand in the West Reno/Verdi area during peak load periods can push beyond the transmission capacity limits of these existing lines. Should concurrent failure of the #141 and #142 transmission lines occur, load growth in the West Reno/Verdi area will increase the risk of an overload of the remaining 120 kV lines in the system, which could trigger a cascading failure.

The NERC establishes reliability standards for bulk power systems and has the legal authority to enforce reliability standards with all users, owners, and operators¹. Compliance with NERC standards are mandatory, and the Federal Energy Regulatory Commission (FERC) may assess substantial civil penalties for violations of NERC standards. NERC Standard TPL-004-0 (NERC 2005a) requires NV Energy to plan, operate, and maintain their bulk energy transmission system so that it can survive an event that causes concurrent failure of two system elements. The standard applicable to the Bordertown to California 120 kV Transmission Line Project is that the system must be able to survive an event that causes concurrent failure of two system elements with no loss of load, no overloads, and no voltage changes greater than five percent.

¹ NERC's mission is to ensure the reliability of the North American bulk power system. NERC is certified by the Federal Energy Regulatory Commission (FERC) to establish and enforce reliability standards for bulk power systems.



- Project Area
- Land Ownership**
- U.S. Forest Service
- Private Land
- U.S. Bureau of Land Management
- California Dept. of Fish and Wildlife
- U.S. Dept. of Defense
- U.S. Bureau of Reclamation



**FIGURE 1.2-1
PROJECT LOCATION**

**BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS**

To meet the NERC reliability standards, NV Energy needs redundancy in the 120 kV system that supplies bulk power to the West Reno/Verdi area. An alternate transmission route to the West Reno/Verdi area is needed that does not solely rely on the #141 and #142 transmission lines. The need for the project was illustrated during the summer of 2007 when the electric load for the area reached 141 megawatts (MW). During the same period, the electric load in North Tahoe was 57 MW, requiring a total of 198 MW of load. This load was served primarily by the #141 and #142 transmission lines because these were the only lines that supply bulk energy to the area. If these lines had failed, the remaining lines in the 120 kV system would have overloaded, resulting in an uncontrolled cascading failure, a clear violation of NERC Standard TPL-004-0. Every year since 2007, NV Energy has identified bulk electrical transmission reliability problems on the west side of Reno.

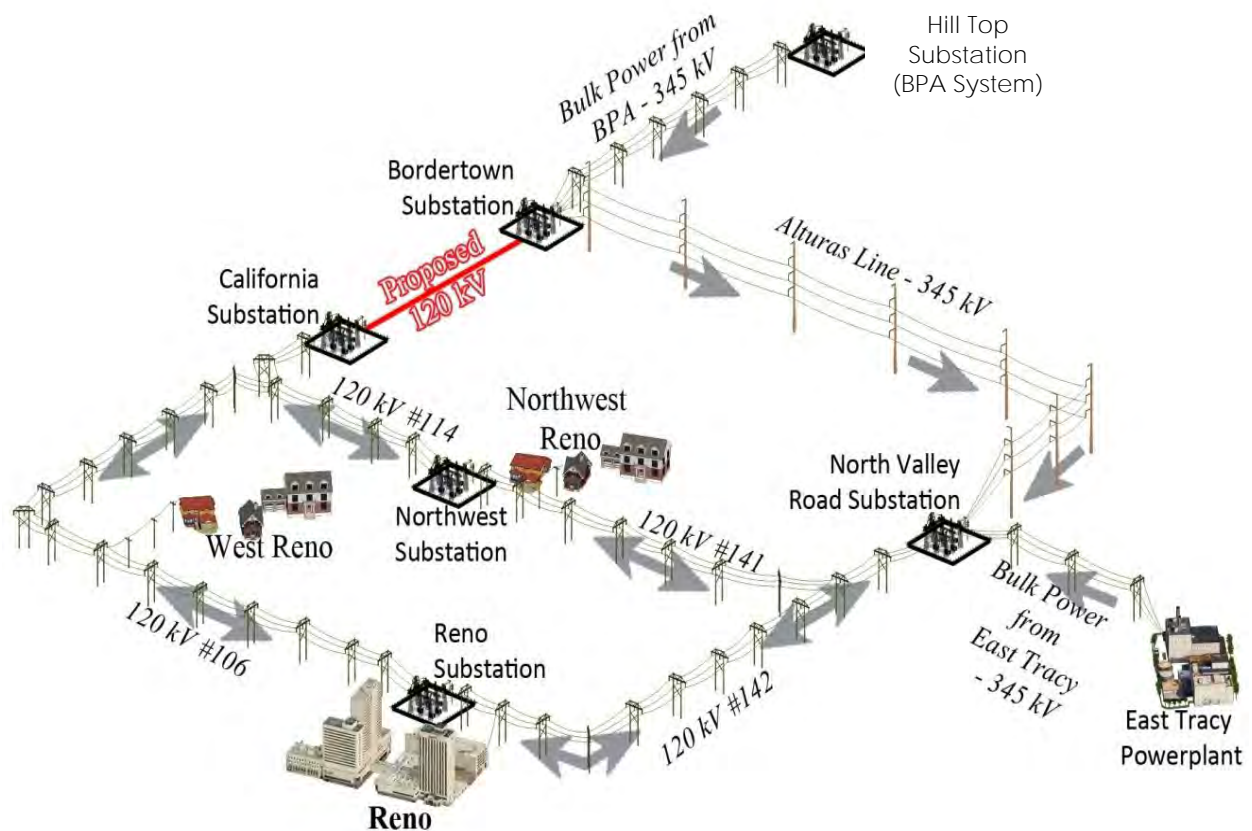


Figure 1.2-2 Transmission System Overview

In 2012, Electrical Consultants, Inc. an independent, third-party evaluated the purpose and need for the project to determine if the project is needed to address load growth in west Reno. The evaluation modeled load demand on the #141 and #142 transmission lines. Electrical Consultants, Inc. confirmed that the project is needed and also asserted that there is a greater need for the project today than when it was originally proposed. Electrical Consultants, Inc. identified potential violations of both NERC TPL-003-0 and TPL-002-0 for the existing system in Reno without the

construction of the project. NERC Standard TPL-003-0 (NERC 2005c) requires NV Energy to plan, operate, and maintain their bulk energy transmission system so that it can survive an event that causes concurrent failure of two system elements. NERC Standard TPL-002-0 (NERC 2005b) required the bulk energy transmission system to survive the loss of a single system element. Since Electrical Consultants, Inc. completed the evaluation in 2012, NERC TPL-003-0 and TPL-002-0 have both been superseded by NERC TPL-004-0.

1.4 PROPOSED PROJECT

The primary components of the project include:

- Construction, operation, and maintenance of a 120 kV overhead transmission line between the existing Bordertown and California substations in Sierra County, California;
- Expansion of the Bordertown Substation facility;
- Widening existing roads and construction of new temporary access roads needed for installation of the transmission line; and
- Restoration activities associated with construction related disturbance.

1.5 DECISION FRAMEWORK

The project area contains NFS land, BLM-administered public land, and private land. The responsible official(s) will review the alternatives and environmental consequences in this EIS and make the following decisions only on NFS land and BLM-administered public land:

- To select a ROW and authorize the construction, operation, and maintenance of a 120 kV power transmission line across NFS land and across BLM-administered land, and authorize the expansion of the Bordertown Substation located on BLM-administered public land. Project design features, mitigation measures, and monitoring would be required to reduce effects to NFS land and BLM-administered public land and to restore areas disturbed during construction of the transmission line. A temporary SUP would be issued for temporary roads outside of the transmission line ROW that are needed for construction access on NFS land; or
- Not select a transmission line corridor and not issue a permit.

1.6 MANAGEMENT DIRECTION

1.6.1 U.S. Forest Service

Detailed direction for special uses proposal, application, and authorization process for occupancy and use of NFS land is provided in Chapter 10 of Forest Service Handbook (FSH) 2709.11. According to FSH 2709.11, “the objectives of the special uses application and authorization process are to:

- Provide timely responses to proponents and applicants requesting use of National Forest System lands.
- Provide a consistent decision making process for special use applications.

- Ensure that authorizations to use and occupy National Forest System lands are in the public interest (36 CFR part 251, Subpart B).
- Ensure that authorizations to use and occupy National Forest System lands comply with Forest land and resource management plans.”

The National Forest Management Act of 1976 (NFMA), codified in Title 16 of the United States Code (USC) sections 1600 through 1614 (16 USC 1600 et seq.), is the primary statute governing the administration and planning of NFS land. The NFMA requires the USFS to prepare management plans for all NFS land using a systematic and interdisciplinary approach to resource management.

The Toiyabe Forest Plan, as amended (Forest Plan) (USFS 1986) provides forest-wide standards and guidelines for the management of NFS land within the project area. The standards and guidelines for Special Uses that are applicable to the project are listed below.

4- Manage all utility, road, and transmission corridors in accordance with plans and permits issued for their construction and use. When applications for utility ROW are received, the first priority will be to utilize existing corridors (page IV-62).

5- An environmental analysis will be required prior to adding new facilities to existing corridors. The integrity of visual quality for the corridor will be maintained to the highest standard to minimize adverse resource and environmental impacts. Any new utility corridor not identified in this Plan will be handled through the NEPA process (page IV-62).

6- National Forest System land will not be available for uses that can be accommodated on private land (page IV-62).

13- Utility lines generally will be buried if necessary to meet visual quality objectives. Exceptions to underground utility lines will be allowed where technological, economic, or resource protection requirements indicate that such lines should be overhead (page IV-64).

1.6.2 Bureau of Land Management

Approximately 8.1 acres of the project would occur on BLM-administered public land and managed in accordance with the Eagle Lake Resource Management Plan (RMP) (BLM 2008b). The RMP has a stated goal for ROW management:

Manage public lands to support the goals and objectives of all resource programs and respond to public requests for land use authorizations. Conduct ROW transactions, decisions, and actions in a manner that would prevent adverse impacts to scenic, ecological, water, air, scientific, and archaeological or historical values.

Where the project occurs on BLM-administered public land, applicable management direction in the RMP includes the following:

- New ROWs would be located within or adjacent to existing ROWs, to the extent that is practicable, in order to minimize adverse environmental impacts;

- Future BLM-granted ROWs, including utility corridors would be consistent with U.S. Fish and Wildlife Service (USFWS) guidance to minimize effects to migratory birds; and
- Use of the Alturas transmission line route (along U.S. Highway 395) for future ROW development.

1.7 PUBLIC INVOLVEMENT

A Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on November 21, 2011 (*Federal Register* Volume 76, Number 224). A scoping notice describing the project was mailed to residents and interested parties on November 14, 2011, and February 2, 2012. The second mailing was needed to inform residents near the California Substation who were inadvertently missed during the November mailing. To gain further participation from the public the USFS hosted three public meetings December 6, 2011, in Cold Springs, Nevada, and December 8, 2011, and February 23, 2012, in Verdi, Nevada. In total, 60 people attended the scoping meetings. In addition, presentations were made to the following groups: North Valleys Citizen Advisory Board (07/11/11 and 01/09/12), Verdi Township Citizen Advisory Board (07/21/11 and 01/05/12), Ward 5 Northwest Neighborhood Advisory Board (11/14/11), Ward 4 North Valleys and Northeast Neighborhood Advisory Board (11/11/11), Reno City Council (11/16/11), Washoe County Commission (12/13/11), and Sierra County Board of Supervisors (08/16/11).

A Notice of Availability (NOA) for the Draft EIS was published in the *Federal Register* on December 12, 2014 (*Federal Register* Volume 79, Number 239). The Draft EIS was available December 13, 2014, through January 26, 2015, for a 45-day public comment period. Interested and affected individuals were notified by email and regular mail. A public meeting was held January 13, 2015, at the Northwest Reno Public Library where 26 people attended. A presentation was made to the North Valleys Citizen Advisory Board on February 9, 2015.

Public notification of the Proposed Action was posted on the Humboldt-Toiyabe National Forest Schedule of Proposed Actions website, starting November 21, 2011, and continuing through the present at <http://www.fs.usda.gov/goto/htnf/bordertownline>.

Additional information on public involvement can be found in **Chapter 4**.

1.8 ISSUES ADDRESSED IN THE EIS

An interdisciplinary team of USFS resource specialists identified issues to address based on comments from the public and other agencies that were received from scoping and the Draft EIS comment period. Issues are defined as a point of disagreement, debate, or dispute about the Proposed Action based upon the effects of that action. Key issues were defined as those directly or indirectly caused by implementing the Proposed Action and are used to formulate alternatives, formulate design features, or prescribe mitigation measures or monitoring requirements. Issues that are not addressed are those that are: (1) outside the scope of the Proposed Action; (2) already decided by law, regulation, Forest Plan, or other higher level decision; (3) irrelevant to the decision to be made; or, (4) conjectural and not supported by scientific or factual evidence.

Key issues were addressed three ways: (1) developing an alternative to alter resource tradeoffs; (2) developing project design features or requiring mitigation to reduce impacts to a resource; and, (3)

disclosing and comparing the relative difference in resource effects between alternatives. One or more of these methods may be used to address an issue.

The following key issues were identified during scoping for this project and are addressed in **Chapter 3**.

Visual Resource Issue: Transmission line power poles and conductor wires may reduce the existing scenic quality in the proposed ROW/easement and interrupt the scenic integrity of the viewshed.

- a. Issue measured by: Loss of the visual quality and scenic attributes of the characteristic landscape at key observation points (KOPs).
- b. Issue measured by: Consistency with the goals and objectives of the existing visual quality objectives (VQOs) assigned to the NFS land and visual resource management (VRM) Class III designation assigned to BLM-administered public lands that would be crossed by an action alternative.
- c. Issue measured by: Number of residences within 0.25 mile of the proposed transmission line.
- d. Issue measured by: Acres of forest vegetation cleared for the proposed transmission line.

Private Property Value Issue: The presence of a new transmission line adjacent to or crossing private land may reduce private property values.

- a. Issue measured by: Number of private property parcels crossed by the proposed transmission line ROW/easement.
- b. Issue measured by: Estimated depreciation of property value.
- c. Issue measured by: Consistency with local land use plans.

Public Health and Safety Issue: A new transmission line could increase electromagnetic fields that may affect the health and safety of children at Verdi Elementary School and the public living in rural communities of Verdi, Long Valley, and North Virginia Street.

- a. Issue measured by: Measurement of maximum electric field during project operation.
- b. Issue measured by: Measurement of maximum magnetic field during project operation.
- c. Issue measured by: Risk to public health and safety.

The Proposed Action has the potential to effect the following resources within the project area. Effects to these resources are described in further detail in **Chapter 3** along with the analysis of visual resources, private property and public health and safety.

- Vegetation;
- Noxious and invasive weed infestations;

- Special status plants;
- Wildlife;
- Watershed resources (soil erosion and streams);
- Air quality; and
- Cultural resources.

Resources/issues not addressed are discussed in **Section 3.1.1.2** explaining the reason for not conducting a detailed analysis.

1.9 APPLICABLE PERMITS

Table 1.9-1 Permits and Licenses that May Be Applicable to the Project

ACTION	PERMIT/APPROVAL	APPROVING AGENCY
ROW/Easement	Special Use Permit	USFS
ROW/Easement	Right-of-Way Grant	BLM
Dredge or fill activities in Waters of the United States. (i.e., construction of a road crossing.)	Clean Water Act, Section 404 Permit, Nationwide Permit	U.S. Army Corps of Engineers
Facilities construction	Construction Permit	Nevada Division of Environmental Protection, Bureau of Air Pollution Control
Facilities construction	Clean Water Act, Section 402 National Pollutant Discharge Elimination System (NPDES) Notification for Stormwater Management during Construction	Nevada Division of Environmental Protection
Facilities construction	Clean Water Act, Section 402 NPDES Notification for General Permit for Discharges of Storm Water Associated with Construction Activity	Lahontan Regional Water Quality Control Board
Clean Water Act 404 permit	Clean Water Act, Section 401 Water Quality Certification	Nevada Division of Environmental Protection, Bureau of Water Quality Planning
Tree removal and vegetation management activities	R6T-2009-0029 Timber Waiver	Lahontan Regional Water Quality Control Board
Tree removal in California	Public Agency, Public and Private Utility Right of Way Exemption (waives requirement to prepare a Timber Harvest Plan)	California Department of Forestry and Fire Protection (CAL FIRE)
Surface disturbing activities	Surface Area Disturbance Permit and Dust Control Permit; Waste Discharge Permit; Working in Waterways Permit	Nevada Division of Environmental Protection, Bureau of Water Pollution Control
Aerial crossing over the Truckee River	Easement	Nevada Division of State Lands
ROW/Land Use/Facilities Construction	Encroachment Permit/Special Use Permit	Sierra County Planning Commission

ACTION	PERMIT/APPROVAL	APPROVING AGENCY
ROW/Easement	Special Use Permit	Washoe County Board of Commissioners
ROW/Easement	Plan Amendment	Truckee Meadows Regional Planning Agency
Facilities Construction, Grading, and/or Hillside Development	Special Use Permit(s)	City of Reno
ROW/Easement	Special Use Permit	City of Reno

The SUP for Sierra County would be subject to the California Environmental Quality Act. It is likely that the Sierra County Planning Commission would be the lead agency for compliance with the California Environmental Quality Act. If the Planning Commission is not the lead agency, it is likely that the Lahontan Regional Water Quality Control Board would be the lead agency.

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CHAPTER 2 ALTERNATIVES

2.1 INTRODUCTION

This chapter describes five alternatives included for detailed analysis in this EIS. A discussion of the alternatives that were eliminated from detailed study is also provided in this chapter.

2.1.1 Development of Alternatives

The Stateline Alternative was originally identified as the Proposed Action for this project. This alternative is no longer feasible and was eliminated from detailed study for the reasons provided in **Section 2.11.1**. The alternatives considered for analysis are shown in **Figure 2.1-1** and include:

- No Action Alternative;
- Mitchell Alternative;
- Peavine Alternative;
- Poeville Alternative; and
- Peavine/Poeville Alternative.

The Mitchell and Peavine alternatives were developed from routes evaluated in the Constraint Study (JBR 2009a). The Mitchell Alternative maximizes routing next to the existing #102 transmission line. The Mitchell Alternative was revised after dismissal of the Stateline Alternative to avoid routing on the portion of the Stateline Alternative that was no longer feasible. The Peavine Alternative maximizes routing across land previously disturbed by wildland fire and minimizes crossing pine forest communities. The Poeville Alternative was developed by the USFS interdisciplinary team in order to maximize compliance with management goals and directives of the Forest Plan. The Poeville Alternative utilizes existing utility corridors and minimizes routing on NFS land. The Peavine/Poeville Alternative was developed in response to public comments to reduce impacts of the Peavine Alternative to the viewshed of private property near the California Substation, and to use existing utility corridors.

2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, a SUP for the construction, operation, and maintenance of a 120 kV overhead transmission line and 90-foot-wide ROW across NFS land would not be issued to NV Energy. The BLM would not issue NV Energy a ROW grant for construction, operation, and maintenance activities of an expanded Bordertown Substation on BLM-administered public lands. Project activities and associated environmental impacts on NFS land, BLM-administered public land, and private land would not occur. The existing 120 kV system would continue to rely on the #141 and #142 transmission lines for transmitting electric load to the West Reno/Verdi area in the foreseeable future. The No Action Alternative does not provide the redundancy needed in the system and therefore would not meet the purpose and need for the project.

2.3 ACTION ALTERNATIVES

The Mitchell, Peavine, Poeville, and Peavine/Poeville alternatives were selected as action alternatives to be considered for detailed analysis. The differences between the action alternatives are the location of the proposed 90-foot-wide ROW/easement and the location of construction

access roads, including road widening. The project facilities and substation modifications would be constructed, operated, and maintained under any of the action alternatives. Construction activities, equipment, and materials would apply to all the action alternatives. The number of pole structures and sites, staging areas, access roads, and transmission wire setup sites required during construction would vary by length and location of each alternative. A detailed description of each action alternative is provided in **Sections 2.4** through **2.7** and displayed on **Figures 2.1-1** through **2.1-3**.

Following a final Record of Decision (ROD), NV Energy would prepare a Construction, Operation, and Maintenance (COM) Plan. The COM Plan is a comprehensive guide used during construction, as well as for operation and maintenance of the project. The COM Plan would include key project contacts; maps of the alignment and ancillary facilities; access maps, copies of permits and associated permit conditions; and specific implementation plans for restoration (including habitat restoration), fire prevention, emergency response, protection of cultural resources, protection of sensitive species, protection of wetlands and streams, stormwater pollution prevention; fencing, and weed management. Prior to its implementation, the COM Plan will be reviewed and approved by the USFS.

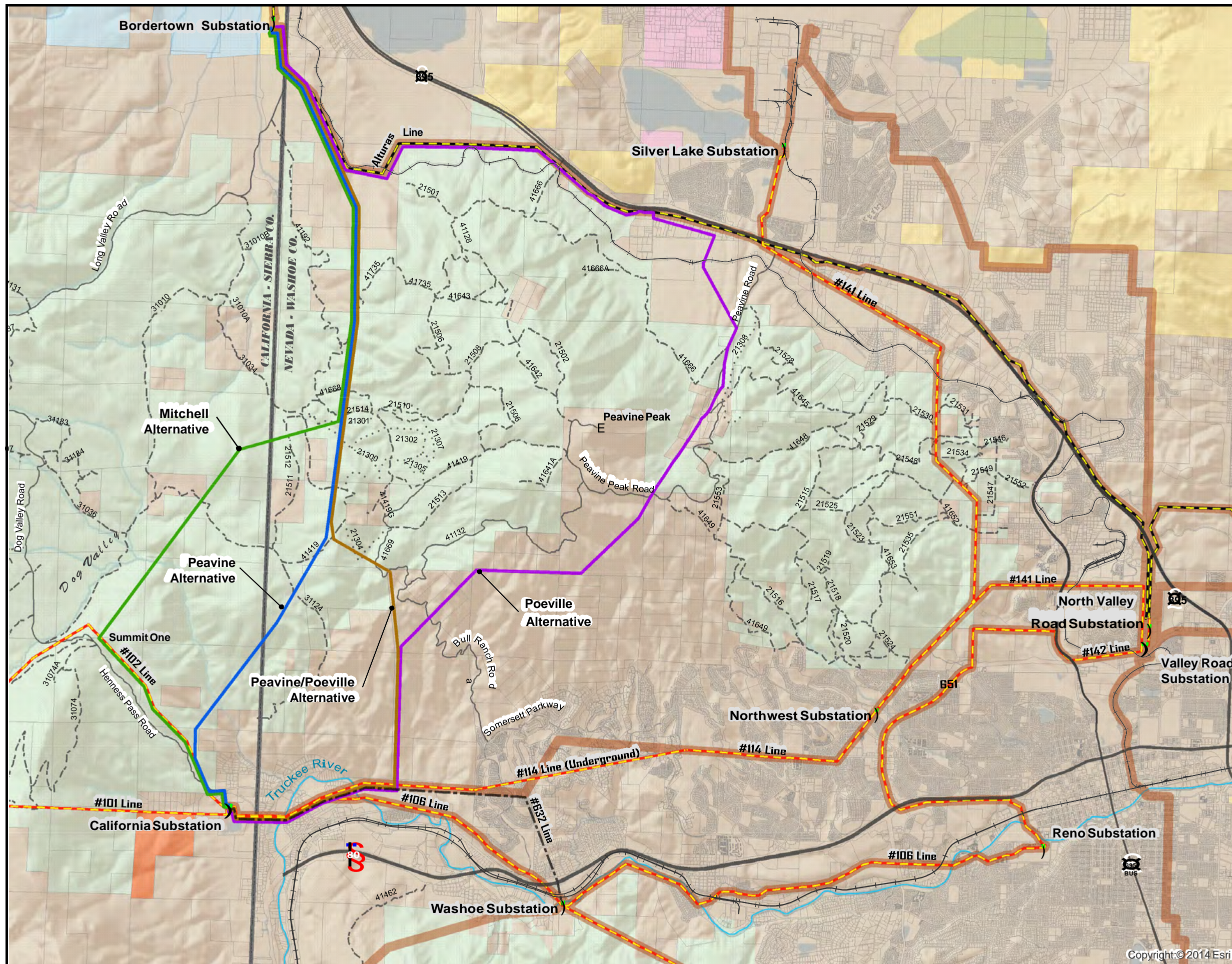
2.3.1 Proposed Substation Modifications

The Bordertown Substation would be partially rebuilt and modified with the addition of new components in order to accommodate the transmission line. The Bordertown Substation would be expanded by 3.7 acres on BLM-administered public land. Proposed modifications to the Bordertown Substation would include vegetation clearing and grading; and expansion of the existing chain-link fence for security and to restrict unauthorized persons and wildlife from entering (**Appendix A**). The site would be graded to near level and surfaced with gravel. Noxious weeds would be treated and monitored to prevent spreading onto adjacent land.

The California Substation is located on private land owned by NV Energy. All needed modifications at the California Substation would be accommodated within the existing fenced area of the substation. The footprint of the existing substation would not be expanded. The exact layout of the modifications at the California Substation would depend on the selected alternative. A preliminary plan showing the modifications proposed for the California Substation is provided in **Appendix A**.

2.3.2 Proposed Transmission Line

The proposed 120 kV transmission line would consist of bundled aluminum conductor steel-reinforced cable supported on single circuit pole structures. A combination of single-pole structures, two-pole H-frame structures, and three-pole dead end/angle structures would be used. Single-pole structures would be used less frequently where confined space prevents the use of two-pole H-frame or three-pole dead end/angle structures, which are wider than the single-pole structures. The ROW would be reduced to 40 feet in constrained areas where single pole structures are used. (For purposes of the EIS analysis, the maximum ROW width of 90 feet is used.) The span distance between the poles would average 800 feet but could range from 200 feet to 2,000 feet depending on terrain or obstructions. See **Appendix A** for an illustration of each type of proposed pole structure.



Transmission Line Alternatives

- Mitchell
- Peavine
- Poeville
- Peavine/Poeville

Existing Features

- 120 kV Transmission Line
- 345 kV Transmission Line
- 60 kV Transmission Line
- Existing Transmission Line Corridors (TMRPA, 2012)
-) Substation
- Railroads

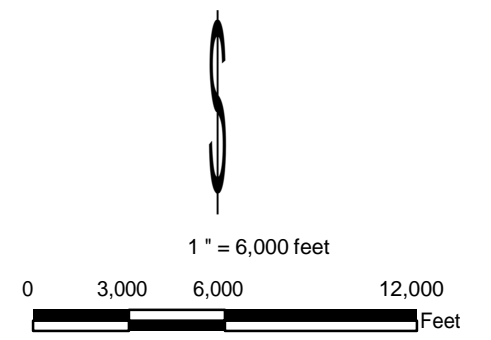
NFS Roads

- NFS Roads
- NFS Motorcycles Only
- Public and Private Road

Land Ownership

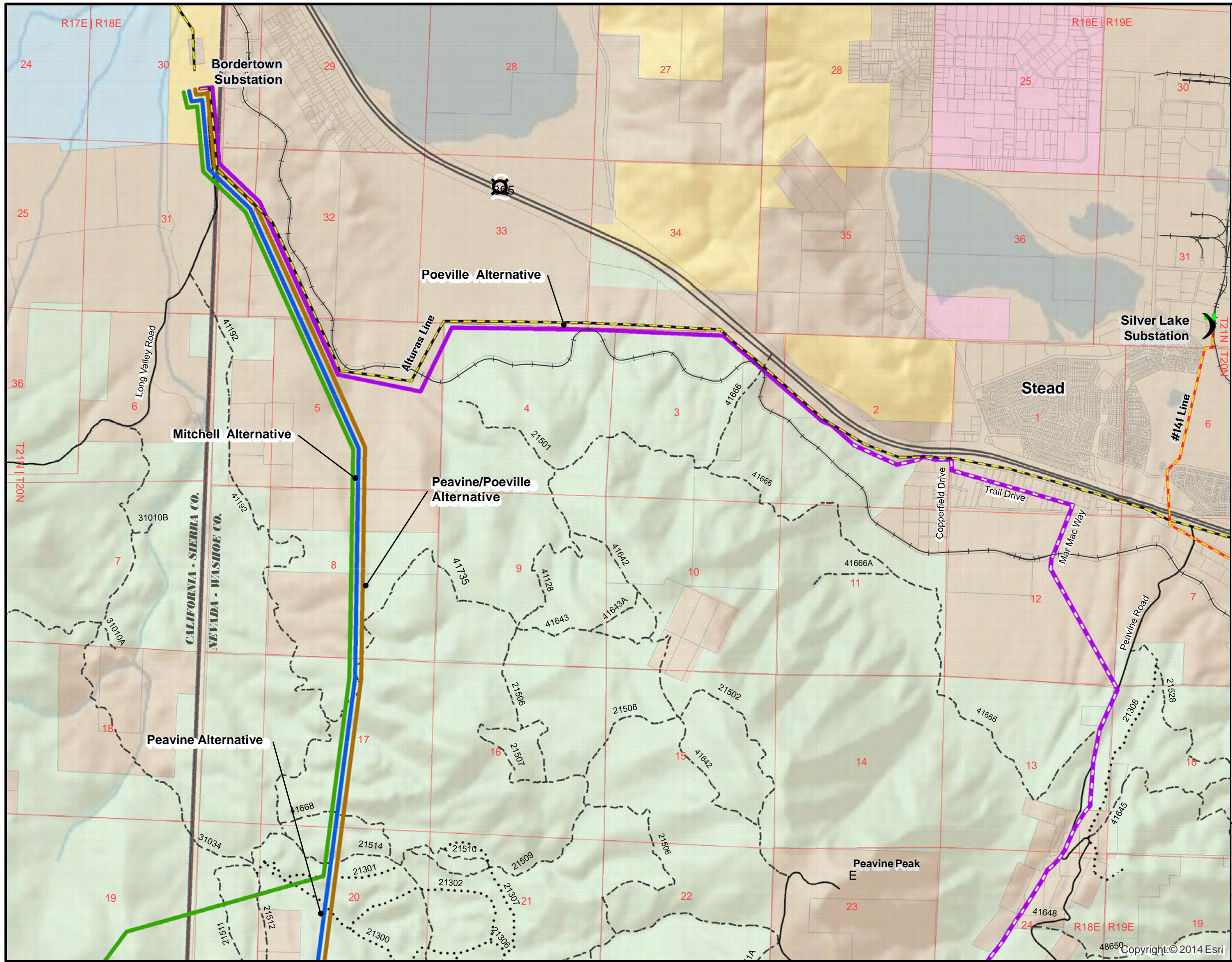
- U.S. Forest Service
- Private Land
- U.S. Bureau of Land Management
- California Dept. of Fish and Wildlife
- U.S. Dept. of Defense
- U.S. Bureau of Reclamation

Note: Segments of transmission line alternatives that appear parallel share the same alignment. Transmission lines are offset for visual purposes only.



**FIGURE 2.1-1
OVERVIEW OF
ALTERNATIVES CONSIDERED**

BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS



Transmission Line Alternatives

- Mitchell
- Peavine
- Poeville
- - - Poeville (underbuild portion)
- Peavine/Poeville

Existing Features

- 120 kV Transmission Line
- 345 kV Transmission Line

Substation

- Substation

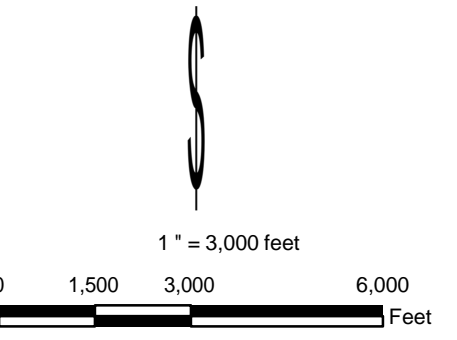
NFS Roads

- NFS Roads
- - - NFS Motorcycles Only
- Public and Private Road

Land Ownership

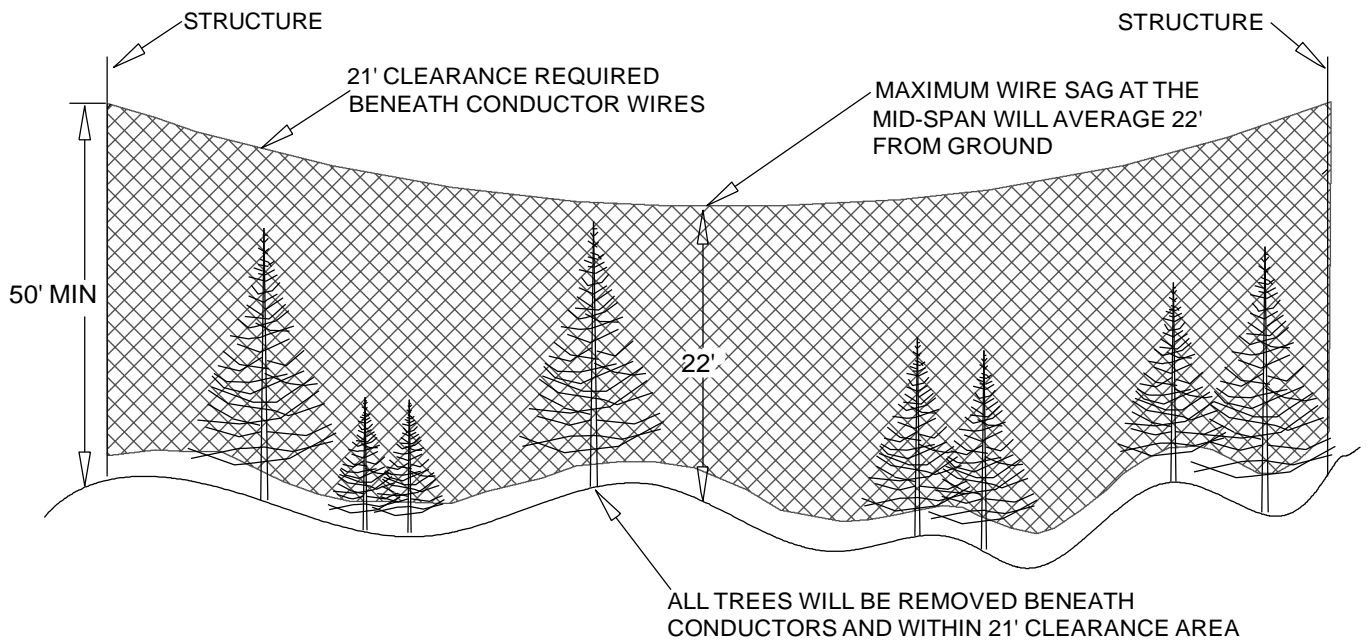
- U.S. Forest Service
- Private Land
- U.S. Bureau of Land Management
- California Dept. of Fish and Wildlife
- U.S. Dept. of Defense

Note: Segments of transmission line alternatives that appear parallel share the same alignment. Transmission lines are offset for visual purposes only.

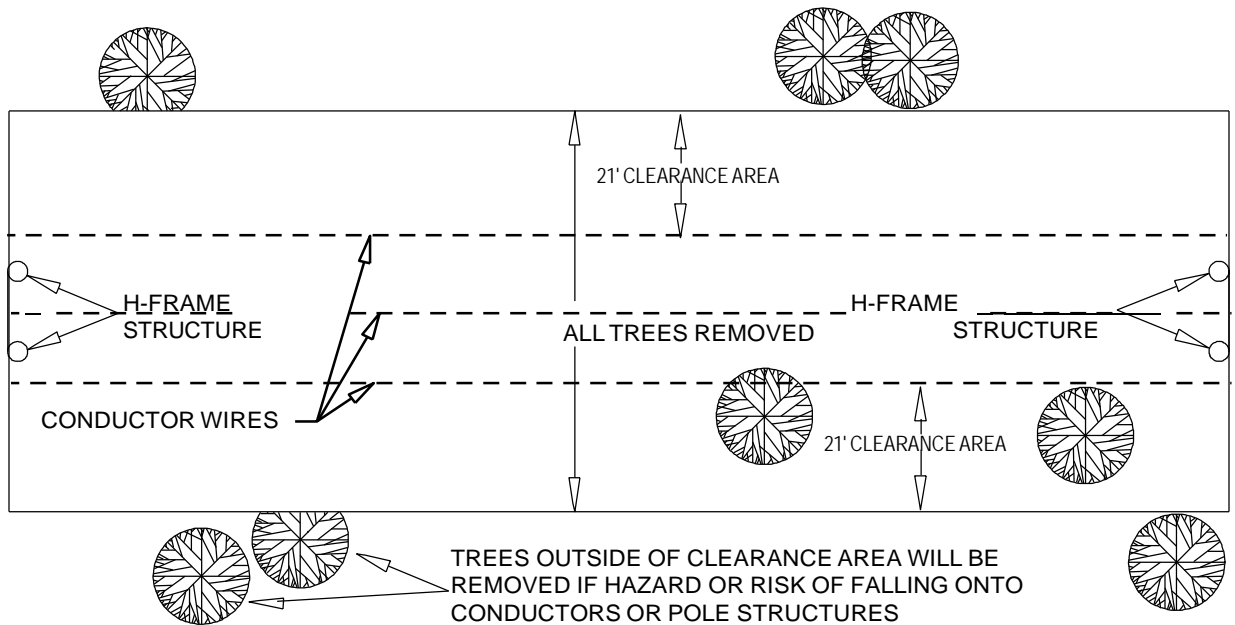


**FIGURE 2.1-2
OVERVIEW OF
ALTERNATIVES CONSIDERED
IN DETAIL NORTH HALF**

**BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS**



SIDE VIEW



PLAN VIEW

**FIGURE 2.3-1
TYPICAL TREE TRIMMING AND CLEARANCE DISTANCES**

BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS

2.3.2.1 Transmission Line Construction

Construction of the transmission line would consist of the establishment of staging areas; construction of access roads, widening existing roads; establishment of pole sites and transmission wire setup sites; and installation of the pole structures and conductor and shield wires. Vegetation would be cleared, as needed. **Table 2.3-1** provides the area of ground disturbance for each construction activity. The exact location of these project elements would be determined prior to construction. See the Plan of Development (JBR 2009b) for a detailed description of power pole assembly, wire stringing, and equipment. Project design features, which are measures specifically formulated to protect environmental resources during construction of the transmission line, are provided in **Appendix B**.

Staging Areas

Up to four staging areas may be needed to store construction materials, equipment, tools, fuel, service trucks, spare parts, and vehicles. The staging areas would house portable, self-contained toilets and possibly portable offices or serve as equipment maintenance areas. Staging areas would measure approximately 500 feet in length by 500 feet in width. Staging areas would use previously disturbed ground and may be located on BLM-administered public land or private land, but no staging areas would be located on NFS land (design feature GP 6). Any hazardous materials such as fuel, lubricants, and solvents, would be handled and stored in accordance with applicable regulations, including 40 CFR 262. Handling, storage, and clean-up of hazardous materials at staging areas would be described in a Spill Prevention, Control, and Countermeasures (SPCC) Plan, which would be included as part of the COM Plan (design feature HM 1). Staging areas would include secondary containment to capture and contain any potential spills or leaks.

Construction Access

Existing Roads

Existing roads would be used for construction and maintenance access as much as possible; however, some existing roads would be widened up to 30 feet, including cut and fill slopes to accommodate construction equipment. Roads that would be widened include designated NFS roads (i.e., roads shown on the Carson District Motor Vehicle Use Map) and non-system roads. Widening of existing roads on BLM-administered public lands would not be required because there is adequate access to the Bordertown Substation. Roads within occupied or unoccupied potential habitat for the federally-listed threatened plant, Webber ivesia (*Ivesia webberi*), and the Forest Service sensitive plant, Dog Valley ivesia (*Ivesia aperta* var. *canina*), would not be widened (design feature SV 6). While widening is not allowed within these habitats, blading and installation of erosion control measures (design feature SV 6) would be permitted. Road improvements would comply with: 1) The Forest Service National Supplements to the FP-03 (USFS 2010c); 2) the USFS Road Construction Handbooks (FSH 7709.56 and FSH 7709.57) (design feature RT 2); and, 3) the Forest Plan. Several designated NFS roads have seasonal use restrictions from April 1 to November 18 that would be followed during construction (design feature RT 1). All designated NFS roads widened for construction or maintenance access would be restored to the original roadbed. A description of restoration activities that would be performed following construction and maintenance activities is provided in **Section 2.3.3.2**.

New Temporary Access Roads

New temporary access roads (i.e., centerline travel road and spur roads) would be constructed to pole sites, transmission wire setup sites, and staging areas when there are no existing roads available. Access roads would be 30 feet wide and located within the 300- to 600-foot-wide corridor (variable-width corridor). The variable-width corridor would be centered on the transmission line and would measure 300 feet wide where slopes are 10 percent or less, and 600 feet wide where slopes are greater than 10 percent. Temporary roads would be constructed primarily by mowing or masticating vegetation in a manner that leaves root systems intact to encourage regrowth and minimize soil erosion (design feature VG 5). Whole tree removal would be required where new access roads cross forested areas. Rocks or other obstructions would be bladed. If rocks cannot be removed with heavy equipment, explosives may be used. While new access roads wider than 30 feet would not be expected, occasional widening beyond 30 feet may be necessary in areas where extensive blading and side cuts are required. Erosion and sediment controls would be installed as identified in the project Storm Water Pollution Prevention Plan (SWPPP), which would be included as part of the COM Plan (design feature WA 1).

Following construction, all temporary access roads would be recontoured and stabilized by seeding, mulching, placement of erosion control fabric, and installing erosion control features such as water bars (design feature VG 6). Where deemed appropriate by the USFS, roads near sensitive resources may not be recontoured in order to avoid inadvertent disturbance to resources. Barriers would be installed on all restored access roads located on NFS land to prevent unauthorized vehicle use (design feature RT 3). Vehicle access for transmission line maintenance is expected to be rare as the poles would be made of steel. Access would be necessary approximately every 10 years for tree removal within the line clearance area. When future vehicle access is needed for maintenance of the transmission line, the existing NEPA analysis would be reviewed and the access may be approved based upon the level of proposed new disturbance and or the change in environmental conditions. There are no permanent roads proposed to be kept for maintenance access.

Stream Crossings

Road construction across perennial streams would be avoided (design feature WA 13). Where improvements are needed to cross ephemeral and intermittent streams, the side slopes of drainages would be reduced to a slope that would allow safe vehicle travel, and the slopes and drainage bottom would be rock armored. Once construction is complete, all drainage modifications would be recontoured and seeded based on existing site conditions (design feature WA 10).

Power Pole Structures

Pole Sites

A pole site is the area needed for the construction and installation of the pole structure, and would be 0.5 to 1 acre in size depending on the type of pole structure. Clearing of vegetation at pole sites would be limited to the area excavated for the installation of the pole structures. Pole sites in steeper terrain (greater than 10 percent to 12 percent slopes) would be graded level for safe operation of equipment. Equipment pads would not be recontoured, but reseeded so that the pad would be available for future maintenance of the pole.

Excavation and Pole Foundations

Excavation for poles set directly into the ground with no foundation would be approximately three feet in diameter and approximately 10 to 13 feet deep. Three-pole dead-end/angle poles would be secured (guyed) by anchors installed in the ground approximately 60 feet from the pole base. The anchors would require excavating a hole approximately three feet in diameter and 15 feet deep. A truck-mounted power auger is the preferred method of excavation. However, backhoe excavation and blasting may be used as alternative excavation methods as geological and site conditions require. Poles that would be set in the ground without a foundation would be backfilled with native or imported fill material. Final pole foundation requirements would be determined after design and permitting requirements are completed.

In places where guying three-pole dead-end/angle poles would not be feasible, self-supporting steel angle poles on foundations would be installed. Concrete foundations, where needed, would be cast-in-place and dimensions would vary from 12 to 40 feet below ground surface and three to 12 feet in diameter. Waste water from wash-out stations would be captured for removal from NFS land to prevent any waste water from discharging off-site and into any surface waters (design feature GP 5). Should rocky areas be encountered, foundation holes may be excavated using rock drills. Topsoil removed from foundation holes would be separated and stockpiled at the edge of active work areas to salvage the seed bank (design feature WA 6). All excavations would be covered and temporarily fenced during weekends, holidays, night hours, or to protect the public and wildlife from injury (design feature WL 5).

Power Pole Assembly

Materials, including the transmission poles, insulators, guy wire anchors, and all other associated hardware, would be delivered from staging areas to each of the pole sites. Assembly crews would build the structure and then attach insulators, travelers, and hardware to assemble a complete structural unit. Erection crews would follow and place the completed poles into the excavated holes using a large mobile crane or helicopter. Equipment pads would be established at the pole sites, where necessary, to support the equipment for the crew to erect the pole. Native soils previously excavated, imported backfill, and/or concrete would be placed around each pole and properly compacted. Guy wires to support the angle poles would be used to plumb the structure. Signs, flagging, or other readily visible marking would be used to indicate the presence of guy wires to reduce the potential for people and wildlife to run into the wires (design feature GP 9). Where self-supporting steel angle poles are required, anchor bolts would be used to secure the pole structure to the poured concrete foundation.

Transmission Wire Setup Sites

Conductor and shield wire installation would be performed from transmission wire setup sites. Transmission wire setup sites would be up to 600 feet in radius. Six to 16 wire setup sites may be needed. The number of sites is a function of wire reel span lengths and engineering requirements for conductor sagging.

Construction-Related Ground Disturbance

Most ground disturbance would be temporary and would be restored following construction. Other disturbance would be permanent, such as pole structure footings at each pole site. **Table 2.3-1** shows the average ground disturbance for each of the primary construction activities or areas.

Table 2.3-1 Temporary Ground Disturbance Required for Project Construction

CONSTRUCTION ACTIVITY OR AREA	APPROXIMATE CONSTRUCTION DIMENSIONS/DISTURBANCE	ESTIMATED NUMBER
Pole Structures: Single pole Two-pole H-frame Three-pole dead-end/angle	85-foot radius (+/- 0.5 acre) 85-foot radius (+/- 0.5 acre) 120-foot radius (+/- 1.0 acre)	Span distance would average 800 feet but could range from 200 to 2,000 feet depending on terrain or obstructions
Transmission wire setup sites	Approximately 600 feet radius (+/- 26.0 acres)	6 to 16 sites but would vary by alternative (see Sections 2.4 through 2.7)
Staging areas	500 feet long and wide (+/- 5.7 acres)	As many as 4 construction staging areas would be necessary
Widening existing roads	30-foot-wide (consisting of a traveled way measuring up to 14 feet wide plus any curve widening, turnouts, and side cut and fill slope areas)	Varies by alternative (see Sections 2.4 through 2.7)
New access roads (i.e., spur roads, centerline travel road, and cross country travel)	30-foot-wide (consisting of a traveled way measuring up to 14 feet wide plus any curve widening, turnouts, and side cut and fill slope areas)	Varies by alternative (see Sections 2.4 through 2.7)
Tree removal under transmission line (i.e., transmission line clearance area)	Within 90-foot ROW plus any tree outside the ROW that may have the potential to fall on the transmission line wire; Construction of log landings (+/- 0.5 acre) would create additional disturbance	Varies by alternative (see Chapter 3)

Vegetation Removal and Maintenance

Prior to construction, noxious weeds would be inventoried and treated within the ROW and areas within 100 feet of project ground disturbance (design feature NW 1). Treatment methods would include manual and mechanical methods and the use of herbicides. A five-gallon backpack sprayer would be the primary method of herbicide application, but large infestations may require a truck-mounted sprayer. The following herbicides would be used for treatments (brand/shelf name in parentheses): Aminopyralid (Milestone); Clopyralid (Transline); Chlorsulfuron (Telar); Glyphosate (Roundup and Rodeo); Imazapic (Plateau, which is not labeled for use in California); and Triclopyr (Garlon).

During construction, vegetation would be removed as needed at pole sites, staging areas, transmission wire setup sites, and access roads. Removal of vegetation would generally consist of mowing or masticating shrub and grass vegetation in a manner that leaves root systems intact to encourage growth and minimize soil erosion (design feature VG 5). In forested areas, whole trees

would be removed using heavy equipment where terrain and slope stability permits and skidded to log landings for disposal. In areas that are not accessible with equipment or with excessive slopes and highly erodible soils, trees would be removed by helicopter. All slash would be chipped and removed from NFS land within six weeks to reduce insect and disease infestations (design feature VG 4).

Trees within the proposed transmission line ROW/easement would be removed as necessary for compliance with National Electric Safety Code (NESC), NERC standards, California Public Utilities Commission (CPUC) regulations, Nevada Administrative Code (NAC), California Public Resources Code, California Code of Regulations, and Department of Forestry Fire Prevention standards. The NESC standards and the California and Nevada codes require that obstructions be no closer than 21 feet to an overhead transmission line. **Figure 2.3-1** shows the typical tree clearance distances that would be required for compliance with the aforementioned codes and regulations.

2.3.2.2 Restoration of Construction-Related Activities

All construction access roads constructed on NFS land would be recontoured and reclaimed (design features RT 3 and VG 6). All existing authorized NFS roads and motorized trails that are widened for construction access would be reclaimed and returned to the original roadbed. Non-designated roads on NFS land that would be widened and used for construction access would be reclaimed and reseeded. Restoration would include recontouring roads, installing erosion control features such as drain dips, ripping, chipping, and seeding (design feature VG 6). Logs, branches, pine needles, brush, and rocks may be used to disguise the road for restoration purposes or other techniques approved by the USFS (design features RT 3 and RT 4).

A detailed restoration plan would be included as part of the COM Plan for construction related ground disturbance, including disturbance associated with roads. The restoration plan would include revegetation success criteria based on USFS reference sites (design feature VG 7). Restoration success would be monitored until restoration is deemed successful by the USFS. Restoration seed mixes used on NFS land would be approved by the USFS (design features NW 2, RT 7, and VG 2). Restoration seed mixes would be certified as weed-free (design feature NW 7). Sites where revegetation is not fully restored after approximately 5 years will be mitigated by improving habitat in other onsite areas or through off-site habitat restoration projects using mitigation funds provided by NV Energy. See design feature WL 8.

2.3.2.3 Construction Schedule

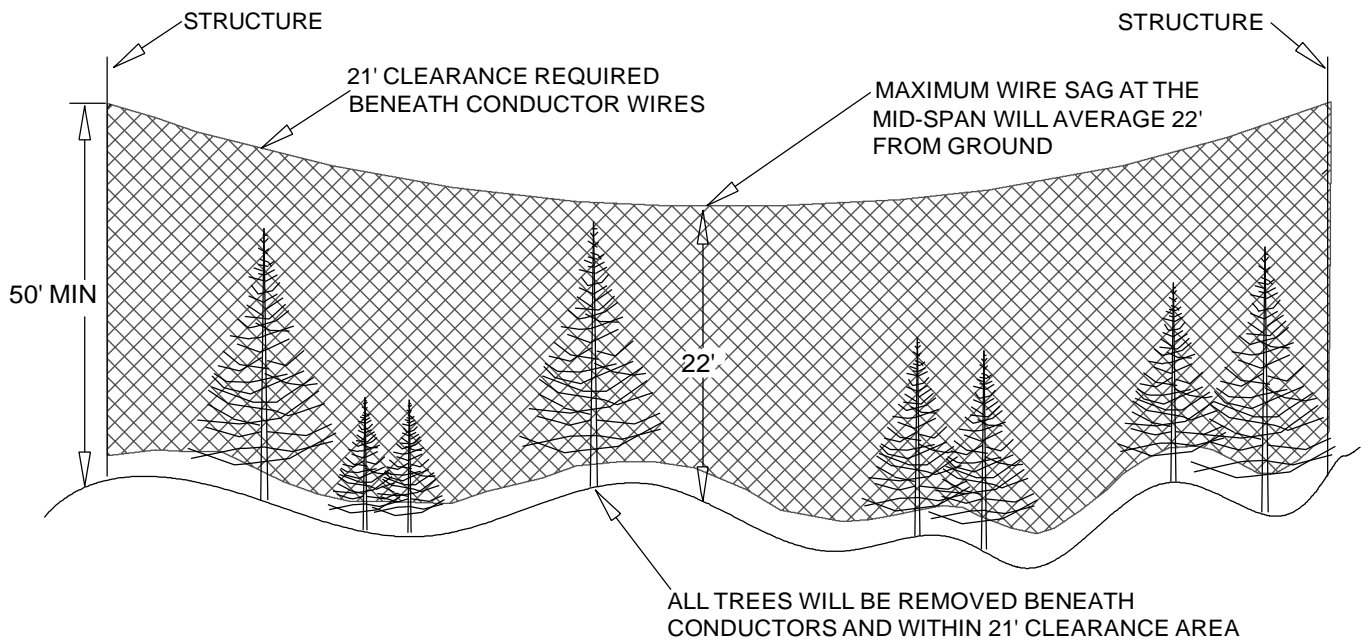
The project would commence as soon as all necessary agency approvals and permits are obtained (**Section 1.1**), and all ROW authorizations and easements are secured. Construction of the project would take 8 to 12 months. Near sensitive receptors such as occupied residences, noise-generating activities (e.g., blasting) would be limited to Monday through Friday from 7:00 a.m. to 7:00 p.m. (design feature GP 7). Otherwise, work may occur 12 hours per day any day of the week.

2.3.2.4 Construction Equipment and Vehicles

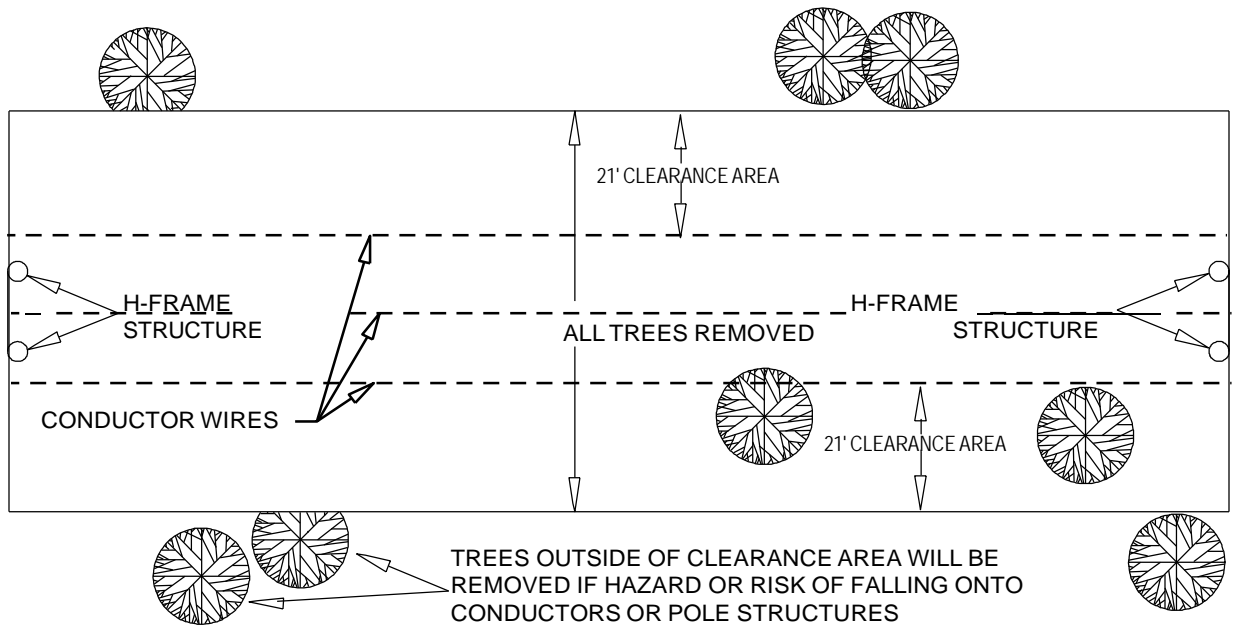
The typical equipment and vehicles that may be necessary are listed in **Table 2.3-2**. **Table 2.3-2** does not list various power and hand tools that would likely be used for the project, such as hammers, sanders, wire cutters, and shovels.

Table 2.3-2 Typical Construction Equipment and Vehicles

EQUIPMENT	USE
¾-ton and 1-ton pickup trucks	Transport construction personnel
2-ton flatbed trucks; flatbed boom truck	Haul and unload materials
Rigging truck	Haul tools and equipment
Mechanic truck	Service and repair equipment
Aerial bucket trucks	Access poles, string conductor, and other uses
Shop vans	Store tools
Bulldozer	Grade access roads and pole sites and restoration
Road grader	Construct, maintain, and upgrade roads
Compactor	Construct access roads
Truck mounted digger or backhoe	Excavate
Crawler backhoe	Excavate
Small mobile cranes (12 tons)	Load and unload materials
Large mobile cranes (75 tons)	Erect poles
Transport	Haul poles and equipment
Drill rig with augers	Excavate and install fences
Puller and tensioner	Pull conductor and wire
Cable reel trainers	Transport cable reels and reed cables into conduit
Semi-tracker trailers	Haul poles and equipment
Splice trailer	Store splicing supplies and air condition manholes
Take-up trailers	Install conductor
Air compressors	Operate air tools
Air tampers	Compact soil around pole foundations
Concrete trucks	Pour concrete
Dump truck	Haul excavated materials and import weed-free backfill
Fuel and equipment fluid truck	Refuel and maintain vehicles
Water truck	Suppress dust and fire
Winch truck	Install and pull sock line and conductors into position
Fire tender	Haul water for fire suppression
Fire unit	Fire fighting vehicle
Large helicopter	Erect and haul poles
Small helicopter	Pull hardline
Rangeland drill	Sow seed
Hydroaxe or masticator	Chop shrubs and small diameter trees



SIDE VIEW



PLAN VIEW

**FIGURE 2.3-1
TYPICAL TREE TRIMMING AND CLEARANCE DISTANCES**

BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS

2.3.3 Operation and Maintenance

The transmission line would be operated from the NV Energy Electrical Control Center in Reno, Nevada. NV Energy personnel at the Electrical Control Center would monitor voltage and power flow along the transmission line in accordance with standard operating procedures.

NV Energy would inspect the line annually to determine if maintenance is needed. Annual inspection would be made via helicopter or from the ground by walking to pole structures from existing roads (design feature GP 8). An inspection that involves climbing pole structures is anticipated once every 10 years. The ROW would be patrolled after unexplained outages or significant natural incidents (such as fire, earthquake, flood, or extreme electrical storm) to observe facility conditions and the surrounding environment and to begin repairing any damages.

Trees that could interfere with the safe operation of the transmission line would be removed as needed. Tree and vegetation maintenance of the proposed transmission line would be done with a masticator or may be felled and lopped and scattered or chipped and broadcast onsite on a case-by-case basis, so that fuels do not build up along the corridor. Maintenance access would be by foot-travel, pickup truck, bucket truck, or off-highway vehicle (OHV) from the nearest designated NFS or maintenance road to the transmission line ROW.

2.3.4 Design Features Common to All Action Alternatives

Project design features would be implemented during construction and maintenance to reduce environmental impacts. A list of design features that would be implemented under any of the action alternatives are contained in **Appendix B**.

2.3.5 Environmental Compliance Program

During construction, NV Energy would implement an Environmental Compliance Program. NV Energy would designate an Environmental Compliance Team consisting of a Project Manager, an Environmental Manager, a ROW Agent, and a Construction Foreman. The designated Environmental Compliance Team would monitor construction activities and track compliance with design features (**Appendix B**), the COM Plan, the USFS SUP, the BLM ROW Grant, and other permit requirements.

NV Energy would maintain a compliance documentation system describing the compliance levels and use it as a tool to help explain, record, and enforce the compliance requirements. The following levels of compliance measurement would be used for the project:

- Compliance – Used to identify an action in accordance with all project requirements;
- Notification – Used to identify an action approaching non-compliance. This is like a "fix-it" notice;
- Non-compliance – This term identifies an action that does not comply with a project requirement. A Non-Compliance Report will be issued. A repeat Non-Compliance will be noted on a Non-Compliance Report as a second occurrence. A Non-Compliance Resolution Report must be approved by the USFS or BLM for each Non-Compliance Report to demonstrate compliance; and

- Stop Task Order – A third repeated Non-Compliance Report would result in a Stop Task Order. A Stop Task Order would require NV Energy to meet with the USFS or BLM to determine actions to correct or resolve the issue and resume activity in the problem area.

2.4 MITCHELL ALTERNATIVE

The Mitchell Alternative would be approximately 11.7 miles long (**Figures 2.1-1, 2.1-2, and 2.1-3**). The first approximately 5.0 miles would be identical to the Peavine Alternative and generally parallel the California and Nevada state line, approximately 0.6 to 0.9 mile east of the state line. The last 0.4 mile of transmission line into the California Substation would utilize single pole structures with a distribution line under-build to accommodate the new transmission line and existing distribution line on the same poles. Approximately 4.6 miles of the Mitchell Alternative would be located adjacent to an existing power line corridor. **Table 2.4-1** summarizes land status and length of ROW within California and Nevada.

Table 2.4-1 ROW/Easement Requirements for the Mitchell Alternative

LAND OWNERSHIP/ ADMINISTRATION	MILES IN CALIFORNIA	MILES IN NEVADA	TOTAL MILES	PERCENT OF ROUTE	ACRES OF ROW/EASEMENT ¹
USFS	5.4	3.0	8.4	72	91.6
BLM	0.4	0.0	0.4	3	8.1
Private Land	0.6	2.3	2.9	25	31.6
Total	6.4	5.3	11.7	100	131.3

¹ Includes proposed expansion area associated with the Bordertown Substation

Approximately 11.1 miles of roads would be widened for construction access, as displayed on **Figure 2.4-1**. The associated acres of surface disturbance are presented in **Table 2.4-2**. Widening of existing roads on BLM-administered public lands would not be required.

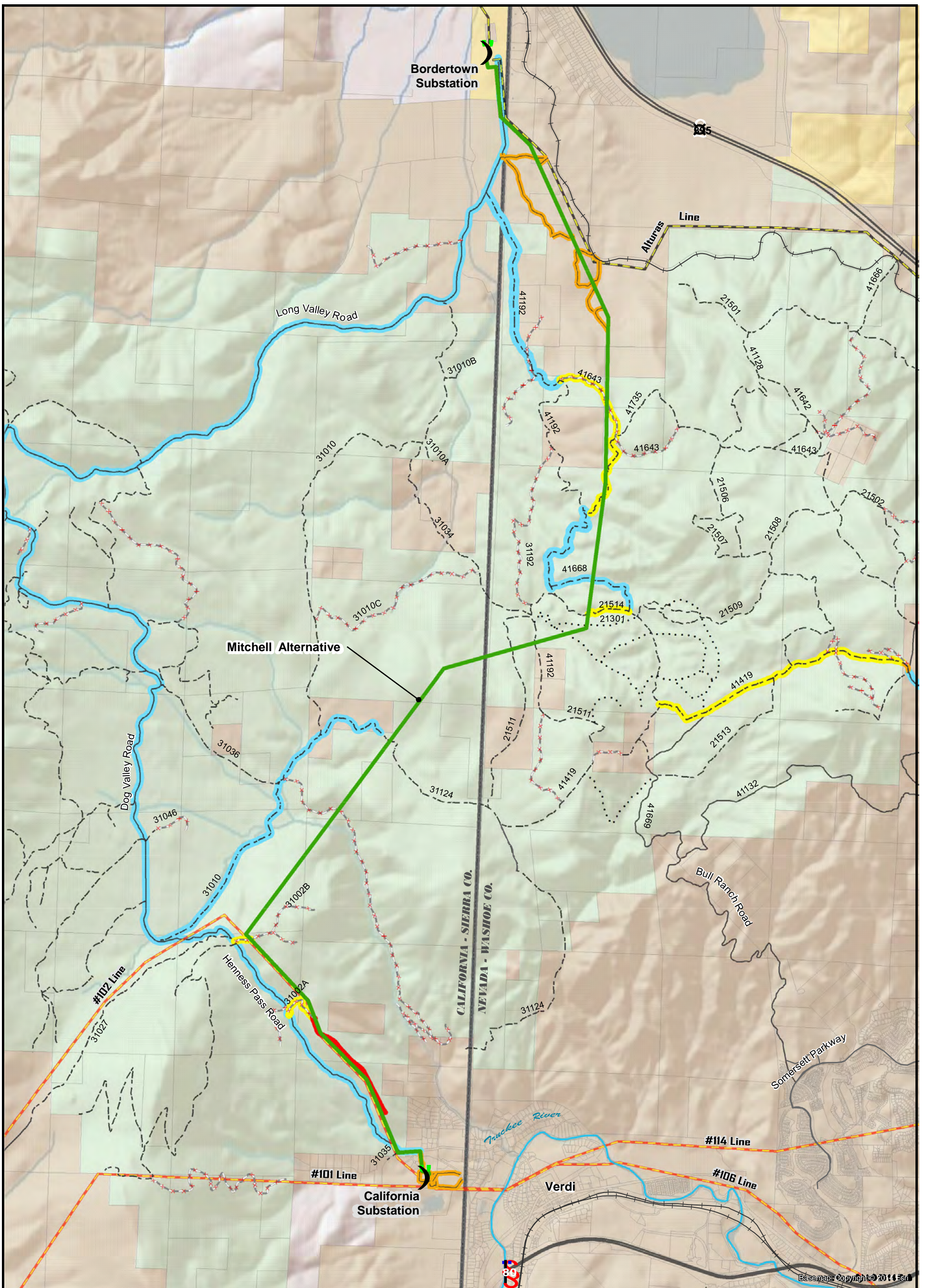
Table 2.4-2 Road Widening Required for the Mitchell Alternative

ROAD/ROUTE TYPE	WIDENING REQUIRED (MILES)	SURFACE DISTURBANCE (ACRES) ¹
Designated NFS Roads on NFS Land	5.6	14.4
Non-Designated Routes on NFS Land	1.1	2.7
Roads on BLM Lands	0.0	0.0
Existing Roads Across Private Land	4.4	11.2
Total (Roads/Routes on All Land)	11.1	28.3

¹ Does not include existing road disturbance, which is assumed to be nine feet wide.

The location of other temporary access roads would be determined prior to construction, but would be located within a 300- to 600-foot-wide corridor (variable-width corridor). Approximately 7.1 miles (25.8 acres) of new temporary centerline travel roads would be needed for construction of the Mitchell Alternative.

The design features that are specific to the Mitchell Alternative that would be implemented during construction and/or maintenance of the project are described in **Appendix B**.



<ul style="list-style-type: none"> — Mitchell Alternative - - - NFS Roads · · · · · NFS Motorcycles Only — Public and Private Road ◻ ◻ ◻ ◻ Not Open to Public Motorized Travel ◻ ◻ ◻ ◻ Roads Used for Public Access But Not Widened — 120 kV Transmission Line — 345 kV Transmission Line 	<p>Land Ownership</p> <ul style="list-style-type: none"> ■ U.S. Forest Service ■ U.S. Bureau of Land Management ■ Private Land <p>PROPOSED ROAD IMPROVEMENTS (TEMPORARY WIDENING)</p> <ul style="list-style-type: none"> — Designated Roads on NFS Land — Non-Designated Roads on NFS Land — Private and Public Roads Across Private Land 	<p>FIGURE 2.4-1 MITCHELL ALTERNATIVE: TEMPORARY ROAD IMPROVEMENTS</p> <p>BORDERTOWN TO CALIFORNIA 120 kV TRANSMISSION LINE EIS</p> <p>0 2,000 4,000 8,000 <small>1" = 4,000 feet</small> <small>Feet</small></p>
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2.5 PEAVINE ALTERNATIVE

The Peavine Alternative would be approximately 10.3 miles long (**Figures 2.1-1, 2.1-2, and 2.1-3**). The first approximately 5.0 miles of the Peavine Alternative would be identical to the Mitchell Alternative. The Peavine Alternative generally parallels the California and Nevada state line, staying on the Nevada side by approximately 0.6 to 0.9 mile east of the California and Nevada state line. The last approximately 0.4 mile of the transmission line into the California Substation would be constructed on single pole structures as part of an under-build with an existing distribution line. Approximately 2.8 miles of the Peavine Alternative would be located adjacent to an existing power line corridor. **Table 2.5-1** summarizes land status and length of ROW in California and Nevada.

Table 2.5-1 ROW/Easement Requirements for the Peavine Alternative

LAND OWNERSHIP/ ADMINISTRATION	MILES IN CALIFORNIA	MILES IN NEVADA	TOTAL MILES	PERCENT OF ROUTE	ACRES OF ROW/EASEMENT ¹
USFS	2.1	4.9	7.0	68	76.4
BLM	0.4	0.0	0.4	4	8.1
Privately-owned land	0.6	2.3	2.9	28	31.6
Total	3.1	7.2	10.3	100	116.1

¹ Includes proposed expansion area associated with the Bordertown Substation

Approximately 20.8 miles of existing roads would be widened for construction access (**Figure 2.5-1**). Associated acres of surface disturbance are presented in **Table 2.5-2**. Widening of existing roads on BLM-administered public lands would not be required.

Table 2.5-2 Road Widening Required for the Peavine Alternative

ROAD/ROUTE TYPE	WIDENING REQUIRED (MILES)	SURFACE DISTURBANCE (ACRES) ¹
Designated NFS Roads on NFS Land	10.0	25.5
Non-Designated Routes on NFS Land	1.4	3.5
Roads on BLM Lands	0.0	0.0
Existing Roads Across Private Land	9.5	24.3
Total (Roads/Routes on All Land)	20.8	53.3

¹ Does not include existing road disturbance, which is assumed to be nine feet wide

Approximately 7.5 miles (27.3 acres) of new temporary centerline travel roads would be needed for construction of the Peavine Alternative.

The design features that are specific to the Peavine Alternative that would be implemented during construction and/or maintenance of the project are described in **Appendix B**.

2.6 POEVILLE ALTERNATIVE

The Poeville Alternative would be approximately 18.0 miles long (**Figures 2.1-1, 2.1-2, and 2.1-3**). Beginning at the Bordertown Substation, this alternative would parallel the Alturas 345 kV transmission line for approximately 6.7 miles and then follow the existing distribution power line toward the top of Peavine Peak that serves the communication site on the peak. Construction of this section would consist of single pole structures with an under-build of the distribution line. East of Verdi, the Poeville Alternative would replace the existing, but currently inactive 60 kV #632 distribution line in its exact location, and parallel the existing #114 and #106 lines through Verdi to the California Substation. The existing #632 line H-frame pole structures would be replaced with new H-frame pole structures. Approximately 12.6 miles of the Poeville Alternative would be located adjacent to an existing power line corridor. **Table 2.6-1** summarizes land status and length of ROW in California and Nevada.

Table 2.6-1 ROW/Easement Requirements for the Poeville Alternative

LAND OWNERSHIP/ ADMINISTRATION	MILES IN CALIFORNIA	MILES IN NEVADA	TOTAL MILES	PERCENT OF TOTAL	ACRES OF ROW/EASEMENT ¹
USFS	0.0	4.0	4.0	21	44.7
BLM	0.4	0.0	0.4	2	8.1
Private Land	0.7	12.9	13.6	77	147.3
Total	1.1	16.9	18.0	100	200.1

¹ Includes proposed expansion area associated with the Bordertown Substation

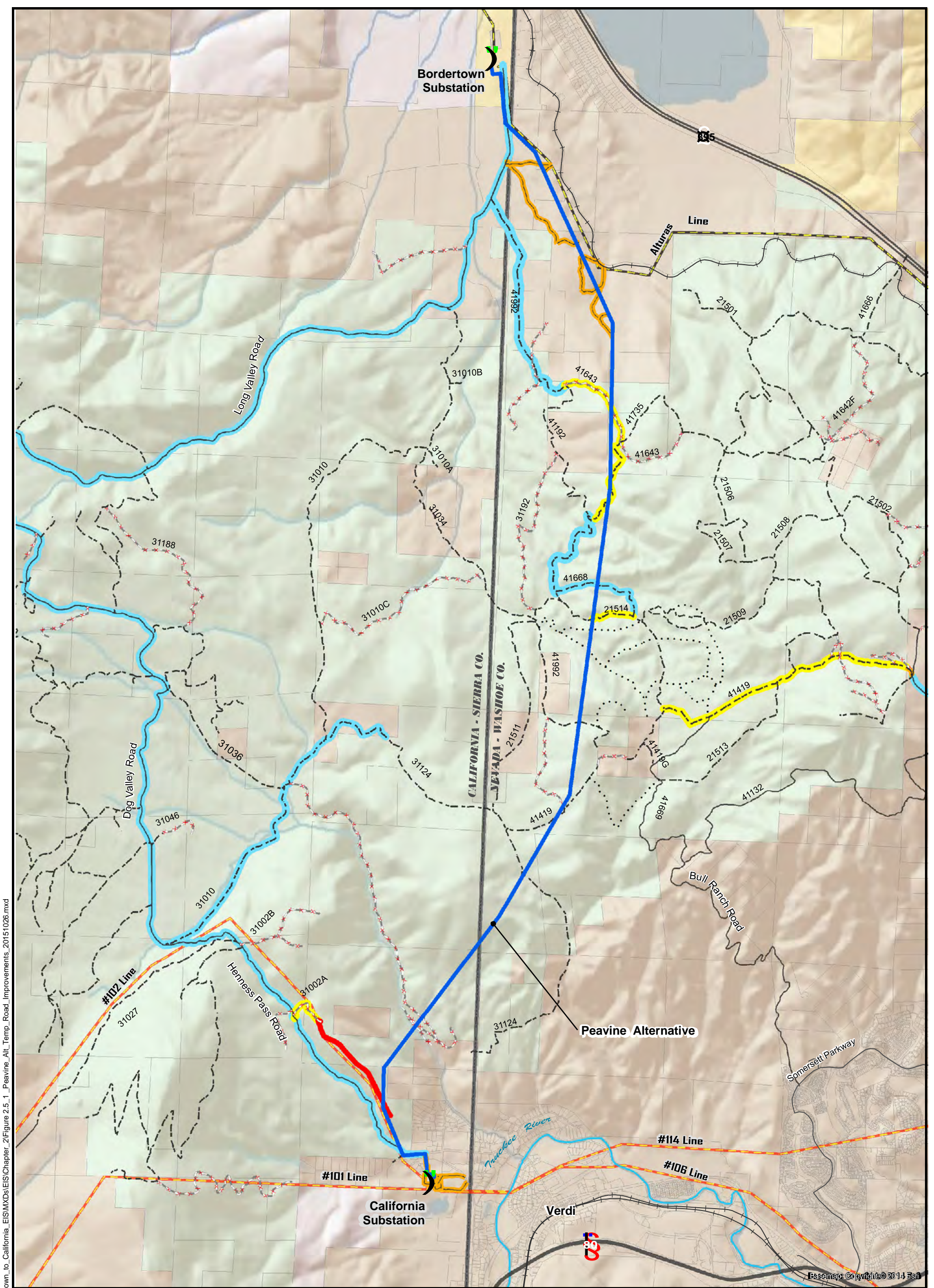
Approximately 20.2 miles of existing roads would be widened for construction access, as displayed on **Figure 2.6-1**. The associated acres of surface disturbance are presented in **Table 2.6-2**. Widening of existing roads on BLM-administered public lands would not be required. Approximately 5.4 miles (19.6 acres) of new temporary centerline travel roads would be needed for construction of the Poeville Alternative.

Table 2.6-2 Road Widening Required for the Poeville Alternative

ROAD/ROUTE TYPE	WIDENING REQUIRED (MILES)	SURFACE DISTURBANCE (ACRES) ¹
Designated NFS Roads on NFS Land	0.0	0.0
Non-Designated Routes on NFS Land	0.9	2.4
Roads on BLM Lands	0.0	0.0
Existing Roads Across Private Land	19.3	49.7
Total (Roads/Routes on All Land)	20.2	52.1

¹ Does not include existing road disturbance, which is assumed to be nine feet wide

The design features that are specific to the Poeville Alternative that would be implemented during construction and/or maintenance of the project are described in **Appendix B**.



Path: U:\Pre_MEDAD\NV\Clients\NV_Energy\Bordertown_to_California_EIS\MXDs\EIS\Chapter_2\Figure 2.5_1_Peavine_Alt_Temp_Road_Improvements_20151026.mxd

<ul style="list-style-type: none"> — Peavine Alternative NFS Roads NFS Motorcycles Only Public and Private Road ● ● ● ● Not Open to Public Motorized Travel — Roads Used for Public Access But Not Widened 120 kV Transmission Line 345 kV Transmission Line 	<p>Land Ownership</p> <ul style="list-style-type: none"> U.S. Forest Service U.S. Bureau of Land Management Private Land <p>PROPOSED ROAD IMPROVEMENTS (TEMPORARY WIDENING)</p> <ul style="list-style-type: none"> Designated Roads on NFS Land Non-Designated Roads on NFS Land Private And Public Roads Across Private Land
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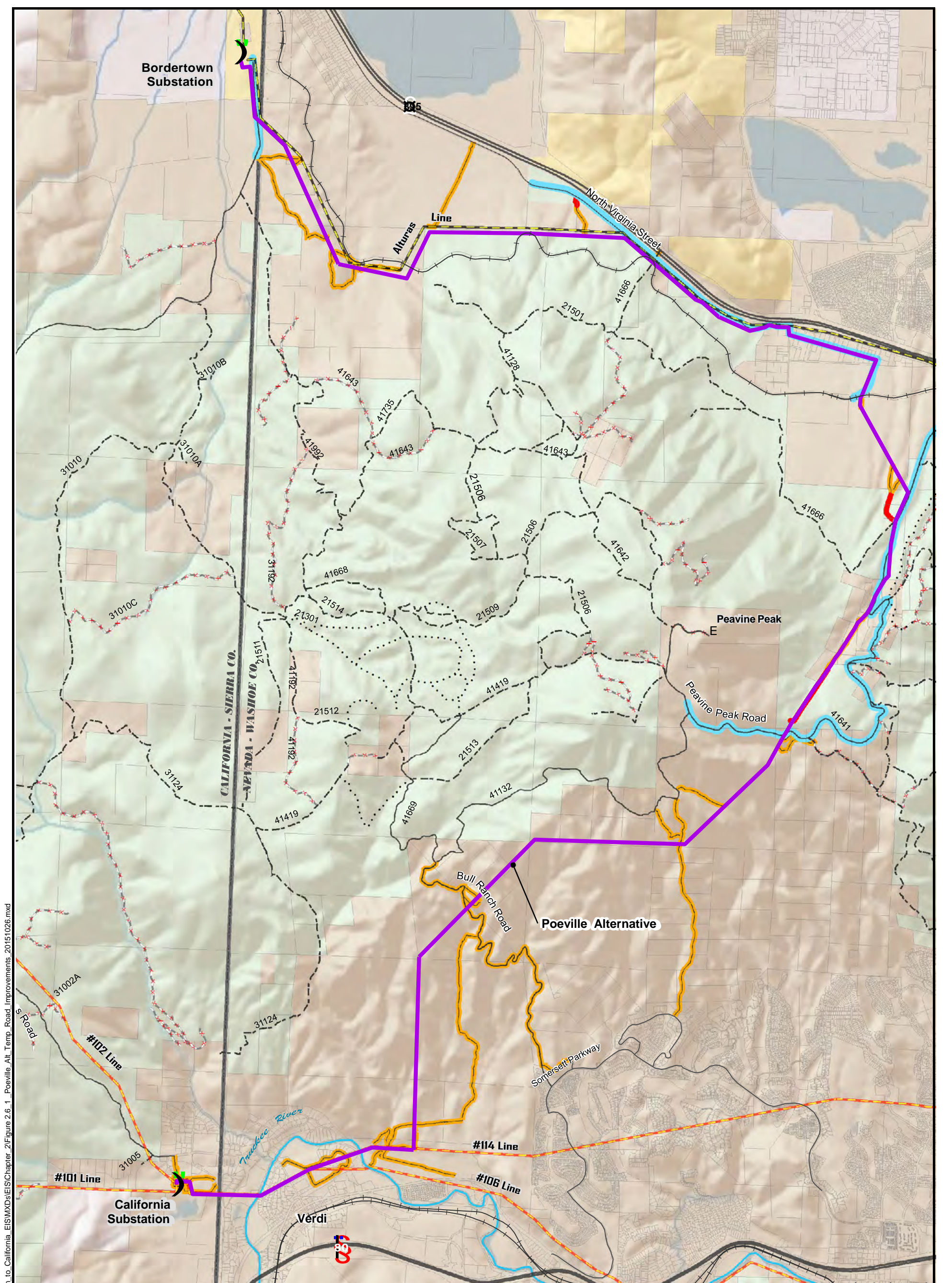
**FIGURE 2.5-1
PEAVINE ALTERNATIVE:
TEMPORARY ROAD IMPROVEMENTS**

**BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS**

1" = 4,000 feet

0 2,000 4,000 8,000

Feet



Path: U:\Pre-MEDAD\NV\clients\NV_Energy\Bordertown to California_EISM\XDs\EIS\Chapter 2\Figure 2.6.1_Poeville Alt Temp Road Improvements 20151026.mxd

Base Maps Copyright © 2014 Esri

<ul style="list-style-type: none"> — Poeville Alternative - - - NFS Roads · · · · · NFS Motorcycles Only — Public and Private Road ◻ ◻ ◻ ◻ Not Open to Public Motorized Travel — Roads Used for Public Access But Not Widened — 120 kV Transmission Line — 345 kV Transmission Line 	<p>Land Ownership</p> <ul style="list-style-type: none"> ■ U.S. Forest Service ■ U.S. Bureau of Land Management ■ Private Land <p>PROPOSED ROAD IMPROVEMENTS (TEMPORARY WIDENING)</p> <ul style="list-style-type: none"> — Designated Roads on NFS Land — Non-Designated Roads on NFS Land — Private And Public Roads Across Private Land
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FIGURE 2.6-1
POEVILLE ALTERNATIVE:
TEMPORARY ROAD IMPROVEMENTS

BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS

1" = 4,000 feet

0 2,000 4,000 8,000

Feet

2.7 PEAVINE/POEVILLE ALTERNATIVE

The Peavine/Poeville Alternative would be approximately 11.9 miles long (**Figures 2.1-1, 2.1-2, and 2.1-3**). The first approximately 6.4 miles of the Peavine/Poeville Alternative would be the same as the first 6.4 miles of the Peavine Alternative. The last approximately 3.8 miles would be the same as the last 3.8 miles of the Poeville Alternative with approximately 2.2 miles replacing the existing H-frame pole structures, on the currently inactive 60 kV #632 distribution line, that parallels the existing #114 and #106 lines through Verdi to the California Substation. A total of approximately 4.4 miles of the Peavine/Poeville Alternative would be located within an existing power line corridor. **Table 2.7-1** summarizes land status and length of ROW in California and Nevada.

Table 2.7-1 ROW/Easement Requirements for the Peavine/Poeville Alternative

LAND OWNERSHIP/ ADMINISTRATION	MILES IN CALIFORNIA	MILES IN NEVADA	TOTAL MILES	PERCENT OF TOTAL	ACRES OF ROW/EASEMENT ¹
USFS	0	4.3	4.3	36.4	46.9
BLM	0.4	0.0	0.4	3.3	8.1
Private Land	0.7	6.5	7.2	60.2	78.5
Total	1.1	10.8	11.9	100	133.5

¹ Includes proposed expansion area associated with the Bordertown Substation

Approximately 20.7 miles of existing roads would need to be widened for construction access, as displayed on **Figure 2.7-1**. The acres of surface disturbance associated with widening are presented in **Table 2.7-2**. Widening of existing roads on BLM-administered public lands would not be required.

Table 2.7-2 Road Widening Required for the Peavine/Poeville Alternative

ROAD/ROUTE TYPE	WIDENING REQUIRED (MILES)	SURFACE DISTURBANCE (ACRES) ¹
Designated NFS Roads on NFS Land	6.0	15.3
Non-Designated Routes on NFS Land	0.7	1.7
Roads on BLM Lands	0.0	0.0
Existing Roads Across Private Land	14.0	35.7
Total (Roads/Routes on All Land)	20.7	52.7

¹ Does not include existing road disturbance, which is assumed to be nine feet wide

Approximately 7.8 miles (28.4 acres) of new temporary centerline travel roads would be needed for construction of the Peavine/Poeville Alternative.

The design features specific to the Peavine/Poeville Alternative that would be implemented during construction and/or maintenance of the project are described in **Appendix B**.

2.8 MODIFICATIONS MADE TO ALTERNATIVES

2.8.1 Mitchell Route Modification

The first alignment of the Mitchell Alternative was presented during the public scoping period. The northern portion of the original Mitchell Alternative was the same as the Stateline Alternative, and encountered the same Webber ivesia populations that made the Stateline Alternative environmentally unreasonable and technically infeasible. However, the remaining southern portion of the original Mitchell Alternative that was not shared with the Stateline Alternative was still feasible and practical. After dismissal of the Stateline Alternative, the alignment of the Mitchell Alternative was modified by connecting it to the Peavine Alternative, making the first 5.0 miles of the alignment the same as the Peavine Alternative. To ensure that the revised Mitchell Alternative had no conflicts with Webber ivesia, a field survey was conducted, and no occurrences of sensitive plants or potential habitat were discovered.

2.8.2 Poeville Alternative North Virginia/Trail Drive Modification

The first alignment of the Poeville Alternative was presented during the public scoping period that placed approximately 2.4 miles of the Poeville Alternative on the south side of North Virginia Street. At Mar Mac Way, the alternative would head south to the former community of Poeville, and then continue over the east shoulder of Peavine Peak. Upon further evaluation, NV Energy revised the portion of the alignment between Copperfield Drive and Mar Mac Way to follow Trail Drive rather than North Virginia Street. Placing the transmission line along Trail Drive would reduce the disruption to traffic on North Virginia Street during construction, and would be easier to construct. Distribution lines occur along both roadways (e.g., Trail Drive and North Virginia Street) that would need to be transferred to a single pole under-build. However, transfer activities on an alignment on Trail Drive would be easier because the distribution line is intermittent and single phase (rather than three phase). Easement acquisition on Trail Drive would also be easier due to fewer property owners and greater number of parcels that are vacant. Adjusting the Poeville route using Trail Drive was deemed reasonable and this modification was incorporated into the Poeville Alternative.

2.8.3 Peavine/Poeville Alternative Minor Route Modification

A minor route modification (less than 300 feet long) was made within the variable width and study corridor boundary for the Peavine/Poeville Alternative to avoid a sensitive resource that was identified during consultation. The route now avoids this sensitive resource.

2.8.4 Peavine Ranch Property Route Adjustment

The Poeville Alternative, as it was presented during public scoping, crossed diagonally over one of the Peavine Ranch parcels. To avoid splitting the parcel at the Peavine Ranch, the Poeville Alternative was moved to the perimeter of the Peavine Ranch property to follow the existing distribution line.

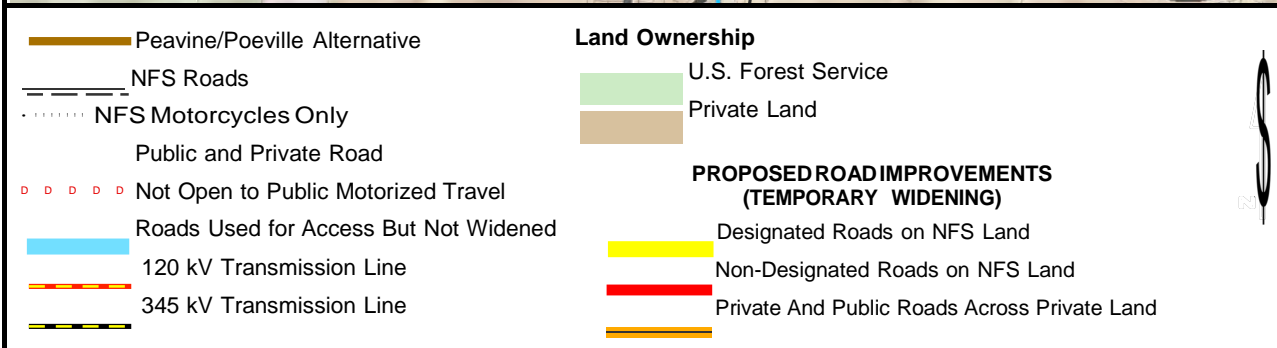
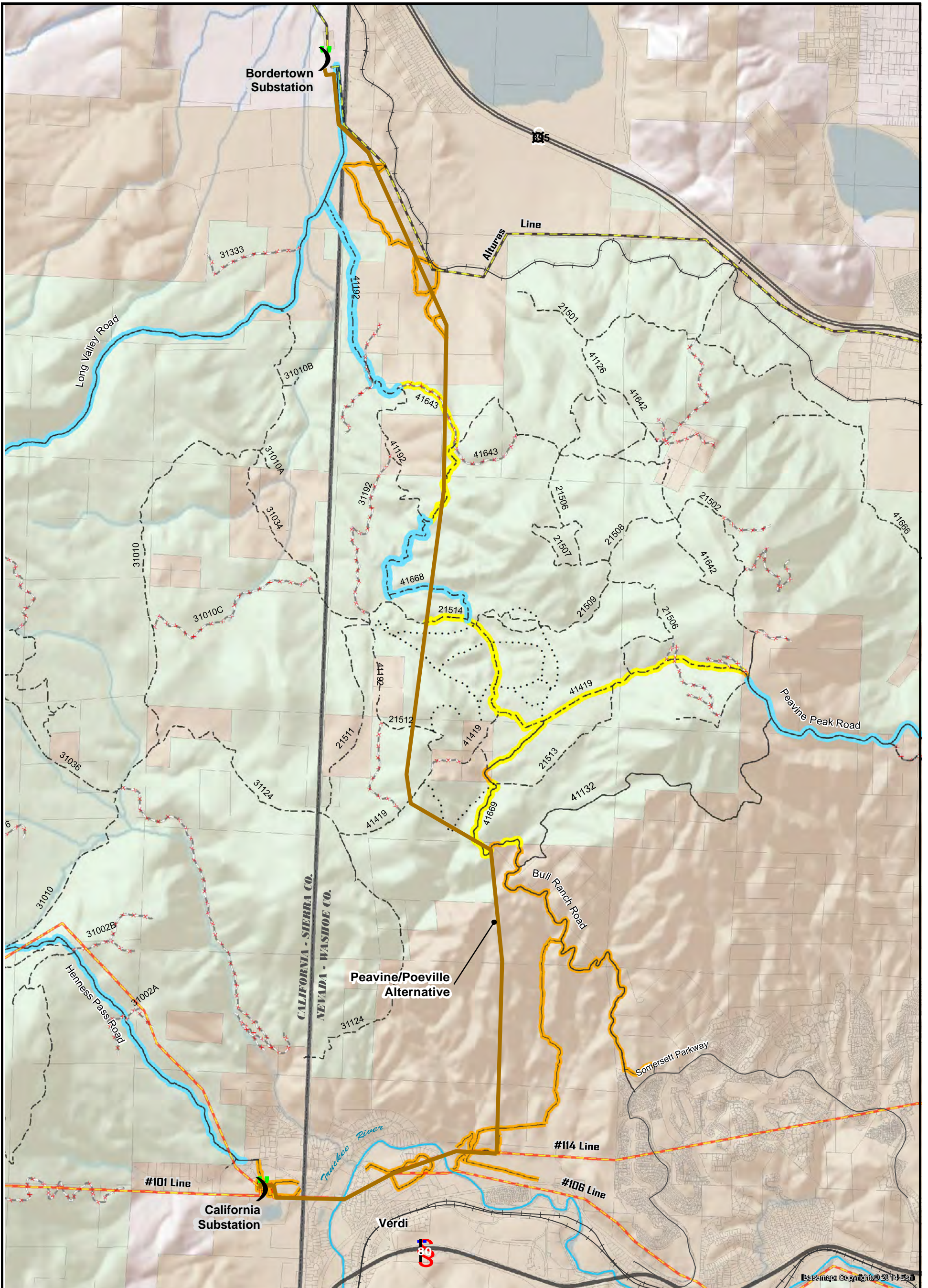


FIGURE 2.7-1
PEAVINE/POEVILLE ALTERNATIVE:
TEMPORARY ROAD IMPROVEMENTS

BORDERTOWN TO CALIFORNIA
 120 kV TRANSMISSION LINE EIS

2.8.5 Section 26 Route Adjustment

On the southern flank of Peavine Peak, the initial alignment of the Poeville Alternative followed the eastern and southern border of Section 26, Township 20 North, Range 18 East. This initial alignment was developed using mapping software. Based on initial investigations and a field review, a steep hill slope was identified along the eastern border of the section. Accordingly, the Poeville Alternative was moved to cross Section 26 at a diagonal rather than follow the eastern border across the steep hill slope.

2.9 AGENCY SELECTED ALTERNATIVE

The Peavine/Poeville alternative is the agency selected alternative. In the Draft EIS, the Poeville Alternative was identified as the Agency Preferred Alternative. After reviewing public comments on the Draft EIS and conducting further analysis related to cultural resources, private property, and visual resources the USFS selected the Peavine/Poeville Alternative as the Agency Selected Alternative. This alternative would use a regionally designated utility corridor east of the California Substation and federally designated portions of the Section 368 Energy Corridor near Bordertown Substation. This alternative minimizes routing across private land and avoids a property listed on the NRHP. This route maximizes crossing land previously disturbed by wildland fire, and minimizes crossing pine forest communities and avoids designated critical habitat for Webber ivesia (*Ivesia webberi*), a threatened plant species protected under the Endangered Species Act (ESA) of 1973.

2.10 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The No Action Alternative is the environmentally preferable alternative because it would not result in disturbance to vegetation, soils or habitat loss. There would be not tree removal, and no road widening or restoration efforts needed to restore vegetation following construction. There would be no risk to new noxious weed establishment. There would be no effects to habitat that support pollinator habitat for sensitive plant species. There would be no effect to cultural resources. This alternative does not meet the purpose and need for the project.

2.11 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

The NEPA requires federal agencies to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not further developed in detail (40 CFR 1502.14). Potential alternatives were evaluated to determine which were reasonable to consider further, using the CEQ, USFS NEPA Handbook, and USFS Special Uses Handbook (FSH 2709.11). The screening criteria from CEQ and agency requirements are found in the project record. Alternatives that were dismissed from further consideration are summarized below.

2.11.1 Stateline Alternative

The Stateline Alternative was presented as the Proposed Action in the NOI and to the public and cooperating agencies during the scoping period. The Stateline Alternative generally paralleled the California state line, staying on the Nevada side, approximately 0.1 mile east of the California state line. The Stateline Alternative was based on the Stateline Route presented in the Constraint Study,

which identified the Stateline Route as the most desirable route because it encountered the fewest constraints according to a desktop analysis. Field surveys conducted in 2011 found that the Stateline Alternative crossed occupied habitat for Webber ivesia, a USFS sensitive species that at the time was proposed for listing as threatened under the ESA. In order to protect Webber ivesia, the USFS formulated the following design feature:

Project activities would be excluded from the occupied habitat unit for Webber ivesia, which includes the 500-meter buffer. (*Occupied habitat* includes the low sage habitat where the plants are present and a 500-meter buffer from the edge of the occurrence. The 500-meter buffer would include low sage and adjacent shrub steppe habitats to accommodate pollinators associated with the rare plant community).

Without the inclusion of the design feature, the Stateline Alternative would not be environmentally reasonable due to potential impacts to the occupied habitat for Webber ivesia. However, with the inclusion of the design feature, the alternative would not be technically feasible because the protection buffer exceeds the maximum span length possible between two pole structures. The Stateline Alternative was dismissed from further consideration and analysis because it would be either environmentally unreasonable or technically infeasible to implement.

2.11.2 Stateline/Poeville Alternative

The Stateline/Poeville Alternative was developed to address visual impacts to the viewshed of private property near the California Substation. The Stateline/Poeville Alternative was created by making a hybrid between the Stateline and Poeville alternatives. The last 3.8 miles of the Stateline/Poeville Alternative would be the same as the Poeville Alternative and would replace the existing, but currently inactive 60 kV #632 distribution line in its exact location, and parallel the existing #114 and #106 lines through Verdi to the California Substation. This alternative was determined to be unreasonable for the reasons discussed for the Stateline Alternative (see **Section 2.11.1**).

2.11.3 Dog Valley Alternative

The Dog Valley Alternative was originally presented in the Constraint Study (JBR 2009a). Most of this alternative would be located in California, about three miles west of the California state line. Although this alternative maximized routing next to an existing transmission line, it was the longest alternative; crossed the most pine forest community; and crossed Dog Valley, which is a popular camping and day-use area for the general public. The Dog Valley Alternative was dismissed from further consideration because it would have similar effects as the Mitchell and Peavine alternatives.

2.11.4 Long Valley Alternative

The Long Valley Alternative was originally presented in the Constraint Study (JBR 2009a). The alternative was generally located within California, one mile west of the California state line. The advantage of the Long Valley Alternative was that it crossed areas disturbed by wildfire and maximized routing next to an existing transmission line. However, the Long Valley Alternative would have similar effects as the Mitchell and Peavine alternatives.

2.11.5 All Private Land Alternative

The All Private Land Alternative would avoid NFS land by wrapping around Peavine Mountain and the eastern boundary of the Humboldt-Toiyabe National Forest. From the Bordertown Substation, the alternative would follow the Alturas 345 kV transmission line corridor to the North Valley Road Substation. From the North Valley Road Substation, several routing options to reach the California Substation would be possible, but a linear corridor of undeveloped land is unavailable. Two options would follow the #141 transmission line corridor and either crosses undeveloped hillsides above the Somerset community or follows the #114 transmission line corridor through the Northwest Reno and Somerset communities. A third option would follow the #142 transmission line corridor to reach Interstate 80, and then follow Interstate 80 to Verdi.

The All Private Land Alternative was dismissed from further consideration because it would not meet the project's purpose and need. None of the alignment options would be geographically independent of the #141 and #142 transmission lines needed to provide reliability or redundancy for the transmission system serving the West Reno/Verdi area. This alternative would unavoidably use the same corridor (with minimal separation) as the transmission lines that NV Energy needs to back up (i.e., #141 and #142 transmission lines).

2.11.6 Mostly Private Land Alternative

The Mostly Private Land Alternative would follow the Alturas 345 kV transmission line from the Bordertown Substation and then follow the #141 transmission line, which parallels North Virginia Street. Before reaching the Raleigh Heights community, the alternative would head south across NFS land, then head southwest and west to the eastern edge of the Somerset community. It would follow the #114 transmission line corridor through the Somerset community and Verdi to reach the California Substation.

The Mostly Private Land Alternative was dismissed from further consideration because it would not be technically or economically practical. Homes and businesses cannot be avoided in the Silver Lake and Raleigh Heights/Panther Valley areas along U.S. Highway 395 and North Virginia Street. The extraordinary costs associated with purchasing homes and businesses would prevent this alternative from being economically practical. Additionally, the Mostly Private Land Alternative would not be geographically independent of the #141 transmission line, NERC planning criteria for transmission system reliability for the West Reno/Verdi area which is a requirement to meet the purpose and need of the project.

2.11.7 Use Alturas 345 kV Transmission Line Poles

Use of the Alturas transmission line corridor is desirable because it is a designated Section 368 energy corridor and represents a preferred location for placing an energy facility on public land. Sections of the Mitchell, Peavine, Poeville, and Peavine/Poeville alternatives parallel the Alturas transmission line as the alternatives leave the Bordertown Substation. Under this alternative, rather than construct within a separate ROW next to the Alturas transmission line, the project would be placed on the same poles with the Alturas transmission line. This alternative was dismissed from further consideration because it would not be technically practical to construct. Construction would be limited to two two-week periods per year, the maximum period that NV Energy system controls would allow the Alturas 345 kV transmission line to be de-energized. As such, construction of the transmission line could not be completed in a reasonable and timely manner.

2.11.8 Use Alturas Line Poles to North Valley Road Substation

The All Private Land and Mostly Private Land Alternatives (**Sections 2.11.5 and 2.11.6**) are constrained by U.S. Highway 395 and adjacent homes and businesses. At many locations, adequate space for a new ROW is unavailable. To address this problem, this alternative would construct the project on the same poles with the Alturas 345 kV transmission line from the Bordertown Substation to the North Valley Road Substation.

This alternative was dismissed because the alternative does not address the NERC planning criteria for transmission system reliability for the West Reno/Verdi area. To meet the project purpose and need, an alternative would need to be geographically independent of the #141 and #142 transmission lines. The All Private Land and Mostly Private Land Alternatives would still use the #141 and #142 transmission line corridors even with the implementation of the alternative.

2.11.9 #102 Line Corridor (North side) to California Substation

With the construction of the Mitchell or Peavine alternative, a residential subdivision located next to the California Substation would be almost entirely surrounded by 120 kV transmission lines. This alternative would modify the Mitchell and Peavine alternatives to utilize the north side of the #102 transmission line corridor to approach the California Substation. Doing so would avoid placement of the proposed transmission line along the eastern and northern subdivision boundary.

This alternative was dismissed from further consideration because it would not be substantially different than either the Mitchell or Peavine alternative.

2.11.10 #102 Line Corridor (South side) to California Substation

This alternative is a variation of the alternative described above (**Section 2.11.9**). By placing the proposed transmission line on the south side of the #102 transmission line corridor, this alternative would avoid crossing the residential lots and avoid placement of the proposed transmission line along the eastern and northern subdivision boundary. However, the proposed transmission line would need to cross the existing #102 transmission line twice. This alternative was dismissed from further consideration because it would not be technically practical. Crossing of a transmission by a second transmission line introduces a potential system hazard and is not an acceptable utility line construction practice unless deemed absolutely necessary.

2.11.11 #102 Line Corridor by Rearranging Terminals

Constructing a new terminal on the west side of the California Substation would allow the use of the #102 transmission line corridor and would not require a crossing of an existing transmission line. However, the construction of a new terminal or the rearrangement of existing terminals would require the expansion of the substation and purchase of land or the acquisition of an easement on private land. It would not be technically or economically practical to expand the substation in order to facilitate the rearrangement of terminals when there is currently an available terminal space on the east side of the substation.

2.11.12 Bulk Power from #101 and #102 120 kV Lines

A public scoping comment suggested that the need to construct a new power line could be eliminated if bulk power can be brought to the California Substation from California via the #101 and #102 transmission lines. This alternative was dismissed from further consideration because the #101 and #102 transmission lines are not available to deliver bulk energy into the NV Energy western service territory. Both transmission lines continue west from the California Substation to the Pacific Gas and Electric Company's Summit Substation and NV Energy's Summit Monitoring Station at Donner Summit. Neither facility has a 345 kV bulk power source.

2.11.13 Peavine Ranch Northside of U.S. 395

A comment was received regarding the potential for the Poeville Alternative to affect the historic setting of Peavine Ranch, a property on the NRHP. Additionally, the safety of electromagnetic fields produced by the proposed transmission line and its proximity to the Peavine Ranch residence was also raised as a concern. To avoid the Peavine Ranch, this alternative would construct the Poeville Alternative on the north of U.S. Highway 395.

This alternative was dismissed from further consideration because it would not be technically practical. This alternative would require that the proposed transmission line cross the Alturas 345 kV transmission line twice. Crossing of the Alturas 345kV transmission line by a second transmission line (i.e., Poeville Alternative) introduces a potential system hazard and is not an acceptable utility line construction practice unless deemed absolutely necessary.

2.11.14 Parcel Block Route Adjustment

The Parcel Block Route Adjustment Alternative was developed in response to a public comment regarding the Poeville Alternative which would split a contiguous block of parcels owned by a single property owner. This alternative would move the Poeville Alternative to the outer perimeter of the contiguous block of parcels, keeping the block of parcels intact.

This alternative would not be substantially different from the Poeville Alternative and would not reduce or mitigate potential environmental impacts associated with the Poeville Alternative. This alternative would not be substantially different than the Poeville Alternative, and therefore, was dismissed from further consideration.

2.11.15 Undergrounding

This alternative would place the proposed transmission line underground to avoid visual impacts. Undergrounding involves placing the transmission line beneath the ground in a concrete encased conduit system and requires far more ground disturbance than overhead construction. Undergrounding is 7 to 10 times the cost of overhead construction (BLM 2013). In the event of a failure, the repair of an underground transmission line is slower due to the difficulty in accessing the line and the need to find specialized repair expertise. This alternative was dismissed from further evaluation because it is not technically practical to bury transmission lines for long distances in very steep terrain, which is a common condition along every alternative.

2.11.16 Renewable Energy Generation Alternatives

A number of methods to generate renewable energy to serve utility customers in the West Reno/Verdi area were suggested, including a solar power plant in West Reno, a wind turbine on

Peavine Peak, a hydroelectric generation facility on the Truckee River, and a large-scale battery or flywheel power storage facility. All power generation alternatives were dismissed from further evaluation because they would not meet the project purpose and need. Power generation would not provide the redundancy needed (i.e., an alternate transmission route) to improve the reliability of the 120 kV network that supplies power to the West Reno/Verdi area.

2.11.17 Energy Conservation

Lowering energy consumption could potentially increase available energy within NV Energy's system. This alternative was dismissed from further consideration because it would not meet the project purpose and need. Energy conservation does not provide reliability when providing power to a specific load center nor does it provide redundancy in the 120 kV transmission system needed to meet NERC reliability criteria.

2.11.18 New Substation in Reno

A new substation in Reno was suggested as an alternative to constructing a new transmission line. Construction of a new substation would not meet the project purpose and need, and therefore, this alternative was dismissed from further consideration. A new substation in Reno or the West Reno/Verdi area would not improve reliability or provide redundancy to the 120 kV system that supplies power to the West Reno/Verdi area. A substation is used to convert power to a different voltage and is needed to regulate or reduce electric voltage to levels that can be conveyed to the customer.

2.11.19 21st Century Solution Alternative

An alternative to transmit power without the use of power lines was submitted during public scoping. This alternative was dismissed from further consideration because it would not meet the project purpose and need. There are no known methods of transmitting power except by using transmission lines and the alternative does not offer a tangible means for meeting NERC reliability criteria in providing power to the West Reno/Verdi area.

2.11.20 Peavine Peak Road Route Adjustment

The Peavine Peak Road Route Adjustment was developed in response to a public comment to the Poeville Alternative because the alternative would split private land parcels located on the south side of Peavine Peak. The Peavine Peak Road Route Adjustment would align the transmission line away from the private land parcels by utilizing Peavine Peak Road and several other roads and properties, including NFS land.

The Forest Plan's established standards and guidelines include avoiding NFS land for uses that can be accommodated on private land. The Poeville Alternative was developed to use existing utility corridors as much as possible. The suggested Peavine Peak Road Route Adjustment would not be substantially different than the Poeville Alternative except that it would cross more NFS land and other private land parcels. Accordingly, the suggested alternative was considered and eliminated from detailed consideration.

2.12 COMPARISON OF ALTERNATIVES

To facilitate a clear understanding of the alternatives being considered in detail, this section provides a summary of the effects of implementing each alternative presented in **Chapter 2**.

2.12.1 Summary of Alternatives Carried Forward for Analysis

Components from each alternative are provided in **Table 2.12-1** to allow for ease of comparison.

Table 2.12-1 Summary of Action Alternatives Carried Forward for Detailed Analysis

PROJECT COMPONENT	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/POEVILLE ALTERNATIVE
Miles of new transmission line...	11.7	10.3	18.0	11.9
...in Nevada	5.3	7.2	16.9	10.8
...in California	6.4	3.1	1.1	1.1
Miles sharing an existing utility corridor...	4.6	2.8	12.6	4.4
...on NFS land	3.8	2.0	4.0	0.0
...on BLM-administered public land	0.4	0.4	0.4	0.4
Miles of new transmission line...				
...on NFS land	8.4	7.0	4.0	4.3
...on BLM-administered public land	0.4	0.4	0.4	0.4
...on private land	2.9	2.9	13.6	7.2
Bordertown Substation expansion BLM-administered public land (acres)	3.7	3.7	3.7	3.7
Number of new transmission line poles...	124	109	190	126
...on BLM-administered public land	5	5	5	5
...on NFS land	89	74	43	45
Miles of temporary centerline travel road...	7.1	7.5	5.4	7.8
...on NFS land	6.1	6.5	0	4.3
...on private land	1.0	1.0	5.4	3.5
...on BLM-administered public land	0.4	0.4	0.4	0.4
Temporary road widening disturbance (acres)...	28.3	53.3	52.1	52.7
...on NFS land (designated roads)	14.4	25.5	0.0	17.0
...on NFS land (non-designated roads)	2.7	3.5	2.4	0
...on BLM-administered public land	0	0	0	0
...on private land	11.2	24.3	49.7	35.7

PROJECT COMPONENT	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/POEVILLE ALTERNATIVE
Short-term disturbance during construction (acres)...	281.7	302.1	617.7	364.3
...on NFS land	176.5	184.2	162.2	127.3
...on BLM-administered public land	29.1	29.1	29.1	29.1
...on private land	76.1	88.8	426.4	207.9

Note: See **Table 2.12-2** for acres of tree removal under transmission line wires

2.12.2 Comparison of Alternatives – Resource Impacts

The comparison of alternatives draws together the conclusions from the information and discussion presented throughout the EIS and briefly summarizes the results of the analysis. **Table 2.12-2** compares alternatives by key issues and environmental effects. See **Chapter 3** for the detailed analysis by resource area.

Table 2.12-2 Comparison of Alternatives

ISSUE	NO ACTION ALTERNATIVE	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/POEVILLE ALTERNATIVE
Visual Resources					
Loss of visual quality and scenic attributes of the characteristic landscape at KOPs	No impact	Negligible to minor long-term impacts	Negligible to minor long-term impacts	Negligible to moderate long-term impacts	Negligible to minor long-term impacts
Consistency with the goals and objectives of the existing VQOs assigned to the NFS land and VRM Class III designation assigned to BLM-administered public lands that would be crossed by an action alternative	Consistent; no impact	Consistent with all VQOs and VRM Class III	Same as the Mitchell Alternative	Same as the Mitchell Alternative	Same as the Mitchell Alternative
Number of residences within 0.25 mile of the proposed transmission line	No impact	25 residences	25 residences	245 residences	134 residences
Acres of forest vegetation cleared for the proposed transmission line	No impact	41.8 acres	21.4 acres	2.9 acres	12.1 acres
Land Use and Private Property					
Number of private property parcels (excluding parcels owned by Sierra Pacific Power Company) crossed by the proposed transmission line ROW/easement	No impact	19 parcels	19 parcels	127 parcels	61 parcels
Private property value	No impact	Long-term negligible impacts on properties with existing homes, and long-term minor to negligible impacts on vacant properties	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Consistency with local land use plans	Consistent; no impact	Requires an amendment to the Truckee Meadows Regional Plan and a SUP in Sierra County, Washoe County, and the City of Reno	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative

ISSUE	NO ACTION ALTERNATIVE	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/POEVILLE ALTERNATIVE
Public Health and Safety					
Maximum electric field during project operation	No impact	Up to 2.6 kV per meter within the ROW/easement (below non-regulatory threshold), and up to 1.0 kV per meter at ROW/easement boundary (below non-regulatory threshold)	Same as Mitchell Alternative	Up to 2.9 kV per meter within the ROW/easement (below non-regulatory threshold), and up to 0.9 kV per meter at ROW/easement boundary (below non-regulatory threshold)	Same as Poeville Alternative
Maximum magnetic field during project operation	No impact	Up to 153.2 milligauss within the ROW/easement (below non-regulatory threshold), and up to 46.9 milligauss at ROW/easement boundary (below non-regulatory threshold)	Same as Mitchell Alternative	Up to 151.1 milligauss within the ROW/easement (below non-regulatory threshold), and up to 60.8 milligauss at ROW/easement boundary (below non-regulatory threshold)	Same as Poeville Alternative
Risk to public health and safety	No impact	No impact	No impact	No impact	No impact
Air Quality Resources					
Emissions of criteria pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide) from construction, operation, and maintenance of the proposed project	No change from current condition	Temporary and minor impacts from particulate matter emissions; Temporary and negligible impacts from emission of all other criteria pollutants	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative

ISSUE	NO ACTION ALTERNATIVE	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/ POEVILLE ALTERNATIVE
Biological Resources					
Acres of vegetation communities disturbed but are proposed to be restored	No impact	281.7 acres	302.1 acres	617.7 acres	364.3 acres
Acres of vegetation permanently removed with no proposed restoration (Pole structures and Bordertown Substation expansion)	No impact	3.8 acres	3.8 acres	3.9 acres	3.8 acres
Acres of tree cutting needed to maintain safe transmission line clearance	No impact	42 acres	21.4 acres	3 acres	12 acres
Acres of known noxious weed infestations within variable-width corridor and road widening corridor as a measure of the potential to spread and/or introduce noxious weeds	No impact	6.4 acres plus an additional 30 infestations of unknown size	12.7 acres plus an additional 23 infestations of unknown size	34.3 acres plus an additional 115 infestations of unknown size	30.3 acres plus an additional 109 infestations of unknown size
Miles of temporary new centerline travel roads required for project access as a measure of the potential to spread noxious weeds	No impact	7.1 miles	7.5 miles	5.4 miles	7.8 miles
Disturbance to Forest Service Sensitive and other special status plants	No impact	No impact on special status plant populations or individuals;	4.5 acres of occupied habitat (the potential pollinator forage area within 1,640 feet of a known population) for Dog Valley ivesia.	Same as Mitchell Alternative	4.5 acres of occupied habitat (the potential pollinator forage area within 1,640 feet of a known population) for Dog Valley ivesia
Occupied habitat for Webber ivesia	No impact	No impact	No impact	No impact	No impact
Result in a loss of population viability or trend toward federal listing for Forest Service Sensitive wildlife	No impact	Short term impacts to individuals; no impact to viability	Short term impacts to individuals; no impact to viability	Short term impacts to individuals; no impact to viability	Short term impacts to individuals; no impact to viability
Result in downward trend in populations and/or habitat capability for Management Indicator Species or other general wildlife species	No impact	No long-term impact populations or habitat capability	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Disturbance to federally threatened species: Lahontan cutthroat trout	No impact	No impact	No impact	No impact	No impact

ISSUE	NO ACTION ALTERNATIVE	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/POEVILLE ALTERNATIVE
Interference with wildlife movement/migration or important seasonal habitat, particularly for mule deer	No impact	Short-term and long-term minor to negligible impacts	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Cultural Resources					
Number of known eligible historic properties or sites, including historic properties or sites with unknown eligibility status that would be treated as an eligible site (Alternatives are ranked by the number of sites affected. 1 being fewest and 3 being the most sites affected.)	No impact	Rank 2	Rank 1	Rank 3	Rank 3
Potential for unanticipated discovery of resources during road widening	No impact	High potential	Moderate potential	Low potential	Low potential
Watershed Resources (Soil and Water)					
Acres of surface disturbance to soils rated as severe erosion hazard	No impact	285.5 acres	305.9 acres	621.5 acres	368.2 acres
Number of constructed fords and unimproved crossings of streams	No impact	7 stream crossings on NFS land and 2 stream crossings on private land	12 stream crossings on NFS land and 4 stream crossings on private land	No stream crossings on NFS land and 15 stream crossings on private land	11 stream crossings on NFS land and 5 stream crossings on private land
Number of constructed fords and unimproved crossings of wetlands and riparian zones	No impact	No crossings on NFS land and 2 wetlands and/or riparian zone crossings on private land	No crossings on NFS land and 7 wetlands and/or riparian zone crossings on private land	2 riparian zone crossings on NFS land and 7 crossings on private land	No crossings on NFS land and 8 wetlands and/or riparian zone crossings on private land
Impacts to Waters of the United States	No impact	0.007 acre	0.010 acre	0.031 acre	0.010 acre
Climate Change					
Total tons of greenhouse gas (GHG) emissions for construction and maintenance	No impact	941.5	828.9	1448.5	949.6

Table 2.12-3 compares alternatives by issues and environmental effects specific to BLM-administered public land. Each of the action alternatives would be constructed in the exact same location and position on BLM-administered public land, and expansion of the Bordertown Substation would occur under each action alternative. Thus, as **Table 2.12-3** shows, issues and effects are the same for all action alternatives.

Table 2.12-3 Comparison of Alternatives on BLM-Administered Public Land

ISSUE	NO ACTION ALTERNATIVE	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/POEVILLE ALTERNATIVE
Visual Resources					
Consistency with the goals and objectives of the existing VRM Class III designation assigned to BLM-administered public lands that would be crossed by an action alternative	Consistent; no impact	Consistent; no impact	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Land Use and Private Property					
Consistency with the Eagle Lake RMP (BLM 2008b)	Consistent; no impact	Consistent; no impact	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Public Health and Safety					
Maximum electric field on BLM-administered public land during project operation	No impact	Up to 2.5 kV per meter within the ROW/easement (below non-regulatory threshold), and up to 1.0 kV per meter at the ROW/easement boundary (below non-regulatory threshold)	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Maximum magnetic field on BLM-administered public land during project operation	No impact	Up to 151.1 milligauss within the ROW/easement (below non-regulatory threshold), and up to 41.8.9 milligauss at the ROW/easement boundary (below non-regulatory threshold)	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative

ISSUE	NO ACTION ALTERNATIVE	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/POEVILLE ALTERNATIVE
Risk to public health and safety on BLM-administered public land	No impact	No impact	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Air Quality Resources					
Emissions of criteria pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide) from construction, operation, and maintenance of the proposed project on BLM-administered public land	No change from current condition	Temporary and minor impacts from particulate matter emissions; Temporary and negligible impacts from emission of all other criteria pollutants	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Biological Resources					
Acres of vegetation communities on BLM-administered public land disturbed but are proposed to be restored	No impact	29.1 acres	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Acres of vegetation communities on BLM-administered public land permanently removed with no proposed restoration (pole structures and Bordertown Substation expansion)	No impact	3.8 acres	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Acres of tree cutting on BLM-administered public land needed to maintain safe transmission line clearance	No impact	No impact; forest vegetation and trees do not occur on BLM-administered public land	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Acres of known noxious weed infestations on BLM-administered public land within variable-width corridor as a measure of the potential to spread and/or introduce noxious weeds	No impact	Five infestations of unknown size	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Miles of temporary new centerline travel roads required on BLM-administered public land for project access as a measure of the potential to spread noxious weeds	No impact	0.4 mile	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative

ISSUE	NO ACTION ALTERNATIVE	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/POEVILLE ALTERNATIVE
Disturbance to sensitive and other special status plants on BLM-administered public land	No impact	No impact; special status plants do not occur on BLM-administered public land	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Occupied habitat for Webber ivesia on BLM-administered public land	No impact	No impact; occupied habitat does not occur on BLM-administered public land	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Result in a loss of population viability or trend toward federal listing for BLM sensitive wildlife species due to impacts on BLM-administered public land	No impact	No impact to viability and no trend toward federal listing	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Result in downward trend in populations and/or habitat capability for general wildlife species due to impacts on BLM-administered public land	No impact	No long-term impact populations or habitat capability	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Disturbance to federally threatened species: Lahontan cutthroat trout	No impact	No impact; aquatic habitat does not occur on BLM-administered public land	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Interference with wildlife movement/migration or important seasonal habitat, particularly for mule deer	No impact	Short-term to long-term negligible impacts to crucial winter habitat (1.3 acres) and summer use habitat (13.8 acres)	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Cultural Resources					
Number of known eligible and potentially eligible historic properties or sites on BLM-administered public land	No impact	0 sites; no impact	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative

ISSUE	NO ACTION ALTERNATIVE	MITCHELL ALTERNATIVE	PEAVINE ALTERNATIVE	POEVILLE ALTERNATIVE	PEAVINE/ POEVILLE ALTERNATIVE
Number of historic properties or sites with unknown eligibility status on BLM-administered public land that would be treated as an eligible historic property or site	No impact	0 sites; no impact	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Potential for unanticipated discovery of resources on BLM-administered public land during road widening	No impact	No impact; road widening would not occur on BLM-administered public land	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Watershed Resources (Soil and Water)					
Acres of surface disturbance to soils rated as severe erosion hazard on BLM-administered public land	No impact	32.8 acres	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Number of constructed fords and unimproved crossings of streams on BLM-administered public land	No impact	No impact; streams do not occur on BLM-administered public land	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Number of constructed fords and unimproved crossings of wetlands and riparian zones on BLM-administered public land	No impact	No impact; wetlands and riparian zones do not occur on BLM-administered public land	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Impacts to Waters of the United States on BLM-administered public land	No impact	No impact; Waters of the United States do not occur on BLM-administered public land	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative
Climate Change					
Total tons of GHG emissions for construction and maintenance on BLM-administered public land	No impact	32.2	Same as Mitchell Alternative	Same as Mitchell Alternative	Same as Mitchell Alternative

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CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION TO ENVIRONMENTAL ANALYSIS

This chapter describes the existing condition of the natural and human environment in terms of the environmental resources that would potentially be affected by the project alternatives presented in **Chapter 2**. **Chapter 3** also analyzes and discloses the potential effects on these resources that would result from implementation of any of the alternatives, including the No Action Alternative. This chapter presents the scientific and analytical basis for comparison of these alternatives.

3.1.1 Resource Analysis

The potential effects of the alternatives for most resource areas have been documented in project-specific specialist reports. Specialist reports are a part of the planning record on file at the Humboldt-Toiyabe National Forest Supervisor's Office in Sparks, Nevada. The following reports are incorporated by reference:

- *Specialist Report: Cultural Resources Bordertown to California 120 kV Transmission Line Project* (USFS 2014a);
- *Cultural Resources Inventory for the Bordertown to California 120kV Transmission Line Project Sierra County, California and Washoe County, Nevada (Humboldt-Toiyabe National Forest Report No. R2011041702128) (Bureau of Land Management, Eagle Lake Field Office Report No. SU2-2013-05). Davis, California: Far Western Anthropological Research Group Inc. (Garner et al. 2013);*
- *Humboldt-Toiyabe National Forest Report Number: R2013041702329: Cultural Resources Inventory of the Peavine Mitchell Connector: An Addendum to the Bordertown to California 120KV Transmission Line; Project Report No. R2011041702128 (Garner and Young 2013);*
- *R2015041702520, Cultural Resources Inventory of Proposed Peavine-Poeville Access Roads and Material Yards: An Addendum to the Bordertown to California 120kV Transmission Line Project Report No. R2011041702128 (Garner and Clay 2016);*
- *Identification, NRHP Evaluation and Determination of Effects for Traditional Cultural Properties within the Area of Potential Effects of the Peavine-Poeville Alternative for the California to Bordertown 120 kV Transmission Line Project. Humboldt-Toiyabe National Forest Report Number: R2015041702537 (McBride 2016);*
- *Specialist Report: Recreation Bordertown to California 120 kV Transmission Line Project* (USFS 2014b);
- *Specialist Report: Roads and Transportation Bordertown to California 120 kV Transmission Line Project* (USFS 2014c);

- *Specialist Report: Special Status Plants Bordertown to California 120 kV Transmission Line Project* (USFS 2016b);
- *Specialist Report: Special Status Wildlife Bordertown to California 120 kV Transmission Line Project* (USFS 2016c);
- *Specialist Report: Vegetation Resources Bordertown to California 120 kV Transmission Line Project* (USFS 2014d);
- *Specialist Report: Visual Resources Bordertown to California 120 kV Transmission Line Project* (USFS 2017);
- *Specialist Report: Water and Soils Bordertown to California 120 kV Transmission Line Project* (USFS 2014e);
- *Wildfire and Fuels Management Bordertown to California 120 kV Transmission Line Project* (USFS 2014f);
- *Noxious Weed Risk Assessment Bordertown to California 120 kV Transmission Line Project* (JBR 2013b);
- *Electric and Magnetic Field Evaluation for Proposed Bordertown to California 120 kV Transmission Line* (Enertech and Sheppard 2013); and
- *Technical Memo to the Electric and Magnetic Field Evaluation for Proposed Bordertown to California 120 kV Transmission Line* (Enertech 2015).

3.1.1.1 Cumulative Effects

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 actions” (40 CFR 1508.7).

The *temporal extent* of the actions to be considered is 50 years, which is the maximum term of the SUP that would be issued for the proposed ROW/easement. The *spatial extent* of the projects considered in the cumulative effects analysis varies by the resource. **Table 3.1-1** defines the Cumulative Impact Analysis Area (CIAA) considered for each resource.

The CEQ issued an interpretative memorandum on June 24, 2005, regarding analysis of past actions, which states, “agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.” In order to understand the contribution of past actions to the cumulative effects of the proposed project, this analysis relies on current environmental conditions as a proxy for the impacts of past actions. This is because existing conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment and might contribute to cumulative effects.

Table 3.1-1 Cumulative Impact Analysis Area by Resource

RESOURCE	DEFINITION OF CIAA	RATIONALE FOR CIAA
Visual Resources	All areas within two miles of the centerline of each action alternative and the California and Bordertown substations	Area contains all of the visual evidence of present and reasonably foreseeable future actions that would typically be viewed in conjunction with the proposed project
Land Use	All areas within two miles of the centerline of each action alternative and the California and Bordertown substations	The action alternatives would be unlikely to have any measurable incremental effects on the resource beyond two miles
Water Resources and Soils		
Vegetation		
Special Status Plants		
Wildlife	All areas within two miles of the centerline of each action alternative and the California and Bordertown substations	Area incorporates NFS land and areas that may have an influence on wildlife and habitat, and is the extent to which impacts of the proposed project would be limited
Special Status Wildlife		
Wildfire	All areas within two miles of the centerline of each action alternative and the California and Bordertown substations	Area captures the fire history and is the extent to which impacts of the proposed project would be limited
Air Quality	Sierra County, California, and Washoe County, Nevada	Regulatory boundary for which ambient air quality attainment is measured and in which project-related emissions would occur
Cultural Resources	Variable-width corridor and road widening corridor	Maximum extent of construction- and maintenance-related surface disturbance, and includes a buffer from which a cultural site could be viewed concurrent with visual impacts of the proposed project

The present actions that are occurring within the resource CIAAs that are affecting resources that would be impacted by the proposed project include the following:

- Resource management activities;
- Other transmission lines and utility lines (e.g., pipelines);
- Maintenance and use of existing transportation network;
- Urban development;
- Livestock grazing; and
- Mining, including sand and gravel extraction.

NEPA requires analysis of “reasonably foreseeable” future actions and does not require speculation about unknown future events. Therefore, this cumulative effects analysis is generally limited to projects with known locations and descriptions, usually those for which a permit application has been filed or other public announcement made with enough detail to allow for comparison provided. Projects with known locations and descriptions that have been considered as “reasonably foreseeable” include the continuation of present actions. The following actions are reasonably foreseeable:

- Stonegate Master Plan Development; and
- USFS resource management activities, such as the Collie Stewardship Sale (11.4 acres), and personal use fuel wood cutting (primarily in the Mitchell Canyon and the Dog Valley areas).

The Stonegate Master Plan Development is a proposed residential and commercial development project planned on approximately 1,378 acres, south of White Lake, Nevada. The proposed development would be located on both sides of U.S. Highway 395, west of the White Lake Parkway interchange.

3.1.1.2 Information for Resource Issues

The following resource issues are not affected by the alternatives. A brief summary on why they are not discussed further is provided and considers input received during scoping.

Environmental Justice (Executive Order 12898)

There are no minority populations or low-income populations identified within any of the U.S. Census Bureau census block areas that would be crossed by the action alternatives. Minority populations and low-income populations were evaluated in accordance with the criteria and direction provided by the U.S. Environmental Protection Agency (USEPA) in *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* (1998).

Hazardous Materials and Waste

Limited use of hazardous materials, such as fuel, lubricants, and paint solvents is expected for construction of the proposed project. To ensure that the use of such materials would have negligible impacts on human health or any other environmental resources, design feature HM 1 and WA 3 (**Appendix B**) would be implemented during construction. Design feature HM 1 requires the development of an SPCC Plan that would describe safe handling, storage, and clean-up of hazardous materials. Design feature WA 3 prohibits storage of equipment fuels near streams, wetlands, and water features.

Herbicides would be used to control noxious weeds. While herbicides are not a hazardous material, it is recognized that safe handling and usage would ensure safety for humans and other biological resources. Design features HM 1, HE 1, HE 5, and HE 6 (**Appendix B**) would be implemented to ensure safe handling and usage and would require that a spill cleanup kit be readily available whenever herbicides are transported or stored. These design features would also ensure that all herbicides are mixed away from surface waters and groundwater wells.

Noise

Operation of the project would not increase ambient noise levels at the California or Bordertown substations. The current equipment at each substation that creates audible sound includes transformers and phase shifters and regulators; these are magnetic devices that generate noise. The proposal is to install line switches, circuit breakers, and protection relays at the substations; none of which will add to the audible noise level.

High voltage transmission lines emit what is called corona discharge. In the case of a high voltage transmission line, corona discharge is an electrical discharge caused by the ionization of air surrounding an energized conductor. As the energized conductor comes in contact with more particulates and contaminants in the air (e.g., dust, rain, fog, snow, etc.) there is a higher degree of ionization that can make the resulting popping noise louder and more constant.

When the corona noise of a 120 kV transmission line was analyzed in a laboratory setting, the long-term noise levels over the length of the analysis time were measured at 23.3 decibels (Egger, Draxler, Wernegger, Muhr, and Woschitz 2009). Corona noise levels of any of the action alternatives are expected to be between 20 and 30 decibels. According to the National Institute on Deafness and Other Communication Disorders, a noise level of 20 decibels is just audible and comparable to rustling leaves. Noise levels of 30 decibels are very quiet and comparable to a whisper. Noise levels are anticipated to attenuate (lessen) within the proposed ROW and be less than audible outside of the ROW.

Paleontological Resources

The majority of geologic units that would be crossed by one or more of the action alternatives consist of either igneous or metamorphic rock formations (Bell and Garside 1987; Saucedo and Wagner 1992; Soeller and Nielsen 1980). The heat and pressure under which these formations are created are not conducive to fossil preservation. Sedimentary rock generally Pleistocene in age (i.e., older than 10,000 years before present day) are conducive to fossil preservation, while geologic formations younger than 10,000 years before present are generally not likely to contain vertebrate fossils or scientifically important non-vertebrate fossils (BLM 2007). Pleistocene-aged sedimentary rock units that would be crossed by the action alternatives are few and generally located in areas where existing roads provide access and little excavation or grading would be required for project construction. Additionally, there are no known surface fossils within areas that would be crossed by any of the action alternatives. Accordingly, implementation of any of the action alternatives would be anticipated to have negligible to no impact on paleontological resources.

Recreation

Visibility of the proposed pole structures and overhead conductors would increase the evidence of human activity for the operational life of the proposed project. However, increased evidence of human activity from the project would generally occur in settings where some evidence of human activity currently exists in the form of roads, motorized travel on roads, buried utility lines, and overhead utility lines. Accordingly, the proposed project would not conflict with or modify the existing Recreation Opportunity Spectrum designations within the project area, which consist of Roaded Natural on NFS land and Backcountry on BLM-administered public land (USFS 2014b).

Socioeconomics

The proposed project would be constructed, operated, and maintained by the existing NV Energy workforce or their contractors. Thus, the proposed project is anticipated to maintain employment for the NV Energy workforce and generate employment and additional revenue for contractors. Implementation of any of the action alternatives would not have any adverse impacts on socioeconomics.

Transportation/Road Networks

The proposed project would not modify the existing Motor Vehicle Use Map (USFS 2011b) or other network of roads and trails open to public use. Impacts on transportation and road networks would not occur from implementation of the No Action Alternative or any of the action alternatives (USFS 2014c).

Wilderness and Roadless Areas

The nearest wilderness area to any of the action alternatives, Mt. Rose Wilderness, is approximately four miles southeast of the California Substation (USFS 2007). Mt. Rose Wilderness would not be affected from implementation of any of the action alternatives. There are no inventoried roadless areas on the NFS land within the project area (USFS 2001).

3.2 VISUAL RESOURCES

3.2.1 Issue Statement

Transmission line poles and conductor wires may reduce the scenic quality in the proposed ROW/easement and interrupt the scenic integrity of the viewshed.

- a. Issue measured by: Loss of the visual quality and scenic attributes of the characteristic landscape at KOPs.
- b. Issue measured by: Consistency with the goals and objectives of the VQOs assigned on NFS land and VRM Class III assigned to BLM-administered public lands that would be crossed by an action alternative.
- c. Issue measured by: Number of residences within 0.25 mile of the proposed transmission line.
- d. Issue measured by: Acres of forest vegetation cleared for the proposed transmission line.

The area of analysis, or study area, for visual resources within 0.5 mile of either side of the centerline for each action alternative, except where noted. This area was selected because the characteristic landscape in which the proposed project may be visible would generally not extend farther than 0.5 mile to either side of the alignment centerline when viewed from travel routes, hiking trails and/or trailheads, population centers, and community facilities that are located nearby.

3.2.2 Regulatory Framework

3.2.2.1 NFS Land

The Forest Plan states that the National Forest is to be managed with a sensitivity for visual quality. The VQOs on NFS land within any particular landscape are based on the scenic quality and aesthetic concern or sensitivity level for three possible distance zones of the landscape:

- Foreground: area within 0.25 to 0.5 mile of observer;
- Middleground: area up to 3 to 5 miles from observer; and
- Background: area beyond the middleground (USFS 1974).

The VQOs describe the magnitude of alteration that is acceptable within a characteristic landscape. There are five different VQOs that can be managed on a landscape: Preservation, Retention, Partial Retention, Modification, and Maximum Modification. The management goals and objectives that define each of the VQOs are provided in **Table 3.2-1**.

Table 3.2-1 Description of VQOs

VQO OBJECTIVE	MANAGEMENT GOALS AND OBJECTIVES
Preservation	Management activities and actions, except for very low visual-impact recreation facilities, are prohibited. Only ecological changes are acceptable.
Retention	Management activities and actions should not be visually evident. Activities and actions may only repeat form, line, color, and texture which occur frequently in the characteristic landscape; changes in their qualities of size, amount, intensity, direction, and so forth, should not be evident.
Partial Retention	Management activities and actions should remain visually subordinate to the characteristic landscape. Activities and actions may repeat form, line, color, or texture common to the characteristic landscape, but changes in their qualities of size, amount, intensity, direction, and so forth, should remain visually subordinate to the characteristic landscape. Activities and actions may also introduce form, line, color, or texture which occur infrequently or not at all in the characteristic landscape, but should remain subordinate to the visual strength of the characteristic landscape.
Modification	Management activities and actions may visually dominate the characteristic landscape; however, activities and actions of vegetative and landform alterations must borrow from naturally established form, line, color, or texture such that its visual characteristics are of those naturally occurring within the surrounding area. Additional parts of these activities and actions, such as structures, roads, slash, root wads, and so forth, must remain visually subordinate to the proposed composition. Activities and actions which are predominately the introduction of facilities such as buildings, signs, and roads, should borrow naturally established form, line, color, and texture such that its visual characteristics are compatible with the natural surroundings.
Maximum Modification	Management activities and actions of vegetative and landform alterations may dominate the characteristic landscape; however, when viewed in the background distance zone, the visual characteristics must be of those naturally occurring within the surrounding area. When viewed in the foreground or middleground, they may not appear to borrow completely from naturally established form, line, color, or texture. Alterations may also be out of scale or contain details unlike the natural occurrences seen in the foreground or middleground. Introduction of additional parts to these activities and actions, such as structures, roads, and slash, must remain visually subordinate to the proposed composition when viewed in the background.

Source: National Forest Landscape Management, Volume 2: Agriculture Handbook 462 (USFS 1974)

3.2.2.2 BLM-Administered Public Land

The BLM uses a VRM system to manage visual resources on the public lands that it administers. The primary objective of the VRM system is to maintain the existing visual quality of BLM-administered public lands and to protect unique and fragile visual resources. The VRM system uses four classes, Class I through Class IV, to describe the different degrees of modification allowed to the basic elements of the landscape (i.e., line, form, color, and texture) (BLM 1986). The VRM Classes and their objectives are described in **Table 3.2-2**.

Table 3.2-2 Description of VRM Classes and Objectives

VRM CLASS	OBJECTIVES
I	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and should not attract attention.
II	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 of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
III	The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
IV	Class IV provides for management activities that require major modification 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 of the landscape.

Source: BLM Manual H-8410-1 Visual Resource Inventory (BLM 1986)

3.2.2.3 Private Land

The Visual Resources Elements of the Sierra County General Plan (Sierra County 1996) provides a list of visual resources goals and policies. Goals and policies from the Visual Resources Element applicable to the proposed project are provided below:

- Goal 1 (page 16-20): “Protect and preserve important scenic resources in the County.”
- Goal 2 (page 16-20): “Protect visually sensitive areas by promoting and providing for aesthetic design in new development which reflects the customs and culture of the County.”
- Policy 1 (page 16-21): “Protect the visual quality of the County’s scenic corridors (local and State).”
- Policy 8d (page 16-24): “Prohibit ridgeline intrusions by structures wherever possible; incorporate this requirement into Design Guidelines.”

The *Washoe County Regional Open Space and Natural Resource Management Plan* (Washoe County 2008) provides the framework, goals, and policies for the management of natural resources and open spaces in southern Washoe County. The plan identifies visual and scenic areas and directs Washoe County to protect these through ridgeline protection and coordination with other jurisdictions. Area plans in the Washoe County Master Plan address visual resources. The area plans applicable to the visual resource study area include *Washoe County Master Plan-North Valleys Area Plan* (Washoe County 2010) and *Washoe County Master Plan-Verdi Area Plan* (Washoe County 2015). Policies from the area plans applicable to the visual resources are provided below:

- North Valleys Area Plan Policy NV.8.1 (page 11): “With the exception of temporary infrastructure for construction projects, Washoe County will require the underground placement of utility distribution infrastructure within the North Valleys Management Area. Utility transmission facilities will be subject to a special use permit. In considering whether to grant a special use permit, or in consideration of any conditions, including underground placement, which may be placed upon an approval, the Planning Commission will utilize the best available information, including but not limited to the most recent Regional Utility Corridor Report, and any Environmental Impact Statement or other study undertaken regarding the proposal.”
- North Valleys Area Plan Policy NV.8.2 (page 11): “The Washoe County Departments of Community Development and Public Works will establish and oversee compliance with design standards for grading that minimize the visual impact of all residential and non-residential hillside development.”
- Verdi Area Plan Policy V.3.1 (page 5): “The Washoe County Departments of Community Development and Public Works will establish and oversee compliance with design standards for grading that minimize the visual impact of all residential and non-residential hillside development.”

Article 424 – Hillside Development of the Washoe County Development Code (Washoe County 2013b) establishes provisions for developing, preserving, and protecting hillsides and ridgelines within Washoe County. One intent of the regulations is to protect the public health, safety, and welfare by minimizing impacts on prominent ridgelines, significant viewsheds, canyons, and visually prominent rock outcroppings that reflect the visual value and scenic character of hillside areas. For example, Section 110.424.40 states that “all graded or disturbed areas, exposed slopes and areas of soil or landform disturbance not designated for development shall be revegetated and replanted immediately after grading in order to mitigate adverse visual impacts, improve soil conditions, minimize erosion and stabilize necessary cut and fill slopes with plant roots.”

Both Washoe County and the City of Reno must show Master Plan compliance with the 2012 Truckee Meadows Regional Plan, which was adopted in 2013 and is implemented by the Truckee Meadows Regional Planning Agency (TMRPA). The *Regional Utility Corridor Report*, which has been adopted by reference into the Truckee Meadows Regional Plan, provides the following policy on visual resources:

- Section F.7: “New overhead utilities shall be located to take advantage of existing topographic features to minimize visual impacts.”
- Section F.8: “New overhead utilities shall be constructed so as to minimize the disturbance to and/or alteration of the natural environment. For example, alignments could avoid crossing hills at right angles to the contours and could cross wooded hills and mountains at an oblique angle to minimize the focus of attention on the overhead utility.”
- Section F.9: “In siting new overhead utilities, consideration shall be given to minimizing disruption of existing land use patterns. New overhead utilities shall parallel existing roads, fence lines, windbreaks, or other major patterns in the area or be moved back from the road when land use and visual impacts are reduced by so doing.”

The following planning principle is stated in the Truckee Meadows Regional Plan pertaining to visual resources management:

- “The Regional Plan will require local government master plans to preserve the natural function and scenic value of mountains, rivers, significant ridgelines, wetlands, aquifer recharge areas, and water bodies as wilderness, habitats, open space, greenways, parks, trails, and recreational areas.” (Module 2, page 2)

3.2.3 Affected Environment

3.2.3.1 Mitchell Alternative

Visual Character

To facilitate the inventory of landscape features and describe the existing visual character, the Mitchell Alternative study area has been divided into four sub-areas: Bordertown sub-area, Central sub-area, Southern sub-area, and Verdi sub-area.

The Bordertown sub-area corresponds with the portion of the study area containing the existing Bordertown Substation and the first approximately 2.0 miles of the Mitchell Alternative from the substation. The Bordertown sub-area consists mostly of undeveloped shrubland that is dominated by xeric shrub species common to western Nevada and the east slope of the Sierra Nevada. There are a wide variety of species that occur within the area: sagebrush (*Artemisia* sp.), rubber rabbitbrush (*Ericameria nauseosa*), and antelope bitterbrush (*Purshia tridentata*) are among the most commonly occurring species. Individual or small groups of Jeffrey pine (*Pinus jeffreyi*) occur at isolated locations within the Bordertown sub-area, as do several small stands of aspen (*Populus tremuloides*). However, forest cover is generally absent within this sub-area.

Existing vegetation cover within the Bordertown sub-area is bisected by numerous unpaved roads, including Long Valley Road. Shrubland vegetation has been converted to agriculture fields at isolated locations. There are two residences located within this sub-area. There is a small water reservoir located next to the southernmost residence. Other development within the Bordertown sub-area includes the existing Alturas 345 kV transmission line, an overhead distribution power line, the existing Bordertown Substation, and a small sawmill/lumber yard. There is also an existing railroad track that crosses this sub-area.

The Central sub-area corresponds with the portion of the study area containing the next approximately 7.1 miles of the Mitchell Alternative. Most of the Central sub-area consists of undeveloped NFS land characterized by conifer forest and open shrubland vegetation. Coniferous forest cover within this sub-area is dominated by intermediate- to late intermediate-aged Jeffrey pine. Understory species composition and density varies, but the most commonly occurring species include antelope bitterbrush and manzanita (*Arctostaphylos* sp.). Shrubland vegetation is dominated by the same species that dominate shrubland vegetation within the Bordertown sub-area. Past wildfires (post-1980) have affected much of the vegetation cover in this sub-area (**Figure 3.2-1**). These fire-affected communities lack tree cover or have a reduced number of trees. Trees are less than approximately 20 years old. There are numerous unpaved roads and trails that have also resulted in the removal of vegetation cover. Most travel on roads within this sub-area is for recreational purposes and access. The portions of this sub-area within Washoe County are

identified as part of a scenic viewshed associated with Peavine Peak in the *Washoe County Regional Open Space and Natural Resource Management Plan* (Washoe County 2008).

The Southern sub-area corresponds with the next approximately 2.4-mile section of the Mitchell Alternative. This section of the proposed transmission line alignment is roughly parallel with and adjacent to the existing #102 overhead transmission line. In addition to the existing transmission line, the Southern sub-area contains an existing buried gas pipeline and an unpaved section of Henness Pass/Dog Valley Road. Henness Pass/Dog Valley Road is a primary access route for visitors to NFS land. The road and the area within 300 feet to either side of the centerline of the road is designated as a scenic corridor in the Sierra County General Plan (Sierra County 2012). Because development within the Southern sub-area has been limited to these utilities and the road, most of the Southern sub-area is undeveloped. Undeveloped areas were burned during past wildfires and the resulting vegetation cover consists mostly of open shrubland. The charred remains of some conifer trees are visible in open shrubland vegetation. Additionally, there are occasional trees and small stands of forest cover that survived the wildfire within this sub-area. Past wildfires in study area and surrounding region are shown on **Figure 3.2-1**.

The Verdi sub-area corresponds with the portion of the study area containing the existing California Substation and the last approximately 0.2-mile section of the Mitchell Alternative. Existing development is prevalent within the Verdi sub-area. Development consists largely of homes and paved roads associated with the residential community of Verdi. There are more than 30 residences located within this sub-area. Many of the residences also include one or more smaller accessory structures. Henness Pass/Dog Valley Road also occurs within the Verdi sub-area, but this section of the road is paved and used by residents of Verdi as well as visitors to NFS land. Other development within this sub-area includes the California Substation, the #102 120 kV transmission line, and numerous overhead distribution power lines and telephone lines. One distribution line is parallel and adjacent to Henness Pass/Dog Valley Road and other overhead distribution lines and telephone lines cross the road. Conifer forest characterizes the type of vegetation cover in most undeveloped areas.

Visual Resources

The Mitchell Alternative would cross NFS land that has been assigned VQOs and BLM-administered public lands that have been assigned a VRM Class. As shown on **Figure 3.2-2**, the VQOs that have been assigned to the NFS land within the study area include: Partial Retention, and Maximum Modification. The Mitchell Alternative would not cross NFS land that has been assigned the Modification, Retention, or Preservation VQO. There is NFS land that was transferred from the BLM to the USFS under the Nevada Enhancement Act in 1988 that has not been assigned any VQO. All BLM-administered public lands within the study area are managed as VRM Class III (**Figure 3.2-2**).

The acres of each VQO and BLM VRM Class III that would be contained with the proposed ROW area for the Mitchell Alternative are summarized in **Table 3.2-3**.

Table 3.2-3 Visual Resources: Mitchell Alternative

ALTERNATIVE	VQO WITHIN ROW/EASEMENT (ACRES) ¹				VRM CLASS (ACRES) ¹
	PARTIAL RETENTION	MODIFICATION	MAXIMUM MODIFICATION	UNASSIGNED NFS LAND	CLASS III ²
Mitchell	12.6	0.0	76.8	2.2	4.4

¹ Acres are approximate and rounded to the nearest tenth of an acre.

² Proposed improvements to Bordertown Substation would also be located on BLM-administered public land designated VRM Class III.

All VQO classifications in this area contain Forest Roads and vegetation communities with sparse tree cover due to past wild-fires. From the Mitchell Alternative, the Alturas 345 kV transmission line is 0.9 mile away and within sight.

The area of Partial Retention VQO is on the lower slopes of Peavine Peak. The transmission line could be visible for a moment when traveling on U.S. Highway 395. This area would be at a distance of 2.5 miles from the viewer. However, the viewer would first notice the Alturas 345 kV Transmission Line in the foreground, then the railroad line bisecting the landscape in the middleground. The proposed transmission line would be in the background and not likely seen within the Partial Retention area. From Forest Road 41192 or the Long Valley Road, the Mitchell Alternative would be behind a hill and hidden from view if travelling north to south. When travelling the opposite direction, it is possible but not probable, that the viewer may see the transmission line.

The proposed transmission line would be noticeable when traveling along the Long Valley Road, in either direction, the foreground elements would dominate the view, and features seen include rolling hills, ranches, existing transmission lines, and roads. The area mapped as Partial Retention VQO contains no features (vegetation cover and landform) different from adjacent areas classified as Retention or Maximum Modification, it would not stand out.

3.2.3.2 Peavine Alternative

Visual Character

To facilitate the inventory of landscape features and describe the existing visual character, the Peavine Alternative study area was divided into four sub-areas: Bordertown sub-area, Central sub-area, Southern sub-area, and Verdi sub-area.

The Bordertown sub-area corresponds with the portion of the study area containing the existing Bordertown Substation and the first approximately 2.0 miles of the Peavine Alternative from the substation. The existing visual character within this sub-area is the same as described for the Bordertown sub-area of the Mitchell Alternative in **Section 3.2.3.1**.

The Central sub-area corresponds with the portion of the study area containing the next approximately 7.5-mile section of the Peavine Alternative. The existing visual character within this area is the same as described for the Central sub-area of the Mitchell Alternative in **Section 3.2.3.1**.

The Southern sub-area corresponds with the portion of the study area containing the next approximately 0.6-mile section of the Peavine Alternative. The existing visual character within this sub-area is the same as described for the Southern sub-area of the Mitchell Alternative in **Section 3.2.3.1**.

The Verdi sub-area corresponds with the portion of the study area containing the existing California Substation and the last approximately 0.2 mile of the Peavine Alternative. The existing visual character within this sub-area is the same as described for the Verdi sub-area of the Mitchell Alternative in **Section 3.2.3.1**.

Visual Resources

As shown on **Figure 3.2-2**, the VQOs assigned to the NFS land that would be crossed by the Peavine Alternative include Maximum Modification, Modification, and Partial Retention. The Peavine Alternative would not cross NFS land that has been assigned the Preservation or Retention VQO. All BLM-administered public lands within the study area are managed as VRM Class III (**Figure 3.2-2**). The acres of VQO and BLM VRM Class III that would be contained with the proposed ROW area for the Peavine Alternative are summarized in **Table 3.2-4**.

Table 3.2-4 Visual Resources: Peavine Alternative

ALTERNATIVE	VQO WITHIN ROW/EASEMENT (ACRES ¹)				VRM CLASS (ACRES ¹)
	PARTIAL RETENTION	MODIFICATION	MAXIMUM MODIFICATION	UNASSIGNED NFS LAND	CLASS III ²
Peavine	11.0	24.3	35.3	5.8	4.4

¹ Acres are approximate and rounded to the nearest tenth of an acre.

² Proposed improvements to Bordertown Substation would also be located on BLM-administered public land designated VRM Class III.

3.2.3.3 Poeville Alternative

Visual Character

To facilitate the inventory of landscape features and describe the existing visual character, the Poeville Alternative study area was divided into six sub-areas: Bordertown sub-area, Peavine sub-area, Trail Drive sub-area, Poeville sub-area, Peavine Peak sub-area, and East Verdi sub-area.

The Bordertown sub-area corresponds with the portion of the study area containing the existing Bordertown Substation and the first approximately 2.0 miles of the Poeville Alternative from the substation. The existing visual character within the Bordertown sub-area is the same as described for the Bordertown sub-area of the Mitchell Alternative in **Section 3.2.3.1**.

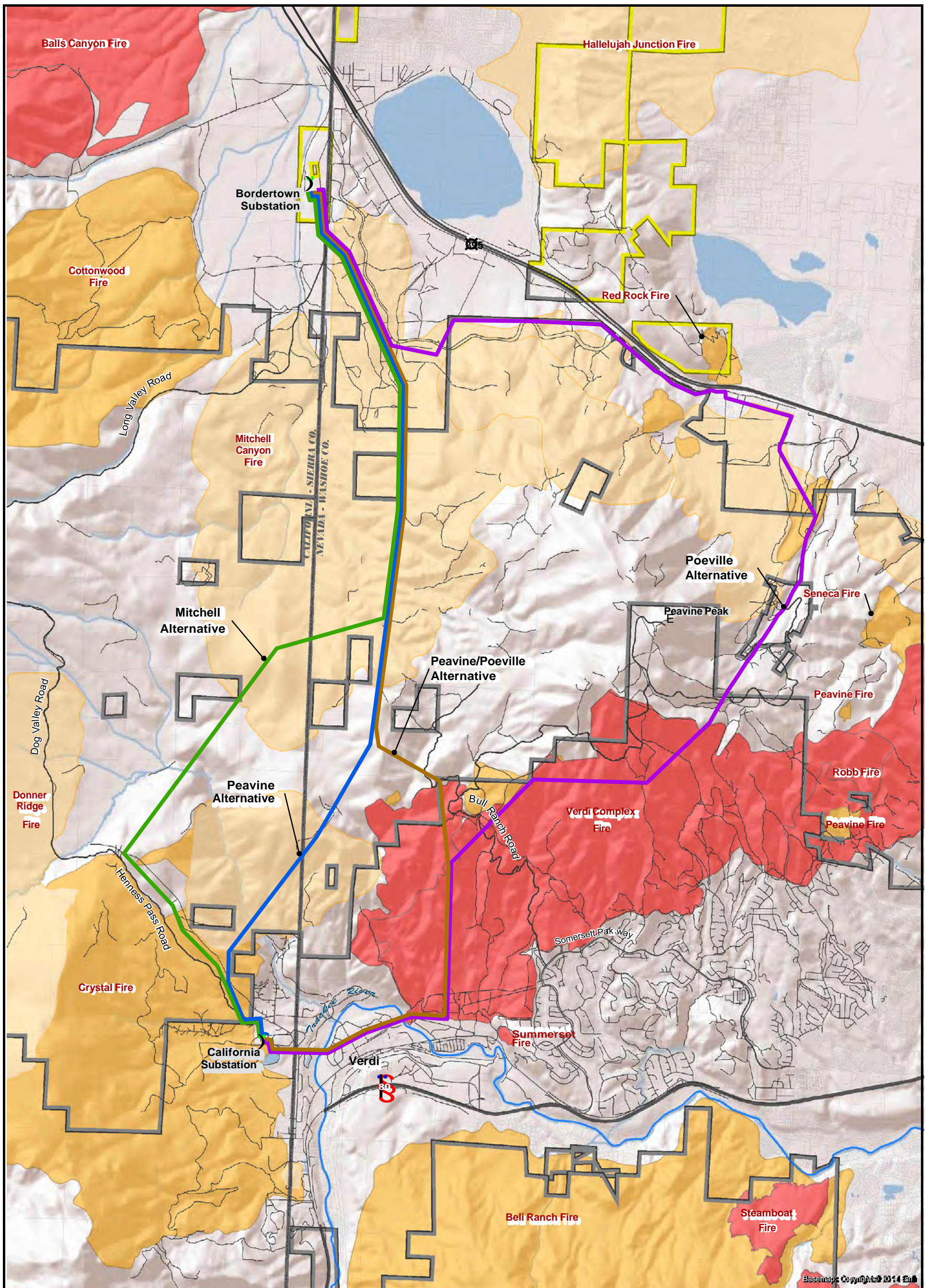
The Peavine sub-area corresponds with the portion of the study area containing the next approximately 4.2-mile section of the Poeville Alternative. This sub-area consists mostly of undeveloped shrubland dominated by the same species as the Bordertown sub-area, as described in **Section 3.2.3.1**. Existing development within the Peavine sub-area includes a railroad track, North Virginia Street and other unpaved roads, and U.S. Highway 395. North Virginia Street is a highway frontage road that is roughly parallel with U.S. Highway 395. The existing Alturas

345 kV transmission line occurs throughout the Peavine sub-area, and is roughly parallel and adjacent to North Virginia Street. There are also several overhead power lines and telephone lines within the sub-area. Structures within the sub-area are limited to two residential sites, one of which is the historic Peavine Ranch Property. Both residential sites include the primary residential structure as well as smaller accessory structures, driveways, and vehicles. Large deciduous trees are located throughout the Peavine Ranch Property.

The Trail Drive sub-area corresponds with the portion of the study area containing the next approximately 1.1-mile section of the Poeville Alternative. Most of the Trail Drive sub-area is developed with residential structures and roads. It is estimated that there are more than 150 residences within this sub-area. The majority of these structures are located north of U.S. Highway 395, which also crosses this sub-area. Many of the roads within this sub-area are residential collector streets, such as unpaved Trail Drive and Mar Mac Way and paved North Virginia Street. In addition to primary residential structures, most residences also include small accessory structures, fences, driveways, parked vehicles, and landscaping. Several residences also have large trees on the property. The existing Alturas 345 kV transmission line is located adjacent to the north side of North Virginia Street, about 0.1 mile north of most of the segment of proposed centerline within this sub-area. Most of the residences within close proximity to Trail Drive and this segment of the proposed centerline are also within relatively close proximity to the Alturas 345 kV transmission line. Several existing overhead distribution power lines and telephone lines also cross the Trail Drive sub-area. Undeveloped areas within the Trail Drive sub-area are characterized by open shrubland.

The Poeville sub-area corresponds with the portion of the study area containing the next approximately 3.2-mile section of the Poeville Alternative. This sub-area consists of undeveloped to lightly developed land. Undeveloped areas are characterized by open shrubland, some of which is the result of a past wildfire (**Figure 3.2-1**). There are also isolated areas of riparian vegetation cover adjacent to Peavine Road. Peavine Road is one of several unpaved roads that cross the Poeville sub-area and provide access to NFS land and private land around Peavine Peak. An existing distribution line that would be constructed as an under-build on the pole structures for the segment of the Poeville Alternative within this sub-area is located next to Peavine Road. The existing distribution power line diverges from Peavine Road within the southern portion of the Poeville sub-area and coincides with an unpaved two-track road instead. There is also an existing gravel pit/aggregate operation located immediately next to and west of Peavine Road and evidence of past mining activities east of the road that are located within the Poeville sub-area.

The Peavine Peak sub-area corresponds with the portion of the study area containing the next approximately 5.4-mile section of the Poeville Alternative. Most of this sub-area consists of undeveloped private land that has burned during past wildfires (**Figure 3.2-1**). Consequential to the wildfires, existing vegetation cover is dominated by cheatgrass, which is an invasive species that colonizes areas burned by wildfire (Colorado State University Extension 2012). Development within the Peavine Peak sub-area is limited to several unpaved roads and trails. Much of the Peavine Peak sub-area is visible throughout the city of Reno and neighboring communities located along Interstate 80 west of the city of Reno.



Transmission Line Alternatives

- Mitchell
- Peavine
- Poeville
- Peavine/Poeville

Fire History

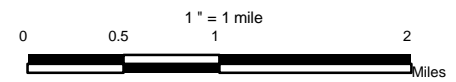
- Fire History 0-10 Years
- Fire History 10-20 Years
- Fire History >20 Years

Land Ownership

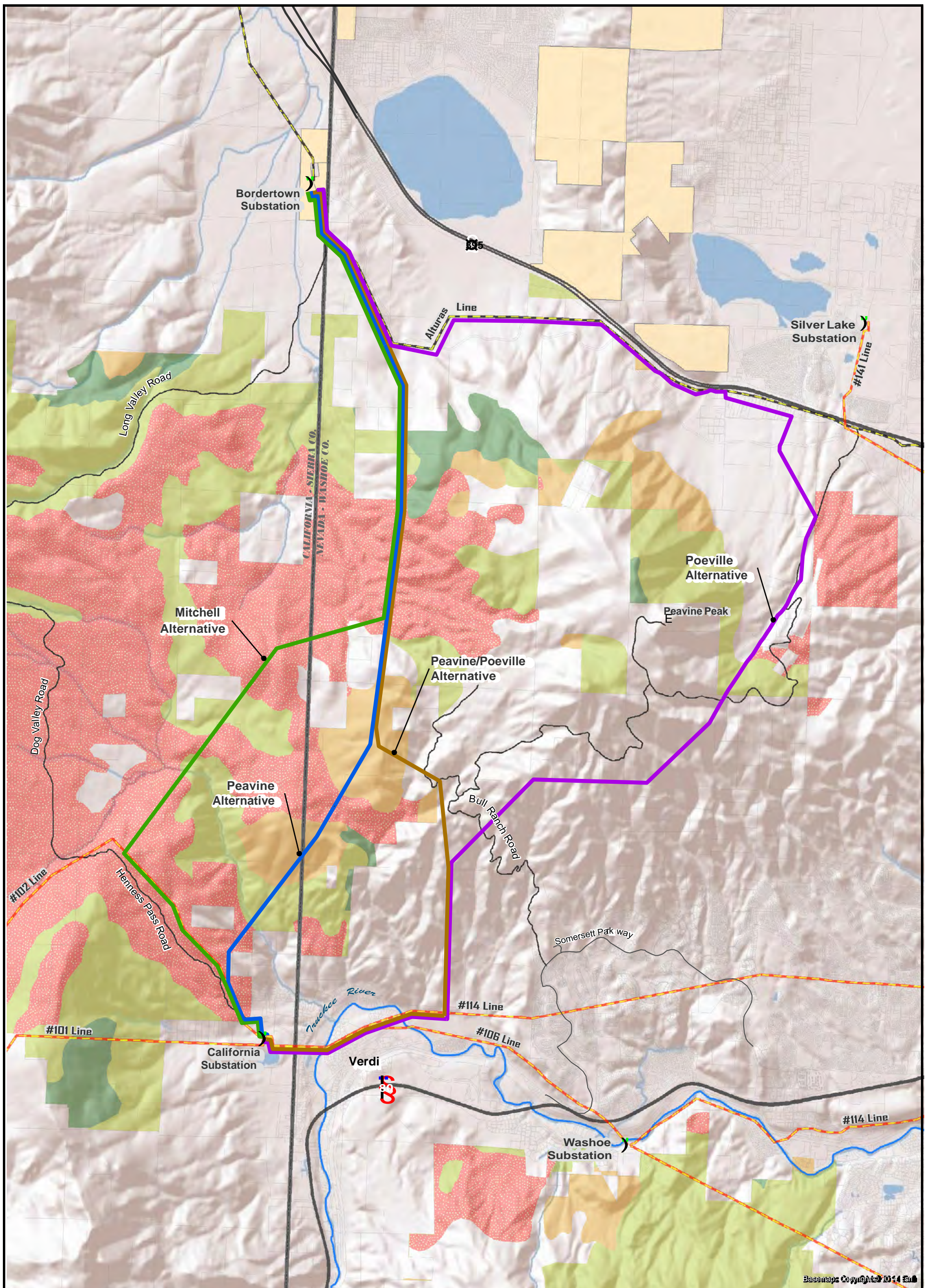
- U.S. Forest Service
- U.S. Bureau of Land Management

**FIGURE 3.2-1
FIRE HISTORY MAP**

BORDERTOWN TO CALIFORNIA
120 KV TRANSMISSION LINE EIS



Basemap Copyright © 2014 Esri



Transmission Line Alternatives

- Mitchell
- Peavine
- Poeville
- Peavine/Poeville

Existing Transmission Lines

- 120 kV Transmission Line
- 345 kV Transmission Line

USFS Visual Quality Objective Designations

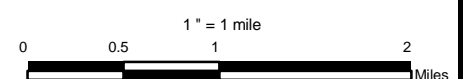
- Retention
- Partial Retention
- Modification
- Maximum Modification

BLM VRM Classes

- Class III

**FIGURE 3.2-2
VISUAL QUALITY OBJECTIVES**

**BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS**



The Washoe County Scenic Resources Map in the *Washoe County Regional Open Space and Natural Resource Management Plan* (Washoe County 2008) identifies Peavine Peak as a scenic viewshed and a high value area. In the discussion of visual resources in the *Washoe County Regional Open Space and Natural Resource Management Plan*, Peavine Peak is described as being “significant” and “one of the prominent backdrops in the region”. Both the Poeville sub-area and Peavine Peak sub-area are within the scenic viewshed associated with Peavine Peak.

The East Verdi sub-area corresponds with the portion of the study area containing the existing California Substation and the last approximately 2.1-mile section of the Poeville Alternative. Existing land uses within this sub-area include the inactive #632 power line that this section of the Poeville Alternative would replace, and the existing #114 and #106 transmission lines that would be located next to this section of the alignment. There are also other overhead distribution power lines and overhead communications lines located within the East Verdi sub-area. The existing California Substation is located at the west end of this sub-area. An electrical powerhouse is located next to the Truckee River, within very close proximity to existing transmission lines that cross the East Verdi sub-area. Other utility corridors within this sub-area include an existing buried gas pipeline.

It is estimated that there are at least 250 residences located within the East Verdi sub-area. More than half of these are concentrated in the western half of the sub-area. However, residential development is least dense in the area surrounding the California Substation, which is at the far western end of the sub-area. The portion of the East Verdi sub-area southwest of the substation consists of open pasture land for horses. Other structures located within the East Verdi sub-area include the Verdi Public Library on Bridge Street, the Verdi Elementary School next to the library, the Verdi Post Office, and a bar/restaurant and group of industrial/warehouse structures east of the post office. Parking lots and accessory facilities, such as elementary school baseball fields, associated with these structures are also located within the East Verdi sub-area.

Most of the roads within the East Verdi sub-area are paved residential collector streets, but there are some minor unpaved roads as well. Some of the specific residential collector streets that occur within this area include Prickly Pear Drive, Hansen Drive, Lakeview Drive, Ana Mandara Creek, Bridge Street, and Hill Lane. This sub-area is also crossed by 3rd Street (i.e., Old Highway 40), which is a paved arterial road used by local residents, as well as cyclists for recreation.

The Truckee River crosses the East Verdi sub-area at two locations. The Truckee River is commonly used for water-based recreation, especially during summer months. Tall deciduous trees and riparian shrubs and grasses characterize the undeveloped portions of the river banks. Other undeveloped areas within the sub-area consist predominantly of open shrubland or cheatgrass. Parts of fairways, greens, and other areas of golf course landscaping associated with an abandoned golf course are also located within the East Verdi sub-area.

Visual Resources

The VQOs assigned on NFS land that would be crossed by the Poeville Alternative include Modification, Maximum Modification, and Partial Retention (**Figure 3.2-2**). The Poeville Alternative does not cross Retention or Preservation VQO. There is NFS land without an assigned VQO that was transferred to the USFS from the BLM in 1988 under the Nevada Enhancement Act. All BLM-administered public lands within the study area are managed as VRM Class III

(Figure 3.2-2). The acres of each VQO and BLM VRM Class III that would be contained with the proposed ROW area for the Poeville Alternative are summarized in Table 3.2-5.

Table 3.2-5 Visual Resources: Poeville Alternative

ALTERNATIVE	VQO WITHIN ROW/EASEMENT (ACRES) ¹				VRM CLASS (ACRES) ¹
	PARTIAL RETENTION	MODIFICATION	MAXIMUM MODIFICATION	UNASSIGNED NFS LAND	CLASS III ²
Poeville	4.7	2.9	0.9	36.2	4.4

¹ Acres are approximate and rounded to the nearest tenth of an acre.

² Proposed improvements to Bordertown Substation would also be located on BLM-administered public land designated VRM Class III.

3.2.3.4 Peavine/Poeville Alternative

Visual Character

To facilitate the inventory of landscape features and describe the existing visual character, the Peavine/Poeville Alternative study area was divided into four sub-areas: Bordertown sub-area, Central sub-area, Peavine Peak sub-area, and East Verdi sub-area.

The Bordertown sub-area corresponds with the portion of the study area containing the existing Bordertown Substation and the first approximately 2.0 miles of the Peavine/Poeville Alternative from the substation. The existing visual character within this sub-area is the same as described for the Bordertown sub-area of the Mitchell Alternative in Section 3.2.3.1.

The Central sub-area corresponds with the portion of the study area containing the next approximately 5.4-mile section of the Peavine/Poeville Alternative. The existing visual character within this sub-area is the same as described for the Central sub-area of the Mitchell Alternative in Section 3.2.3.1.

The Peavine Peak sub-area corresponds with the portion of the study area containing the next approximately 2.4-mile section of the Peavine/Poeville Alternative. The existing visual character within this sub-area is the same as described for the Peavine Peak sub-area of the Poeville Alternative in Section 3.2.3.3.

The East Verdi sub-area corresponds with the portion of the study area containing the existing California Substation and the last approximately 2.1 miles of the Peavine/Poeville Alternative. The existing visual character within this sub-area is the same as described for the East Verdi sub-area of the Poeville Alternative in Section 3.2.3.3.

Visual Resources

As shown on Figure 3.2-2, the VQOs that have been assigned to the NFS land that would be crossed by the Peavine/Poeville Alternative include Maximum Modification, Modification, and Partial Retention. The Peavine/Poeville Alternative does not cross Retention or the Preservation VQO. There is NFS land without an assigned VQO that was transferred to the USFS from the BLM in 1988 under the Nevada Enhancement Act. All BLM-administered public lands within the

study area are managed as VRM Class III (**Figure 3.2-2**). The acres of VQO and BLM VRM Class III that would be contained with the proposed ROW area for the Peavine/Poeville Alternative are summarized in **Table 3.2-6**.

Table 3.2-6 Visual Resources: Peavine/Poeville Alternative

ALTERNATIVE	VQO WITHIN ROW/EASEMENT (ACRES) ¹				VRM CLASS (ACRES) ¹
	PARTIAL RETENTION	MODIFICATION	MAXIMUM MODIFICATION	UNASSIGNED NFS LAND	CLASS III ²
Peavine/Poeville	5.1	13.0	19.3	9.5	4.4

¹ Acres are approximate and rounded to the nearest tenth of an acre

² Proposed improvements to Bordertown Substation would also be located on BLM-administered public land designated VRM Class III

3.2.4 Environmental Consequences

3.2.4.1 Methods of Analysis

Visual Quality and Scenic Attribute Effects

The direct and indirect effects of each alternative on visual resources was assessed using a contrast analysis based on the methods of the Visual Management System described in *National Forest Landscape Management, Volume 2: Agriculture Handbook 462* (USFS 1974). Contrast analysis is the degree to which a project or activity affects scenic quality or visual resources depending on the visual contrasts created or imposed by a project on the landscape. Contrasts are measured by comparing the form, line, color, and texture elements that characterize the appearance of the project features with the same elements for the major features in the landscape. Changes in the size, amount, intensity, direction, pattern, were used as indicators in comparing the form, line, color, and texture elements and to quantify the contrast an alternative would be expected to have with the landscape. The contrast analysis considered effects of the project after the incorporation of project design features that have been developed to reduce or avoid impacts to visual resources (design features VI 1, VI 2, RT 4, and VG 6) contained in **Appendix B**. Design feature VI 1 would reduce glare and reflection off of conductors; design feature RT 4 requires that road closure barriers harmonize with the natural environment; and design feature VG 6 requires that all areas of temporary disturbance would be revegetated. Design feature VI 2, would apply to the Mitchell, Peavine, and Peavine/Poeville alternatives, and minimizes the number of poles used within NFS land assigned Partial Retention VQO.

The contrast analysis was completed at KOPs. KOPs are sensitive receptor locations from which views of an alternative or alternatives would be possible. KOPs that were selected are representative of the characteristic landscapes in the project area, such as forest land, open shrubland, and residential areas. A list of the KOPs is presented in **Table 3.2-7**, and the location and direction of view from each is shown on **Figure 3.2-3**.

Table 3.2-7 Key Observation Points

KOP	KOP NAME	DIRECTION OF VIEW	VISUAL RESOURCES SUB-AREA
KOP 1	California Substation – South	South toward the California Substation	Verdi sub-area
KOP 2	California Substation – West	West and roughly aligned with Henness Pass/Dog Valley Road	Verdi sub-area
KOP 3	Henness Pass/Dog Valley Road	North toward the existing #102 overhead transmission line	Southern sub-area
KOP 4	Forest Boundary – West	West and roughly aligned with Henness Pass/Dog Valley Road	Southern sub-area
KOP 5	Forest Boundary	North-northwest towards the existing #102 transmission line and Henness Pass/Dog Valley Road	Southern sub-area
KOP 7*	Forest Route 41192 – North	North-northeast towards the Alturas 345 kV transmission line	Bordertown sub-area
KOP 9	Peavine Ranch	East and roughly aligned with North Virginia Street	Peavine sub-area
KOP 10	Peavine Ranch – Southwest	Southwest towards North Virginia Street and a residence	Peavine sub-area
KOP 11	Peavine Road	Southwest and roughly aligned with an overhead distribution line	Poeville sub-area
KOP 12	Stead Trailhead	South-southwest and roughly aligned with Peavine Road	Poeville sub-area
KOP 13	Trail Drive – East	East and roughly aligned with Trail Drive	Trail Drive sub-area
KOP 14	Trail Drive – West	West and roughly aligned with Trail Drive	Trail Drive sub-area
KOP 15	Truckee River Bridge	North towards the existing #106 and #114 overhead transmission lines	East Verdi sub-area
KOP 16	Verdi Library Parking Lot – West	West-southwest towards Bridge Street	East Verdi sub-area
KOP 17	Verdi Library Parking Lot – East	East towards the Verdi Library	East Verdi sub-area

*KOP 6 shares the same location as KOP 7, but was not used in the analysis, as the angle of view at KOP 7 is north-northeast towards the general area where the existing Alturas 345 kV transmission line crosses the California state line and provides the best representation.

A brief summary of the rationale and determining factors in selecting each of the KOP locations is provided in **Table 3.2-8**.

Table 3.2-8 Key Observation Points Selection Rationale

KOP	SELECTION RATIONALE
KOP 1	KOP 1 was selected because it would show visual changes along Henness Pass/Dog Valley Road. This road is a primary residential collector street for residents in the Verdi area. The road is also a primary access route for persons visiting NFS land.
KOP 2	KOP 2 was selected because it would show visual changes along Henness Pass/Dog Valley Road. This road is a primary residential collector street for residents in the Verdi area. The road is also a primary access route for persons visiting NFS land.

KOP	SELECTION RATIONALE
KOP 3	KOP 3 was selected to show visual changes along an exposed ridge next to Henness Pass/Dog Valley Road. The road is the primary access to NFS land from the south and west sides of Reno. Most users on the road are OHV recreationists. However, the road is also used for access for dispersed recreation, mostly hunting.
KOP 4	KOP 4 was selected to show visual changes to an area of forest vegetation adjacent to Henness Pass/Dog Valley Road near a main “gateway” to NFS land in the Dog Valley area. The area of forest vegetation is close to residences in Verdi and easily accessible to all types of vehicles. Thus, the area is commonly used for passive recreation, such as off-leash dog play or brief walks. The area is also readily visible to persons travelling on Henness Pass/Dog Valley Road to gain access to other OHV routes on NFS land.
KOP 5	KOP 5 was selected to show visual changes to an area of forest vegetation adjacent to Henness Pass/Dog Valley Road near a main “gateway” to NFS land in the Dog Valley area. The area of forest vegetation is close to residences in Verdi and easily accessible to all types of vehicles. Thus, the area is commonly used for passive recreation, such as off-leash dog play or casual walks. The area is also readily visible to persons travelling on Henness Pass/Dog Valley Road to gain access to other OHV routes on NFS land.
KOP 7*	KOP 7 was selected to capture visual changes that would potentially be visible from the Long Valley area. The KOP was placed on Long Valley Road because relative to other public roads in the area, it is in the best condition and receives the most users. Users primarily include persons residing in Long Valley as well as visitors to NFS land. Most visitors to NFS land would be OHV recreationists and seasonal hunters.
KOP 9	KOP 9 was selected because it provides easterly views of visual changes that would occur within the historic setting of the Peavine Ranch property.
KOP 10	KOP 10 was selected because it provides westerly views of visual changes that would occur within the historic setting of the Peavine Ranch property.
KOP 11	KOP 11 was selected because it provides views of the visual changes that would potentially be seen from Peavine Peak Road. The road is a primary access route to the top of Peavine Peak as well as numerous OHV routes on NFS land. Most users on Peavine Peak Road are OHV recreationists.
KOP 12	KOP 12 was selected because it would show visual changes along Peavine Peak Road at the Stead Trailhead. Both the trailhead and Peavine Peak Road are used by OHV recreationists.
KOP 13	KOP 13 was selected because it would show visual changes along Trail Drive. Most people using Trail Drive would be property owners that reside on the street.
KOP 14	KOP 14 was selected because it would show visual changes along Trail Drive. Most people using Trail Drive would be property owners that reside on the street.
KOP 15	KOP 15 was selected to show the visual changes on the south side of Peavine Peak. The mountain is a prominent land feature visible throughout much of the city of Reno and surrounding Truckee Meadows area. KOP 15 was placed along 3 rd Street because it is a major through road and within closer proximity to Peavine Peak than most other public roads in the area. 3 rd Street is used by residents in Verdi and Mogul, as well as cyclists and people visiting the Truckee River for recreation.
KOP 16	KOP 16 was selected to show visual changes in the Verdi community from a public location (i.e., library). The KOP is also located within close proximity to Bridge Street, which is a primary residential collector street for the Verdi community. Bridge Street also transitions into Henness Pass/Dog Valley Road, which is a primary access route to the Dog Valley area, a popular use area on NFS land.
KOP 17	KOP 17 was selected to show visual changes in the Verdi community from a public location (i.e., library). The KOP is also located within close proximity to Bridge Street, which is a primary residential collector street for the Verdi community. Bridge Street also transitions into Henness Pass/Dog Valley Road, which is a primary access route to the Dog Valley area, a popular use area on NFS land.

*KOP 6 shares the same location as KOP 7, but was not used in the analysis, as the angle of view at KOP 7 is north-northeast towards the general area where the existing Alturas 345 kV transmission line crosses the California state line and provides the best representation.

Computer-generated visual simulations of the proposed project in its operational phase were produced to aid the contrast analysis. The visual simulations are effectively the same photograph of the existing characteristic landscape taken from each KOP with the proposed project overlaid as it would appear after construction. The computer-generated visual simulations that are provided in comparison of the existing characteristic landscape from each KOP are in **Appendix C**. Visual effects anticipated from construction activities of the project would be temporary because temporary roads are required to be revegetated and are discussed in detail in *Specialist Report: Visual Resources Bordertown to California 120 kV Transmission Line Project* (USFS 2017).

Consistency with Forest Plan and BLM RMP

The visual contrast analysis (see above methodology) was used to determine whether the alternative would be consistent with the goals and objectives of each VQO and VRM Class crossed. Not all VQO and VRM Classes that would be crossed by an alternative are captured in the visual simulations. For these areas, available resources such as aerial photography, vegetation mapping, and field observations were used to determine the existing setting of the characteristic landscapes.

Each action alternative was evaluated for consistency with the Forest Plan and BLM RMP based on whether it conforms with the VQOs and VRM classes assigned.

Residences with Close Proximity

The number of residential structures entirely or partially within 0.25 mile of the centerline of each action alternative was tallied as an indicator of visual impacts to private property within residential communities that are located in close proximity to an action alternative. A distance of 0.25 mile was used because this distance is considered the foreground, and the range of which visual effects would be most readily seen or noticed. Residential structures were counted using 2015 aerial imagery (United States Farm Service Agency 2015). When structure type (e.g., residence, garage, barn, etc.) was unclear or uncertain from aerial photographs, the structure was counted as a residence.

Acres of Forest Vegetation Clearing

A corridor of shrubs and low grasses would be created through forested communities from maintaining the transmission line clearance area of each action alternative. The corridor would be easily noticeable to recreationists on NFS land. The corridors may also be more apparent than the physical transmission line to person's considerable distances away (i.e., middleground and background distance zones), including persons on private land. Thus, the acres of forested communities within the transmission line clearance area that would be cleared during construction and thereafter for the life of the project was used as an indicator of visual effects.

3.2.4.2 No Action Alternative

Under the No Action Alternative, there would be no visual effects from the proposed project as construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur.

3.2.4.3 Mitchell Alternative

Visual Quality and Scenic Attribute Effects

The KOPs that were selected to analyze the visual effects of the Mitchell Alternative include:

- KOP 1 (California Substation – South);
- KOP 2 (California Substation – West);
- KOP 3 (Hennes Pass/Dog Valley Road);
- KOP 4 (Forest Boundary – West);
- KOP 5 (Forest Boundary); and
- KOP 7 (Forest Road 41192 – North).

The location of each KOP is shown on **Figure 3.2-3**.

KOP 1

KOP 1 is on Hennes Pass/Dog Valley Road, looking south toward the California Substation. Two single power pole structures would be visible from KOP 1 in the foreground distance zone of the characteristic landscape. The existing distribution line poles would be replaced with transmission line poles that would be thicker and 40 to 60 percent taller and would create taller and slightly thicker vertical lines. The conductors on the existing distribution line would be attached to the new structure as an under-build. A visitor using the road to reach destinations on NFS land would see the new transmission line for a brief period while traveling. Residents in the area would have repeated episodes of viewing because of frequent travel on the road. The color of the proposed pole structures would be dark brown and matte which would be similar to the existing distribution line poles when viewed against middleground vegetation. There would be a difference in the size of the proposed power pole structures they would repeat line, color, and texture elements found in the existing characteristic landscape.

The proposed and existing conductors would be nearly identical, and the line elements associated with them would be roughly parallel and grouped. The proposed conductors would not introduce form, line, color, or texture elements to the characteristic landscape.

Most of the form, line, color, and texture elements that would be added from the proposed project at KOP 1 would repeat elements that are common to the characteristic landscape, reducing the degree of contrast. There may be an increase in the size and amount of some elements common to the landscape the increase would be minimal. The proposed project would not be expected to attract the attention or dominate the view of the casual observer. At KOP 1, implementation of the Mitchell would result in a minimal loss of the visual quality and scenic attributes of the landscape at KOP 1.

KOP 2

KOP 2 is at the same location as KOP 1, except the view is to the west along Dog Valley/Hennes Pass Road. Five single power pole structures would be visible from KOP 2 in the foreground distance zone of the characteristic landscape. The existing distribution line pole would be replaced with a transmission line pole that is thicker and 40 to 60 percent taller. The proposed transmission line would increase the size and amount of some elements common to the landscape, however, the increase would be minimal and visually subordinate. The existing character of the landscape would

be retained. Implementation of the Mitchell Alternative would maintain the of the visual quality and scenic attributes of the existing landscape at KOP 2.

KOP 3

KOP 3 is on Henness Pass/Dog Valley Road, looking northeast toward a ridge. The proposed transmission line would follow the ridge and parallel the existing #102 transmission line. Approximately four proposed power pole structures would be visible from KOP 3 in the middleground distance zone of the characteristic landscape. There would be little to no loss of trees because the wildland Crystal Fire burned the area as evidenced by the snags that have fallen. Two H-frame structures would be next to the existing transmission line that is similar in appearance and scale, creating only a slight degree of visual contrast. The proposed power pole structures and overhead conductors would repeat line, color, and texture elements found in the existing characteristic landscape. From KOP 3, the proposed project would not likely attract the attention of the casual observer and would generally be retained resulting in a negligible loss to visual quality and scenic attributes of the existing characteristic landscape at KOP 3.

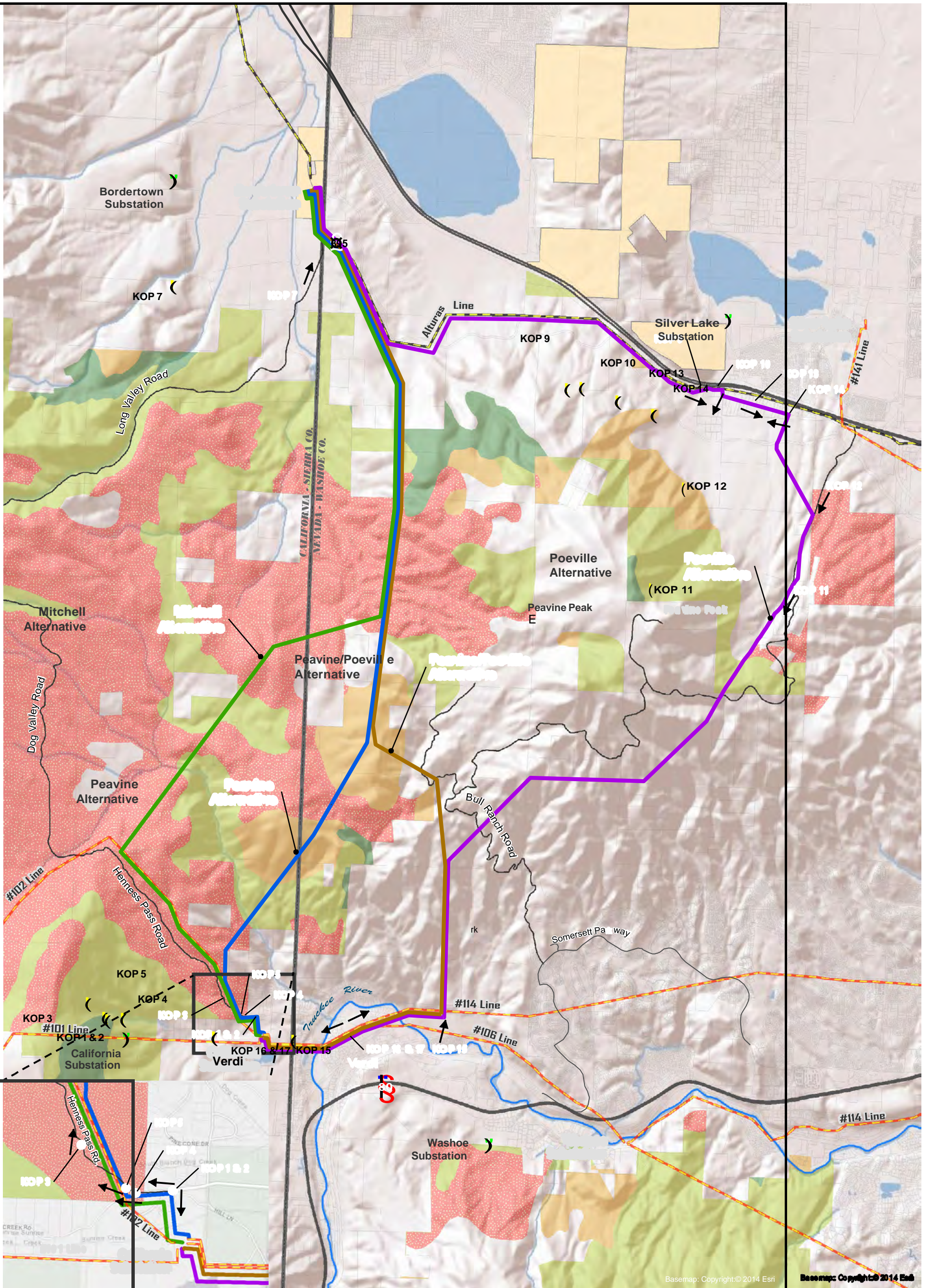
The foreground of the characteristic landscape visible from KOP 3 consists of NFS land that is mapped as Maximum Modification VQO. The degree of contrast that would be expected to result from implementation of the Mitchell Alternative would be consistent with the management goals and objectives of the Maximum Modification VQO (**Table 3.2-1**).

KOP 4

KOP 4 is on Henness Pass/Dog Valley Road, west of the Forest boundary, approximately 300 feet east of Sunrise Creek Road. At least two proposed H-frame pole structures, three existing H-frame pole structures of the #102 line, and approximately 200 hundred feet of overhead conductors would be visible in the foreground distance zone of the characteristic landscape. A stand of trees currently screening the existing #102 line would be removed, making both the existing #102 transmission line and proposed power line visible. The vicinity of KOP 4 is an entry point to NFS lands and the view from KOP 4 would be brief for those driving on the road and visible for a longer period by pedestrians or those who take a break at the Forest boundary.

The contrast created by the proposed power poles and conductors would be evident, although minimized to some degree because the existing trees contribute similar lines and colors and the conductor wires are thin. The visibility of the conductors would introduce straight, hard silhouette-lines against the backdrop of the sky. The thinness of the conductor wires would create minimal visual contrast.

The clearing of trees from the ROW area would create a greater visual contrast. The vertical line elements of individual tree trunks would be reduced when trees are removed. The exposure of the understory vegetation would increase the tan and brown colors and textures of the vegetation. The color and texture of understory shrubs and grasses are visible in many areas of the existing characteristic landscape. KOP 4 is located at the edge of forest cover, and there are a number of openings in the forest cover on either side of Henness Pass/Dog Valley Road. The removal of trees would not create a drastic corridor-effect that would otherwise result from removal of trees within interior areas of forest cover because openings in the forest already exist in this location.



Line Alternatives

Mitchell Alternative

Peavine Alternative

Poeville Alternative

Peavine/Poeville Alternative

Peavine/Poeville Alternative

Peavine/Poeville Alternative

Transmission Lines

120 kV Transmission Line

115 kV Transmission Line

USFS Visual Quality Objective Designations

Retention

Partial Retention

Modification

Maximum Modification

BLM VRM Classes

Class III

FIGURE 3.2-3
VISUAL QUALITY OBJECTIVES & KOP LOCATIONS

BORDERTOWN TO CALIFORNIA
 120 kV TRANSMISSION LINE EIS

0 0.5 1 2
 Miles

1" = 1 mile

Basemap: Copyright © 2014 Esri

Basemap: Copyright © 2014 Esri

The proposed project would introduce contrasting form, line, color, and texture elements to the characteristic landscape, the degree of contrast is reduced because there would not be a corridor effect. Its location is at the edge of forest cover, and there are other openings in the forest cover nearby. There would be minimal loss of the visual quality and scenic attributes of the landscape from the Mitchell Alternative.

The foreground and middleground distance zone of the landscape visible from KOP 4 consists of NFS land assigned Maximum Modification VQO. The degree of contrast that would be expected to result from implementation of the Mitchell Alternative are consistent with the management goals and objectives of the Maximum Modification VQO (**Table 3.2-1**).

KOP 5

KOP 5 is on Hennes Pass/Dog Valley Road at the entry point to NFS lands. One proposed single pole structure would be visible in the foreground distance zone of the characteristic landscape.

The pole structure would introduce a bold vertical and horizontal line that is dark brown in color. New overhead conductors would introduce very thin, curvilinear lines. Trees in the foreground distance zone would be cleared from the ROW. The contrast created by the proposed power pole and conductors would be minimal because existing trees contribute similar lines and colors and the conductor wires area thin. A greater visual contrast would be created by the loss of trees in the cleared corridor. However, the contrast is reduced because KOP 5 is located at the edge of forest cover, and there are also a number of openings in the forest canopy on either side of Hennes Pass/Dog Valley Road. Additionally, the color and texture of understory shrubs and grasses are visible in many areas of the existing characteristic landscape. The removal of trees would not create the corridor-effect that would otherwise result from removal of trees within interior areas of forest cover because openings in the forest already exist.

Although the proposed project would introduce contrasting form, line, color, and texture elements, the existing character of the landscape would be retained. Implementation of the Mitchell Alternative would be expected to result in a minimal loss of the visual quality and scenic attributes of the characteristic landscape at KOP 5.

The effects that would be expected from the implementation of the Mitchell Alternative would be consistent with management goals and objectives of the Maximum Modification VQO (**Table 3.2-1**).

KOP 7

KOP 7 is located on Long Valley Road/Forest Route 41192. Approximately one mile of transmission line, or potentially up to six or seven proposed H-frame power pole structures would be visible from KOP 7 in the foreground distance zone of the characteristic landscape. The proposed power pole structures would introduce thin, simple vertical lines that are dark brown or dark gray in color. There are several existing power pole structures visible in the foreground that contribute thin, simple vertical lines that are very similar to those that would be introduced by the proposed power pole structures. Because the introduced lines and existing lines of the pole structures would be so similar, the degree of contrast would not be substantial. The proposed overhead conductors are not likely to be visible due to the thinness of the conductors.

The degree of visual contrast would not attract the attention of the casual observer. The proposed power pole structures would repeat line, color, and texture elements found in the existing characteristic landscape. Implementation of the Mitchell Alternative would be expected to result in a minimal loss of the visual quality and scenic attributes of the existing characteristic landscape at KOP 7 and the existing character of the landscape would be retained.

Consistency with Visual Resources Management

The existing #102 transmission line crosses the area of Maximum Modification VQO located in California (within the Verdi and Southern sub-areas). The Mitchell Alternative would be located adjacent to and parallel with the existing transmission line. The elements that would be introduced by the proposed project would repeat those common to the characteristic landscape as a result of the existing transmission line. The corridor-shaped form element that would be introduced by removal of forest cover from the ROW area for the proposed transmission line would be very similar to the corridor-shaped form associated with the removal of forest cover that has occurred within the ROW area for the #102 transmission line. It would also be similar to the form element associated with an existing ROW for a buried gas pipeline near the #102 transmission line from which forest cover has also been removed. Repetition of elements common to the characteristic landscape would reduce the degree of contrast. The proposed project would not dominate the view of the casual observer.

The areas assigned Maximum Modification VQO that are located in Nevada and would be crossed by the Mitchell Alternative do not contain any existing overhead transmission lines or any other overhead utility lines. When the proposed transmission line is viewed in the foreground distance zone, the vertical lines associated with the proposed pole structures would repeat vertical lines associated with the trunks of conifer trees in the Maximum Modification VQO areas. Existing unpaved roads and trails have created corridor-like clearings through the forest cover. The removal of forest cover from the proposed ROW area would repeat elements associated with the removal of the forest cover from existing roads and trails. The section of the proposed transmission line located within these areas may attract the attention of the casual observer. However, because introduced elements would repeat elements that are found in the characteristic landscape of these areas, the proposed project would not be expected to dominate the view. Thus, implementation of the Mitchell Alternative would be consistent with the objectives of the Maximum Modification VQO (**Table 3.2-1**).

Three areas of Partial Retention VQO (within the Central sub-area) would be crossed by the Mitchell Alternative (**Figure 3.2-2**). Two areas are in California, between the state line and Hennes Pass/Dog Valley Road, north of the California Substation. Neither area contains existing power lines or other constructed structures that would contribute line, color, and texture elements that are similar to the proposed project. Vegetation cover within both areas consists almost entirely of conifer forest. The vertical form and line elements that would be introduced by the proposed power pole structures would repeat the vertical line and form elements that the trunks of the conifer trees contribute to characteristic landscape. The dark brown color and matte appearance of the proposed pole structures would be similar to the color of the tree trunks. Removal of the forest cover from within the ROW area for the alignment would create a contrasting form element with a corridor-like shape. However, there are existing unpaved roads and trails in the area that resulted in linear clearings of forest cover. Removal of the forest cover for these roads and trails contributes

form elements with a corridor-like shape that are similar to those that would be created by the proposed project. Considering that linear clearings through the forest exist in this area, and that the vertical forms and lines, and brown colors that would be introduced by the power pole structures would be similar to those of existing tree trunks, the proposed project would be visually subordinate to the characteristic landscape.

The third area of Partial Retention VQO is in Nevada, approximately 2.5 miles southeast of the Bordertown Substation. The characteristic landscape is similar to the California sites, except that the Alturas 345 kV transmission line is 0.9 mile away and contributes vertical form and line elements similar to the proposed transmission line. Additionally, tree cover is relatively sparse because the area was previously burned by the Green Gulch Fire. Tree clearing would not be extensive. Considering that linear clearings exist in this area, and that the vertical forms and the lines and brown colors that would be introduced by the power pole structures would be similar to those of existing tree trunks and the Alturas transmission line, the proposed project would be visually subordinate to the characteristic landscape. Additionally, design feature VI 2 below, would be implemented to minimize visual contrast:

- VI 2. The number of new poles will be minimized by increasing the pole span length on NFS land where the area is designated as Partial Retention for VQO, as terrain allows.

The Mitchell Alternative would be consistent with the goals and objectives of the Partial Retention VQO.

The proposed transmission line would be located adjacent to and roughly parallel with the existing Alturas 345 kV transmission line where the Mitchell Alternative would cross the BLM VRM Class III area (Bordertown sub-area). The Alturas 345 kV transmission line contributes form, line, color, and texture elements to the characteristic landscape that would be repeated by the proposed project. Because the proposed transmission line would repeat elements found in the characteristic landscape, the resulting degree of contrast would be minimal and would not dominate the view of the casual observer. Any roads or routes or other clearings created during construction of the proposed project would introduce elements that repeat those found in the characteristic landscape from existing unpaved roads that cross the BLM VRM Class III area. Improvements to the Bordertown Substation would repeat elements that currently exist at the substation and would not attract the attention of casual observers. Implementation of the Mitchell Alternative would be consistent with BLM VRM Class III objectives.

Residences within Close Proximity

Implementation of the Mitchell Alternative would locate the proposed transmission line within 0.25 mile of 25 residences. All 25 residences are located in the Verdi community, within relatively close proximity to the California Substation.

Forest Vegetation Community Clearing Effects

Approximately 41.8 acres of forested community would be removed within the transmission line clearance area of the Mitchell Alternative.

3.2.4.4 Peavine Alternative

Visual Quality and Scenic Attribute Effects

The KOPs that were selected to analyze the visual impacts of the Peavine Alternative are the same as those that were selected for the Mitchell Alternative:

- KOP 1 (California Substation – South);
- KOP 2 (California Substation – West);
- KOP 3 (Hennes Pass/Dog Valley Road);
- KOP 4 (Forest Boundary – West);
- KOP 5 (Forest Boundary); and
- KOP 7 (Forest Road 41192 – North).

The sections of the Peavine Alternative that would be visible from KOP 1 through KOP 5 and KOP 7 are identical to the sections of the Mitchell Alternative that would be visible from these KOPs. Thus, the proposed transmission line would appear identical from each of these KOPs regardless of the potential implementation of the Peavine Alternative or the Mitchell Alternative. Because the proposed transmission line would appear identical, the visual simulations prepared for these KOPs are applicable to both the Mitchell Alternative and the Peavine Alternative. The visual contrasts and effects that the Peavine Alternative would have on the characteristic landscape of KOP 1 through KOP 5 and KOP 7 during construction and operation and maintenance are the same as those that would result from the Mitchell Alternative. These contrasts and effects are described in **Section 3.2.4.2**.

Consistency Visual Resources Management

The VQOs that have been assigned to the NFS land that would be crossed by the Peavine Alternative include Maximum Modification, Modification, and Partial Retention (**Figure 3.2-2**). The BLM-administered public lands that would be crossed by the Peavine Alternative are designated as VRM Class III. The proposed improvements at the Bordertown Substation would also occur on BLM-administered public lands that are designated as VRM Class III.

The proposed power pole structures would introduce tall, vertical lines with smooth to indistinct textures to these areas. The proposed overhead conductors would introduce curvilinear lines with no distinct texture that are gray in color. Removal of forest cover from within the proposed ROW area would introduce contrasting form, line, color, and texture elements as well. The contrast created by these introduced elements would be consistent with the objectives of the Maximum Modification, Modification, and Partial Retention VQOs, as well as the VRM Class III objectives. Most of the NFS land that would be crossed where Maximum Modification and Modification VQOs occur (Central sub-area) contains similar form, line, color, and texture elements as those that would be introduced by the proposed project.

The Peavine Alternative crosses two areas mapped as Partial Retention VQO (Central sub-area) (**Figure 3.2-2**). The first area is located approximately 2.5 miles southeast of the Bordertown Substation in Nevada. It is the same area crossed by the Mitchell Alternative. The visual contrast and effects are described in **Section 3.2.4.2**. Considering that linear clearings exist in this area, and that the vertical forms and the lines and brown colors that would be introduced by the power pole

structures would be similar to those of existing tree trunks and the Alturas transmission line, the proposed project would be visually subordinate to the characteristic landscape.

The second Partial Retention VQO area is west of and adjacent to Dog Creek, north of Verdi, Nevada (**Figure 3.2-2**). The area also does not contain any existing power lines or other constructed structures that would contribute line, color, and texture elements that are similar to the proposed project. There are existing overhead utility lines within view of some locations within this area that contribute elements to the characteristic landscape that are similar to the elements that would be introduced by the proposed project. Vegetation cover within this area consists almost entirely of conifer forest. The vertical form and line elements that would be introduced by the proposed power pole structures would repeat the vertical line and form elements that the trunks of the conifer trees contribute to characteristic landscape. The dark brown color and matte appearance of the proposed pole structures would be similar to the color of the tree trunks. Removal of the forest cover from within the ROW area for the alignment would create a contrasting form element with a corridor-like shape. There are existing unpaved roads and trails in the area that resulted in linear clearings of forest cover. Removal of the forest cover for these roads and trails contribute form elements with a corridor-like shape that are similar to those that would be created by the proposed project. Considering that linear clearings through the forest exist in this area, and that the vertical forms and lines, and brown colors that would be introduced by the power pole structures would be similar to those of existing tree trunks and power poles within view, the proposed project would be visually subordinate to the characteristic landscape. To ensure that the visual contrast introduced by the Peavine Alternative within Partial Retention is minimized, the alternative includes design feature VI 2 which requires that the number of new poles be minimized by increasing the pole span length on NFS land, as terrain allows. The Peavine Alternative would be consistent with the goals and objectives of the Partial Retention VQO.

Residences within Close Proximity

Implementation of the Peavine Alternative would locate the proposed transmission line within 0.25 mile of 25 residences. All 25 residences are located in the Verdi community, within relatively close proximity to the California Substation.

Forest Vegetation Community Clearing Effects

Approximately 21.4 acres of forested community would be removed within the transmission line clearance area of the Peavine Alternative.

3.2.4.5 Poeville Alternative

Visual Quality and Scenic Attribute Effects

The KOPs that were selected to analyze the visual impacts of the Poeville Alternative include:

- KOP 9 (Peavine Ranch);
- KOP 10 (Peavine Ranch – Southwest);
- KOP 11 (Peavine Road);
- KOP 12 (Stead Trailhead);
- KOP 13 (Trail Drive – East);
- KOP 14 (Trail Drive – West);

- KOP 15 (Truckee River Bridge);
- KOP 16 (Verdi Library Parking Lot – West); and
- KOP 17 (Verdi Library Parking Lot – East).

KOP 9

KOP 9 is adjacent to the Peavine Ranch and view is the east. The existing distribution line poles would be replaced by thicker transmission line poles that are approximately 20 percent to 40 percent taller. The conductors of the existing distribution line would be attached to the proposed pole structures as an under-build. From KOP 9, two proposed power pole structures would be visible in the foreground distance zone of the characteristic landscape. The vertical lines created by the existing poles would be replaced by taller, darker, and slightly thicker vertical lines. The vertical lines would be bold and distinct because their matte brown color would contrast against the light hues of green, tan, brown of the vegetation cover in the middleground distance zone. Additionally, because the proposed pole structures would be taller, a greater length of the pole would be viewed against the backdrop of the sky, which would also increase contrast.

The Alturas 345 kV transmission line is also visible in the foreground distance zone. The color of the Alturas 345 kV line poles are similar to the color of the proposed structures, but are almost twice as tall. The presence of the Alturas line in the characteristic landscape reduces the degree of contrast that would be introduced by the proposed pole structures.

Most of the elements that would be introduced during operation and maintenance of the proposed project would repeat form, line, color, and texture elements that are common to the characteristic landscape. The repetition of elements common to the characteristic landscape would reduce the degree of contrast that the proposed project would have. Although the proposed project may increase the size and amount of some elements common to the characteristic landscape, the increase would be minimal and visually subordinate. The proposed project would not be expected to dominate the view of casual observers and the loss of the visual quality and scenic attributes of the characteristic landscape at KOP 9 would be minimal.

KOP 10

KOP 10 is also adjacent to Peavine Ranch, except the view is to the southwest. Two existing distribution line poles would be replaced by thicker transmission line poles that are approximately 40 percent to 60 percent taller. The conductors of the existing distribution line would be attached to the proposed pole structures as an under-build. Implementation of the Poeville Alternative would be expected to result in a moderate loss of the visual quality and scenic attributes of the characteristic landscape at KOP 10. Although there are form, line, color, and texture elements visible in the characteristic landscape that would be repeated by the proposed project, the number of these elements visible would increase substantially. Additionally, many of the line and color elements that are unlike those that would be viewed against the backdrop of the middle ground. The middle ground is characterized by line and color elements that are unlike those that would be introduced by the project. The proposed project may attract the attention of the casual observer, but would be expected to remain visually subordinate to the landscape. size and amount of some elements common to the characteristic landscape, the increase.

The foreground of the characteristic landscape, which would be crossed by the Poeville Alternative, consist of private and NFS land. NFS land has not been assigned a VQO.

KOP 11

KOP 11 is located on Peavine Road, view is southwest. The proposed pole structures would replace the existing distribution line pole structures, with the conductors of the distribution line attached to the new structures as an under-build. Up to at least five proposed power pole structures would be visible from KOP 11 in the foreground and middleground distance zones of the characteristic landscape. There would be additional pole structures in the background distance zone, but the visual simulation suggests that these structures would not be readily visible from this KOP location.

The proposed pole structures would be slightly thicker and approximately 40 percent to 60 percent taller than the existing pole structures. The color of the proposed pole structures would be matte brown, which is similar to the color of the existing poles. The proposed power pole structures would introduce thin, simple vertical lines. Most of the elements that would be introduced would repeat form, line, color, and texture elements that are common to the characteristic landscape of KOP 11. For this reason, the degree of contrast that the proposed project would have with the characteristic landscape would be reduced and the increase would be minimal and visually subordinate. The proposed project would not be expected to attract the attention of, or dominate the view of the casual observer. Loss of the visual quality and scenic attributes of the characteristic landscape at KOP 11 would be minimal.

The background distance zone that would be crossed by the Poeville Alternative consists of NFS land mapped as Partial Retention VQO. The degree of contrast that would be expected to result from implementation of the Poeville Alternative would be consistent with the management goals and objectives of the Partial Retention VQO (**Table 3.2-1**).

KOP 12

KOP 12 is at the Stead Trailhead off of Peavine Road, view is southwest. Potentially up to two proposed power pole structures would be visible from KOP 12 in the middleground distance zone of the characteristic landscape. The proposed pole structures would replace the existing pole structures that are currently used for a distribution power line. The conductors of the distribution line would be attached to the new structures as an under-build. Based on the visual simulation, the new poles would be far away, and consequently, appear the same height, diameter, and color as the existing pole structures. The proposed pole structures would not introduce any new form, line, color, or texture elements to the characteristic landscape. The degree of contrast of the characteristic landscape from the proposed project would be negligible because the proposed pole structures would not introduce any new form, line, color, or texture elements. The Poeville Alternative is expected to have negligible impacts to the visual quality and scenic attributes of the existing landscape.

The middleground of the characteristic landscape, which would be crossed by the Poeville Alternative, consist of NFS land that has not been assigned a VQO.

KOP 13

KOP 13 is located on Trail Drive, view is looking east. Three proposed power pole structures are visible in the foreground distance zone of the characteristic landscape. The proposed pole structures would replace the existing distribution line pole structures, with the conductors of the

distribution line attached to the new structures as an under-build. The new poles would be approximately 40 percent to 60 percent taller than the existing structures. Noticeable changes may include slight variations in the color of the lines formed by the power pole structures, and an increase in the length of the vertical lines. Existing pole structures associated with the Alturas 345 kV transmission line and other distribution power lines visible from KOP 13 also contribute thin, vertical lines to the characteristic landscape. These elements are similar to those that would be introduced by proposed structures.

The degree of contrast that the proposed project would have with the characteristic landscape would be minor because the form, line, color, or texture elements introduced by the proposed project would repeat elements found in the characteristic landscape. Implementation of the Poeville Alternative would result in a minimal loss of the visual quality and scenic attributes of the existing characteristic landscape at KOP 13.

KOP 14

KOP 14 is located at the east end of Trail Drive and approximately 500 feet south of North Virginia Street, looking to the west. Up to four proposed power pole structures would be visible in the foreground distance zone of the characteristic landscape. The proposed pole structures would be approximately 40 percent to 60 percent taller than the existing structures and would replace existing distribution line pole structures, with the conductors of the distribution line attached to the new pole structures as an under-build.

Similar to KOP 13, the noticeable changes that would result from replacement of existing pole structures are slight variations in the color of the lines formed by the new structures and an increase in the length of the vertical lines. Existing pole structures of the Alturas 345 kV transmission line and other distribution power lines visible from KOP 14 also contribute thin, vertical lines to the characteristic landscape that are similar to those that would be introduced by the proposed structures. The degree of contrast would be minimal because the line, color, and texture elements that would be introduced by proposed pole structures would be similar to and repeat elements created by existing pole structures in the characteristic landscape.

The proposed project may increase the size and amount of some elements common to the characteristic landscape, however the increase would be minimal and visually subordinate. The proposed project would not be expected to attract the attention of, or dominate the view of the casual observer. Loss of the visual quality and scenic attributes of the characteristic landscape at KOP 14 would be minimal.

KOP 15

KOP 15 is near a bridge over the Truckee River, view is looking north. Two proposed H-frame pole structures would be visible in the middleground and up to four H-frame structures would be visible in the background distance zone of the characteristic landscape of KOP 15. The proposed pole structures would introduce thin, vertical lines that are simple and continuous and would be consistent with the existing structures in the area, as the existing #632 line would be replaced with the proposed project. In the middleground distance zone, the color would appear as dark brown against the backdrop of the tan vegetation in the background. In the background distance zone, the vertical lines would not be noticeable to the casual observer because the poles would appear tan to light brown and similar to the color of the surrounding vegetation.

Existing power pole structures in the middleground distance zone and dark green fence posts in the foreground distance zone contribute simple vertical lines to the landscape. The lines are similar to those introduced by the proposed project and reduce the degree of visual contrast. Most of the form, line, color, and texture elements that would be added from the proposed project would repeat elements that are common to the characteristic landscape of KOP 15. The proposed project may increase the size and amount of some elements common to the landscape; however, the increase would be minimal and visually subordinate. The proposed project would not be expected to attract the attention of or dominate the view of the casual observer. Implementation of the Poeville Alternative would result in a minimal loss of the visual quality and scenic attributes of the landscape at KOP 15.

KOP 16

KOP 16 is located at the parking lot of the Verdi Public Library, and is approximately 200 feet east of Bridge Street, view is to the west. One proposed H-frame power pole structure would be visible in the foreground distance zone of the characteristic landscape which would replace the existing H-frame pole structure of the inactive #632 power line in the same location with a similar H-frame structure. The color of the proposed pole structure would be dark brown and matte, which is similar to the dark brown color of the existing pole structure. Slight variations in the color and minor increase in the height of the vertical lines are the only noticeable changes that would result from replacement of existing pole structure with the proposed structure.

The degree of contrast that the proposed project would have with the landscape would be the same as that which currently exists because elements added by the proposed project would repeat elements common to the landscape in the same location. The proposed project would not be expected to attract the attention of, or dominate the view of the casual observer and would result in minimal change to the visual quality and scenic attributes of the landscape at KOP 16 through Verdi. Loss of the visual quality and scenic attributes of the landscape at KOP 16 would be negligible.

KOP 17

KOP 17 is at the same location as KOP 16, except the view is to the east. Two proposed H-frame pole structures would replace the existing structures of the #632 line in the same location. The poles would be visible in the foreground distance zone of the characteristic landscape. As described for KOP 16, the proposed structures would be slightly taller than the existing pole structures. Slight variations in the color of the lines formed by the power pole structures, and minor increase in the height of the vertical lines are the only noticeable changes that would result from replacement of existing pole structures with proposed structures.

The degree of contrast that the proposed project would have with the landscape would be negligible because elements added by the proposed project would repeat elements common to the landscape in the same location. The proposed project would not be expected to attract the attention of, or dominate the view of the casual observer and implementation of the Poeville Alternative would result in a negligible loss of the visual quality and scenic attributes of the landscape at KOP 17.

Consistency with Visual Resource Management

The VQOs that have been assigned on NFS land crossed by the Poeville Alternative include Modification, Partial Retention, and a very small area of Maximum Modification (**Figure 3.2-2**). The BLM-administered public lands that would be crossed by the Poeville Alternative are designated as VRM Class III. The proposed improvements at the Bordertown Substation would also occur on BLM-administered public lands that are assigned as VRM Class III.

The area of NFS land assigned as Modification (Peavine sub-area) that would be crossed by the Poeville Alternative is also crossed by the existing Alturas 345 kV transmission line and North Virginia Street. These existing features contribute form, line, color, and texture elements to the characteristic landscape that would be repeated by the proposed project. Repetition of elements common to the characteristic landscape would reduce the degree of contrast that the proposed project would have, and would prevent the proposed project from dominating the view of the casual observer. The visual characteristics of the proposed project would be compatible with the natural surroundings because it would repeat elements common to the characteristic landscape that surrounds it. Accordingly, implementation of the Poeville Alternative would be consistent with the objectives of the Modification VQO.

The area of NFS land assigned Partial Retention VQO (Poeville sub-area) crossed by the Poeville Alternative appears in the background zone of the characteristic landscape of KOP 11. As discussed in the analysis of potential impacts at KOP 11, form, line, color, and texture elements that would be introduced by the proposed project would repeat those found in the existing characteristic landscape. The proposed pole structures would replace existing pole structures that are associated with an existing overhead distribution power line. The vertical line elements that existing pole structures contribute to the characteristic landscape would increase in length when replaced with the proposed pole structures. However, the change in the size of elements resulting from the replacement of existing pole structures with proposed structures would be minimal and visually subordinate within the characteristic landscape.

The overhead conductors of the existing overhead distribution power line contributes thin curvilinear lines to the characteristic landscape. The proposed conductors would add additional curvilinear lines to the characteristic landscape that are essentially identical in appearance and roughly parallel with the existing conductors. Because the proposed conductors would repeat elements found in the characteristic landscape, the resulting degree of contrast would be minimal and visually subordinate.

The objectives of the Partial Retention VQO indicate that activities and actions should remain visually subordinate to the characteristic landscape. Activities and actions may repeat form, line, color, or texture common to the characteristic landscape, but changes in their qualities of size, amount, intensity, direction, and so forth, should remain visually subordinate to the characteristic landscape (**Table 3.2-1**). Because the proposed project would repeat elements found in the area of the Partial Retention VQO that would be crossed by the Poeville Alternative, and changes in the size and amount of the elements would remain visually subordinate, implementation of the Poeville Alternative would be consistent with the objectives of the Partial Retention VQO.

The BLM VRM Class III objectives are to partially retain the existing character of the landscape. Activities in areas of VRM Class III may attract attention but should not dominate the view of the casual observer, and changes should repeat basic elements found in the predominant natural features of the characteristic landscape (**Table 3.2-2**).

The proposed transmission line would be located adjacent to and roughly parallel with the existing Alturas 345 kV transmission line where the Poeville Alternative would cross the BLM VRM Class III area (**Figure 3.2-2**). The Alturas 345 kV transmission line contributes form, line, color, and texture elements to the characteristic landscape that would be repeated by the proposed project during operation and maintenance. Because the proposed transmission line would repeat elements found in the characteristic landscape, the resulting degree of contrast would be minimal and would not dominate the view of the casual observer. Any roads or routes or other clearings created during construction of the proposed project would introduce elements that repeat those found in the characteristic landscape from existing unpaved roads that cross the BLM VRM Class III area. Improvements to the Bordertown Substation would repeat elements that currently exist at the substation and would not attract the attention of casual observers. Implementation of the Poeville Alternative would be consistent VRM Class III objectives.

Residences within Close Proximity

Implementation of the Poeville Alternative would locate the proposed transmission line within 0.25 mile of 245 residences. Of the 245 residences, 134 would be located within 0.25 mile of the segment of the Poeville Alternative that would replace the existing inactive #632 distribution line in its exact location through Verdi. Thus, the Poeville Alternative would have minimal visual impacts on these 134 residences despite their proximity to the proposed transmission line. The remaining 111 residences are located near North Virginia Street and Trail Drive.

Forest Vegetation Community Clearing Effects

Approximately 2.9 acres of forested community would be removed within the transmission line clearance area of the Poeville Alternative.

3.2.4.6 Peavine/Poeville Alternative

The following KOPs were selected to analyze the visual impacts of the Peavine/Poeville Alternative:

- KOP 7 (Forest Road 41192 – North);
- KOP 15 (Truckee River Bridge);
- KOP 16 (Verdi Library Parking Lot – West); and
- KOP 17 (Verdi Library Parking Lot – East).

The section of the Peavine/Poeville Alternative that would be visible from KOP 7 is identical to the section of the Mitchell Alternative that would be visible from KOP 7. Thus, the proposed transmission line would appear identical from KOP 7 regardless of the potential implementation of the Peavine/Poeville Alternative or the Mitchell Alternative. Because the proposed transmission line would appear identical, the visual simulation prepared for KOP 7 is applicable to the Peavine/Poeville Alternative and the Mitchell Alternative. The visual contrasts and effects that the Peavine/Poeville Alternative would have on the landscape of KOP 7 during construction and

operation and maintenance are the same as those that would result from the Mitchell Alternative. These contrasts and effects are described in **Section 3.2.4.2**.

The section of the Peavine/Poeville Alternative that would be visible from KOP 15, KOP 16, and KOP 17 is identical to the section of the Poeville Alternative that would be visible from these KOPs. Thus, the proposed transmission line would appear identical from these KOPs regardless of the potential implementation of the Peavine/Poeville Alternative or the Poeville Alternative. Because the proposed transmission line would appear identical, the visual simulations prepared for these KOPs are applicable to the Peavine/Poeville Alternative and the Poeville Alternative. The visual contrasts and effects that the Peavine/Poeville Alternative would have on the landscape of KOP 15, KOP 16, and KOP 17 during construction and operation and maintenance are the same as those that would result from the Poeville Alternative. These contrasts and effects are described in **Section 3.2.4.4**.

Consistency with Visual Resources Management

The VQOs that have been assigned to NFS land that would be crossed by the Peavine/Poeville Alternative include Maximum Modification, Modification, and Partial Retention (**Figure 3.2-2**). The BLM-administered public lands that would be crossed by the Peavine/Poeville Alternative are assigned as VRM Class III. The proposed improvements at the Bordertown Substation would also occur on BLM-administered public lands that are assigned as VRM Class III.

The areas assigned Maximum Modification and Partial Retention VQO that would be crossed by this alternative are the same areas that also would be crossed by the Mitchell and Peavine alternatives. The area assigned as Modification that would be crossed by the Peavine/Poeville Alternative would also be crossed by the Peavine Alternative. The proposed transmission line would appear identical in these areas regardless of the implementation of this alternative or the Mitchell and Peavine alternatives.

The Partial Retention VQO crossed by the Peavine/Poeville Alternative is located approximately 2.5 miles southeast of the Bordertown Substation in Nevada. The visual contrasts and effects are described in **Section 3.2.4.2**. There are linear clearings that exist in this area, and that the vertical forms and the lines and brown colors that would be introduced by the power pole structures would be similar to those of existing tree trunks and the Alturas transmission line. The proposed project would be visually subordinate to the characteristic landscape. To minimize the visual contrast introduced by the Peavine/Poeville Alternative within Partial Retention, the alternative includes design feature VI 2 which requires that the number of new poles to be minimized by increasing the pole span length on NFS land, as terrain allows. The Peavine/Poeville Alternative would be consistent with the goals and objectives of the Partial Retention VQO.

The BLM VRM Class III area that would be crossed by the Peavine/Poeville Alternative is the same area that would be crossed by the Mitchell, Peavine, and Poeville alternatives. The proposed transmission line would appear identical within the BLM VRM Class III area regardless of the potential implementation of this alternative or the other action alternatives. Improvements to the existing Bordertown Substation would also appear identical under any of the action alternatives. Thus, like the other action alternatives, the Peavine/Poeville Alternative would be consistent with VRM Class III objectives.

Residences within Close Proximity

Implementation of the Peavine/Poeville Alternative would locate the proposed transmission line within 0.25 mile of 134 residences. All of the residences are in Verdi, where the Peavine/Poeville Alternative would replace the existing inactive #632 distribution line in its exact location. Thus, the Peavine/Poeville Alternative would have minimal visual effects on these 134 residences despite their proximity to the proposed transmission line.

Forest Vegetation Community Clearing Effects

Approximately 12.1 acres of forested community would be removed within the transmission line clearance area of the Peavine/Poeville Alternative.

3.2.4.7 Cumulative Effects

The existing visual character of the project area described for each alternative (**Section 3.2.3**) generally describes the current landscapes within the visual resources CIAA. Present actions which have affected visual resources include existing transmission lines and utility lines (e.g., pipelines); maintenance and use of existing transportation network (roads and trails), urban development, livestock grazing, mining, and resource management activities. Reasonably foreseeable future actions within the CIAA include resource management activities and the Stonegate Master Plan Development.

Visual resources have been less affected from resource management activities than other present actions because forest thinning and other vegetation treatments appear to be more natural than roads, urban development, mining, and utility lines. Reasonably foreseeable future resource management activities may continue to contribute to this effect, as forest thinning and other vegetation management treatments are proposed within the CIAA. The Stonegate Master Plan Development would be expected to contribute additional structures and roads to the CIAA. Visual contrast would generally be low because of the number of existing structures and roads present in the CIAA.

The incremental impacts on visual resources from any of the action alternatives would have a negligible cumulative impact. The cumulative impact would be negligible because the proposed transmission line would be located within landscapes that are generally characterized by some degree of alteration from present actions. Present actions, especially existing power lines would reduce the degree of contrast that the proposed pole structures and overhead conductors would have within the landscape.

3.3 LAND USE AND PRIVATE PROPERTY

3.3.1 Issue Statement

The presence of a new transmission line adjacent to or crossing private land may reduce private property values.

- a. Issue measured by: Number of private property parcels crossed by the proposed transmission line ROW/easement.
- b. Issue measured by: Estimated depreciation of property value.
- c. Issue measured by: Consistency with local land use plans.

3.3.2 Regulatory Framework

3.3.2.1 NFS Land

The NFS land within the analysis area is part of the Humboldt-Toiyabe National Forest and is managed under the Forest Plan (USFS 1986). The Forest Plan list following goals and desired future conditions applicable to the analysis area are listed in the Forest Plan specifically for lands and special uses:

- Use and occupancy of the National Forest will be provided when it is consistent with management area objectives, is in the public interest, and when it cannot reasonably be served by development on private land (page IV-8);
- Sufficient access will be provided for public use and resource management of the National Forest (page IV-8);
- Issuance of SUPs will be limited to those cases which serve the public need and which cannot reasonably be met on private lands. Priority will be given to special uses which maximize public benefits including energy related uses. Any necessary mitigating measures will be incorporated into permits (page IV-62);
- Manage all utility, road, and transmission corridors in accordance with plans and permits issued for their construction and use. When applications for utility ROW are received, the first priority will be to utilize existing corridors (page IV-62);
- NFS land will not be available for uses that can be accommodated on private land (page IV-62); and
- An environmental analysis will be required prior to adding new facilities to existing corridors. The integrity of visual quality for the corridor will be maintained to the highest standard to minimize adverse resource and environmental impacts. Any new utility corridor not identified in the Forest Plan will be handled through the NEPA process (page IV-62).

3.3.2.2 BLM-Administered Public Land

BLM-administered public land within the analysis area is managed in accordance with the Eagle Lake RMP (BLM 2008b). Some goals and policies that the RMP lists regarding land use and ROW grants and that area specifically applicable to the proposed project include:

- New ROW would be located within or adjacent to existing ROW, to the extent that is practicable, in order to minimize adverse environmental impacts;
- Utility corridors included in the Western Regional Corridor Study will be available for ROW development, unless environmental analysis reveals the likelihood of significant adverse impacts on other resources. The Western Regional Corridor Study (Michael Clayton and Associates 1992) identifies the Alturas 345 transmission line alignment as an appropriate corridor for future utility ROW development. The corridor is also designated as a Section 368 energy corridor (West-Wide Energy Corridor) (U.S. Department of Energy 2008). Transmission lines of 69 kV 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; and

- Additional corridors may be designated as future needs dictate, subject to onsite environmental reviews and clearances.

3.3.2.3 Section 368 Energy Corridor

Per Section 368 of the Energy Policy Act of 2005, energy corridors were designated on federal land as locations preferred by federal land management agencies for future energy transport projects. Placement of a transmission facility within a designated Section 368 energy corridor generally expedites the environmental review of right-of-way applications, although compliance with NEPA and other relevant laws is still required. Within the analysis area, a corridor centered on the Alturas 345 kV transmission line is a designated Section 368 energy corridor where it overlaps public land.

3.3.2.4 Private Land

Sierra County General Plan

The 2012 Sierra County General Plan was adopted in 1996. The purpose of the General Plan is to protect Sierra County's existing qualities and address local concerns as Sierra County grows (Sierra County 1996). Essentially, the plan policies and measures require minimization of new transmission lines, or that they are efficiently located, preferably within existing ROW, that the CPUC (and other permitting authorities) ask all transmission line applicants to first obtain a preliminary approval of the proposed alignment from the County, and acquire other permits such as conditional permits. In the event that new transmission lines cannot be located to follow existing ROW, a conditional use permit may be issued, and an amendment of the Sierra County Zoning Ordinance (Sierra County 2012) may be required.

Washoe County Master Plan and Development Code

The Washoe County Master Plan sets goals, policies, and action items to guide location and use of land and transportation systems within Washoe County (Washoe County 2011). The Washoe County Master Plan includes various Area Plans to provide guidance for development intensity and character within these specific regions. Two Area Plans provide guidance for development for the portions of Washoe County within the analysis area: the North Valleys Area Plan and the Verdi Area Plan. The North Valleys Area Plan (Washoe County 2010a) provides the following policy statement relating to transmission lines:

“With the exception of temporary infrastructure for construction projects, Washoe County will require the underground placement of utility distribution infrastructure within the North Valleys Management Area. Utility transmission facilities will be subject to a special use permit.”

According to the Washoe County Development Code (2013b), a SUP is required for all utility services.

City of Reno Master Plan and Annexation and Land Development Code

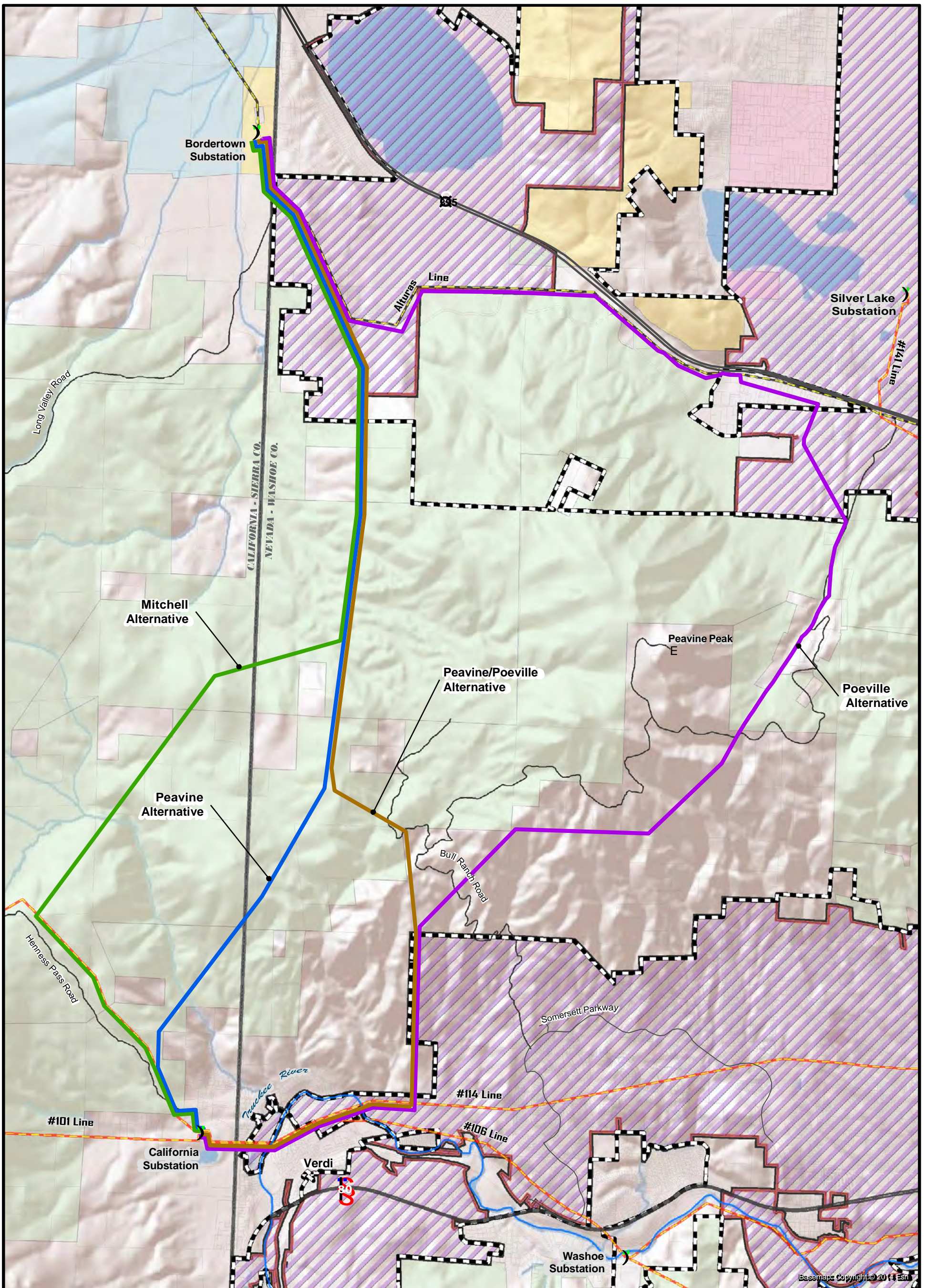
Portions of the analysis area are located in unincorporated Washoe County within the City of Reno Sphere of Influence (SOI), with some areas annexed to the city of Reno and within the city limits (**Figure 3.3-1**). The Reno SOI is the area surrounding the city of Reno limits that is planned for annexation within 20 years. A SUP is required for the establishment of major utility services in the city of Reno limits or SOI.

Development on private land within the city of Reno SOI, or within the city of Reno limits requires compliance with the City of Reno Master Plan (2012) and the City of Reno Annexation and Land Development Code (2005).

2012 Truckee Meadows Regional Plan

Both Washoe County and the City of Reno must show Master Plan compliance with the 2012 Truckee Meadows Regional Plan, which was adopted in 2013 and is implemented by the TMRPA. All projects of regional significance within Washoe County or the city of Reno must receive approval from the TMRPA in order to confirm compliance with the Truckee Meadows Regional Plan (Nevada Revised Statutes [NRS] 278.026). Pursuant to NRS 278.026, a transmission line that carries 60 kV or more is considered a project of regional significance. Stated goals and policies of the Truckee Meadows Regional Plan relating to land use authorizations and applicable to the proposed project include:

- The Truckee Meadows Regional Plan will establish, maintain, promote the use of, and protect the future expansion of identified utility corridors and sites for the transmission of electricity and promote the use of these corridors for the placement of other utilities;
- The removal of existing, or establishment of new utility corridors and sites from those shown in the Truckee Meadows Regional Plan requires an amendment of the Plan;
- To be in conformance with the Truckee Meadows Regional Plan, local-government master plans must require that proponents of utility projects, including private developers, NV Energy, or other multi-state utility-related entities, place new electrical transmission infrastructure in existing utility corridors, unless adequate justification can be provided that demonstrates why the new infrastructure cannot be placed in an existing corridor;
- To be in conformance with the Truckee Meadows Regional Plan, local-government master plans must use the following priority hierarchy for the placement of new above ground and underground electrical transmission infrastructure:
 - ▶ Locate new above ground or underground transmission infrastructure in an existing corridor that already contains above ground transmission infrastructure, without expanding the corridor width;
 - ▶ Locate new above ground or underground transmission infrastructure in either a federally designated corridor (i.e. BLM corridor) or an easement that has an approved preliminary or final EIS;
 - ▶ Locate new above ground or underground transmission infrastructure in an existing corridor that already contains above ground transmission infrastructure, but with an expanded corridor width;



Transmission Line		Land Ownership	
Alternatives	120 KV	Bureau of Land Management	
Mitchell	Transmission Line	California Department of Fish and Game	
Peavine	345 KV Transmission Line	Department of Defense	
Poeville	Reno Shere of Influence	U.S. Forest Service	
Peavine/Poeville	City of Reno		

FIGURE 3.3-1
RENO SPHERE OF INFLUENCE
 BORDERTOWN TO CALIFORNIA
 120 KV TRANSMISSION LINE EIS

1 in = 4,500 feet

0 2,250 4,500 9,000
 Feet

- ▶ Request the creation of a new corridor based on the route of an existing above ground distribution line;
 - ▶ Locate new above ground transmission infrastructure within an existing corridor that already contains underground transmission infrastructure, without expanding the corridor width;
 - ▶ Locate new above ground transmission infrastructure within an existing corridor that already contains underground transmission infrastructure, but with an expanded corridor width; and
 - ▶ Request the creation of a new corridor for the placement of new transmission infrastructure where no utility infrastructure currently exists.
- To be in conformance with the Truckee Meadows Regional Plan, local-government master plans must preserve the viability of existing and future utility corridors and sites to accommodate new or expanded infrastructure by:
 - ▶ Requiring a minimum setback of 10 feet on each side of existing regional utility corridors within which structures approved after August 12, 2010, are prohibited.
 - To be in conformance with the Truckee Meadows Regional Plan, local-government master plans must ensure the edge of an easement associated with a new or expanded above ground or underground electrical transmission line is a minimum of 10 feet from existing structures.

3.3.3 Affected Environment

3.3.3.1 Land Use and Ownership

All action alternatives would cross public land as well as private land (**Figure 3.3-1**). The acres and associated percentages of NFS land, BLM-administered public land, and private land within the proposed ROW/easement of each action alternative is presented in **Table 3.3-1**.

Table 3.3-1 Land Administration/Ownership within ROW/Easement

ALTERNATIVE	USFS		BLM		PRIVATE LAND		TOTAL AREA OF ROW/EASEMENT (ACRES)
	ACRES	PERCENT	ACRES	PERCENT	ACRES	PERCENT	
Mitchell	91.6	70	8.1	6	31.6	24	131.3
Peavine	76.4	66	8.1	7	31.6	27	116.1
Poeville	44.7	22	8.1	4	147.3	74	200.1
Peavine/Poeville	46.9	35	8.1	6	78.5	59	133.5

Existing land uses in the project area include dispersed recreation, timber management, firewood and Christmas tree cutting, and utilities, including an underground gas pipeline and electrical transmission and distribution lines. The Alturas 345 kV transmission line is contained within a designated Section 368 energy corridor. Private land is primarily undeveloped or used for livestock grazing. The community of Verdi is developed with residential properties including an elementary school and library.

Construction of a transmission line on private land would be regulated by Sierra County, Washoe County, the City of Reno, and the TMRPA. Municipal jurisdictions crossed by alternatives are shown on **Table 3.3-2** and **Figure 3.3-2**. City of Reno SOI is shown on **Figure 3.3-1**.

Table 3.3-2 Municipal Jurisdictions Crossed by Alternatives

ALTERNATIVE	SIERRA COUNTY (MILES)	WASHOE COUNTY (MILES)	CITY OF RENO ¹ (MILES)
Mitchell	6.4	3.0	2.3
Peavine	3.1	4.9	2.3
Poeville	1.1	8.2	8.7
Peavine/Poeville	1.1	6.3	4.5

¹ Includes land with the City of Reno SOI

Zoning designations consist of open space, various medium to large lot residential zoning designations, and public and semi-public facilities, as shown on **Figure 3.3-2** (City of Reno 2007a; Washoe County 2013a; Sierra County 2013). NFS land and BLM-administered public land are zoned as open space within portions of the project area in Washoe County.

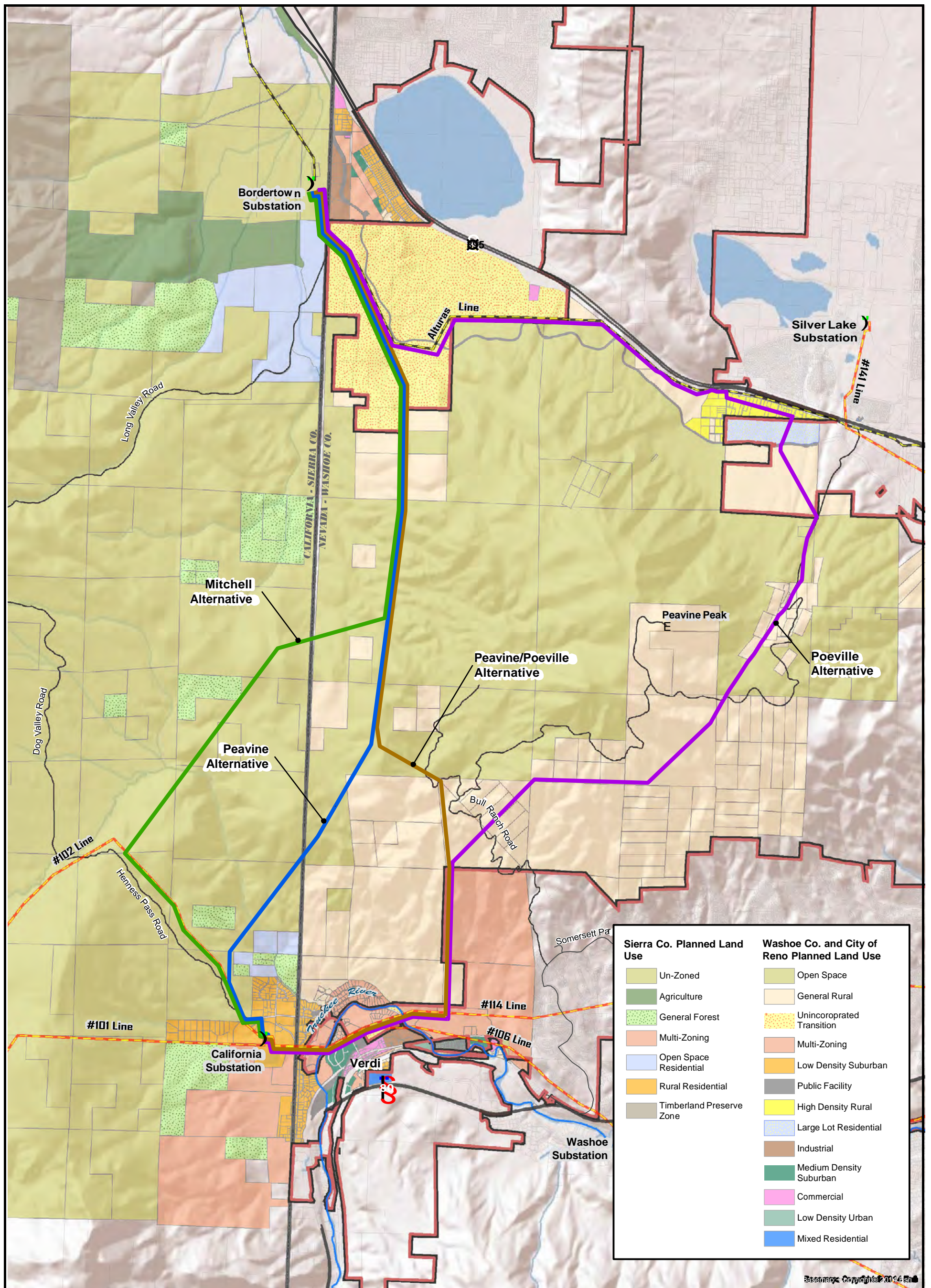
The Truckee Meadows Regional Plan designates Regional Utility Corridors within in Nevada. Regional Utility Corridors include the Alturas Corridor (which is also a Section 368 energy corridor where it overlaps federal land), and the corridor containing the existing #114 and #106 transmission lines and the inactive #632 distribution line (**Figure 2.1-1**). The Alturas corridor is a 2,000-foot-wide corridor and the #114, #106, and #632 corridor consists of a 125-foot-wide easement with an additional 60-foot-wide easement in a portion of the Verdi Lake Estates area (BLM 2008b; Washoe County 2012a; CFA, Inc. 2007). Opportunities to use utility corridors exist for all alternatives in the following circumstances: where a single-pole under-build can be used to co-locate an electric distribution line with the proposed transmission line; where the easement of an inactive power line, such as the #632 line is available; and, where the proposed transmission line can be placed next to an existing ROW or easement of an existing utility line.

Table 3.3-3 presents the number of privately owned parcels along each alternative.

Table 3.3-3 Number of Privately Owned Parcels Crossed by Alternative

ALTERNATIVE	NUMBER OF PRIVATELY OWNED PARCELS CROSSED BY THE PROPOSED ROW/EASEMENT
Mitchell	19
Peavine	19
Poeville	127
Peavine/Poeville	61

¹ Privately owned parcels do not include NFS land, BLM-administered public land, or property owned by Washoe County, Washoe County School District Board, Washoe County Regional Open Space Program, Sierra County, and Sierra Pacific Power Company



Sierra Co. Planned Land Use	Washoe Co. and City of Reno Planned Land Use
Un-Zoned	Open Space
Agriculture	General Rural
General Forest	Unincorporated Transition
Multi-Zoning	Multi-Zoning
Open Space Residential	Low Density Suburban
Rural Residential	Public Facility
Timberland Preserve Zone	High Density Rural
	Large Lot Residential
	Industrial
	Medium Density Suburban
	Commercial
	Low Density Urban
	Mixed Residential

Transmission Line Alternatives

- Mitchell
- Peavine
- Poeville
- Peavine/Poeville

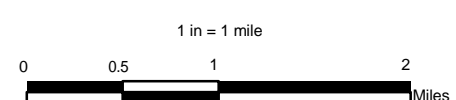
City of Reno

Existing Features

- 120 kV Transmission Line
- 345 kV Transmission Line

**FIGURE 3.3-2
LAND USE**

**BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS**



Private land is zoned within its respective jurisdiction. Within portions of the project area in Washoe County, public land is zoned as open space. Zoning designations do not conflict with transmission line placement; however, a permit or plan amendment may be required where an existing designated utility corridor does not exist. **Table 3.3-4** presents the land use or zoning by action alternative, and **Figure 3.3-1** displays these land use designations.

Table 3.3-4 Zoning Category Crossed by Each Action Alternative

LAND USE OR ZONING CATEGORY	ACRES WITHIN THE PROPOSED ROW/EASEMENT			
	MITCHELL	PEAVINE	POEVILLE	PEAVINE/ POEVILLE
Multi-zoning ¹	0	0	18.7	18.7
Unincorporated Transition-40 Acre Lots (UT-40)	22.5	22.4	24.0	22.4
Large Lot Residential-2.5 Acre Lots (LLR-2.5)	0	0	2.8	0
Open Space (OS)	26.4	45.7	38.0	39.8
General Rural (GR)	8.2	10.1	76.0	25.6
High Density Rural (HDR)	0	0	9.8	0
Public and Semi-Public Facilities (PSP)	0	0	10.4	7.6
Low Density Suburban (LDS)	0	0	2.2	2.2
Open Space-20 Acres (OS-20)	2.2	2.2	2.2	2.2
Rural Residential-1.5 Acre Lots (RR-1.5)	3.1	3.1	5.2	5.2
Un-zoned Land in Sierra County	63.4	27.9	4.3	4.3

¹ In the Verdi area, the proposed transmission line would traverse parcels that are between two land use categories or split land use parcels and exact category placement cannot be determined. These areas have been classified as “Multi-zoning”; The mixed or multiple zoning in this category include OS, PSP, LLR-1, GR, LDS, UT-40, Mixed and RR-1.5

3.3.4 Environmental Consequences

3.3.4.1 No Action Alternative

Under the No Action Alternative, construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur. There would be no change in land use, and special use permits and master plan amendments would not be required.

3.3.4.2 Effects Common to All Action Alternatives

Table 3.3-5 shows utilization of existing utility corridors by action alternative. An action alternative would use an existing utility corridor if it is co-located with a distribution line using a single pole under-build; constructed adjacent to an undesignated power line (i.e., #102 transmission line), or constructed within a designated Section 368 energy corridor (i.e., within 1,000 feet of either side of the Alturas 345 kV transmission line). Percentages presented in **Table 3.3-5** are relative to each action alternative.

Table 3.3-5 Use of Utility Corridors by Action Alternative

ALTERNATIVE	WITHIN 368 ENERGY CORRIDOR (MILES)	CO-LOCATED OR ADJACENT TO UNDESIGNATED LINE ¹ (MILES)	WITHIN REGIONAL UTILITY CORRIDOR (MILES)	PERCENT WITHIN UTILITY CORRIDOR	PERCENT WITHIN REGIONAL UTILITY CORRIDOR
Mitchell	0.4	2.4	2.2	39	19
Peavine	0.4	0.6	2.2	27	21
Poeville	2.9	3.3	9.32	70	52
Peavine/Poeville	0.4	0.2	4.42	39	37

¹ Includes distribution lines and the #102 transmission line in Sierra County

² Mileage includes 0.5 mile of proposed transmission line that would be within the #114 and #106 transmission line corridor in Sierra County, but which is not shown on the Regional Utility Corridor map since it is outside the TMRPA jurisdiction

Conflicts with Plans, Policies, or Regulations

Each action alternative utilizes existing transmission or distribution lines as practicable; nevertheless, none fulfill any one plan or policy completely. Any alternative would require a Truckee Meadows Regional Plan Amendment, since all of the action alternatives would be located outside of a Regional Utility Corridor in at least one area (**Table 3.3-5**).

Construction of all of the alternatives would require a SUP in the city of Reno and Washoe County. In Sierra County, the transmission line would cross private property and the Sierra County Zoning Code does not specifically state that transmission lines are permitted or prohibited in these zoning districts (Sierra County 2012). However, sections of the proposed transmission line on private land in Sierra County would be co-located with existing power lines and/or utilize existing utility line corridors. Utilizing an existing utility corridor and co-locating the transmission line with other power lines is preferred when a new transmission line must be constructed in Sierra County (Sierra County 1996). It is likely that a SUP would be required for the proposed transmission line in Sierra County.

Impacts to Private Land

The number of private land parcels that would be affected from each action alternative is presented in **Table 3.3-3**. The proposed ROW/easement would limit new structures from being constructed in the ROW. Some passive uses such as parking of vehicles, landscaping and fencing within the ROW/easement would require approval by NV Energy in order to confirm compatibility with the proposed transmission line.

The Truckee Meadows Regional Plan requires a 10-foot-wide setback in which structures cannot be constructed on either side of the ROW/easement for a 120 kV transmission line (TMRPA 2012). The 10-foot-wide setback on either side of the ROW/easement does not apply to existing development or development approved prior to August 12, 2010.

For all of the action alternatives, the ROW/easement would have a long-term impact on developed private property, because new structures or expanding existing structures within the ROW/easement area would be prohibited. Parcels generally larger than 1 acre would have more

area to absorb the ROW/easement and the 10-foot-wide setback. Parcels generally smaller than one acre would have less area to absorb the ROW/easement and setback, which may reduce the area on the parcel that could be developed in the future.

Property values were evaluated in south suburban Reno in a study to determine the impacts to private land from the construction of a 120 kV transmission line (Warren and Schiffmacher LLC 2007). The study made several determinations:

- Developers and property owners will build and live on properties that are encumbered by, or adjacent to 120 kV transmission lines;
- The proximity of a property developed with an existing house to a 120 kV transmission line does not have a discernible impact on the value of the property; and
- Under certain market conditions, the existence of a 120 kV transmission line adjacent to vacant and undeveloped property may have negative impacts on property values between 10 percent and 15 percent. This is typical if the market supply exceeds the market demand.

Construction of any action alternative on land with existing homes would have negligible impacts on private property values. However, undeveloped private land has the potential to lose between 10 percent and 15 percent of its value depending on market conditions.

To minimize the loss of buildable land and minimize loss of property value, NV Energy would purchase easements based on the appraised value of the land. Land use restrictions within the easement, and the potential loss of property value would be considered during the easement acquisition process.

Impacts to Tax Revenue

As described above, the implementation of any of the action alternatives would potentially result in reduced property values of undeveloped properties. The reduced property values would result in decreased tax revenues for Sierra County, Washoe County, and the City of Reno. However, the number of parcels that would potentially be affected from any action alternative would be negligible compared to the total number of parcels in either county or the city of Reno from which tax revenue is generated. The diminished value of so few parcels would have negligible effects on tax revenue.

3.3.4.3 Mitchell Alternative

Approximately 70 percent of the proposed ROW/easement for the Mitchell Alternative is NFS land, and approximately 24 percent is private land (**Table 3.3-1**). The Mitchell Alternative is consistent with Forest Plan goals and objectives regarding locating projects off of NFS land and on private land when reasonably possible, utilizes existing utility corridors, and is in the public interest. The Mitchell Alternative uses 5.0 miles of utility corridors, consisting of 2.4 miles of distribution line corridor, 2.2 miles of Regional Utility Corridors, and a short section of Section 368 energy corridor where it occurs at the Bordertown Substation (**Table 3.3-5**).

There would be 19 private land parcels crossed by the proposed transmission line (**Table 3.3-3**). Fourteen of the parcels are within Sierra County and the other five are within either the city of Reno limits or the city of Reno SOI. One of the parcels in Sierra County is developed with a

residential house that would be approximately 315 feet from the proposed transmission line. One parcel in the city of Reno limits is developed with two structures. Field observations suggest that neither structure is residential, but related to industrial uses. The nearest structure to the proposed transmission line would be approximately 930 feet away. The remaining 17 parcels are undeveloped.

Implementation of the Mitchell Alternative may result in long-term impacts to private property values. NV Energy would pay fair market value for the easement.

3.3.4.4 Peavine Alternative

Approximately 66 percent of the area within the proposed ROW/easement for the Peavine Alternative is NFS land, and approximately 27 percent is private land (**Table 3.3-1**). The Peavine Alternative would use 0.6 mile of distribution line corridor, 2.2 miles of Regional Utility Corridors, and a short section of Section 368 energy corridor where it occurs at the Bordertown Substation (**Table 3.3-5**).

Compared to the Mitchell Alternative, the Peavine Alternative would utilize slightly less (about 3 percent) NFS land (**Table 3.3.1**). However, relative to the total area within the proposed ROW/easement, the Peavine Alternative would utilize less private land and more NFS land than the Poeville and Peavine/Poeville alternatives. Implementation of the Peavine Alternative is consistent with Forest Plan goals and objectives as the project is on and off of NFS land, utilizes existing utility corridors and provides a public benefit.

The Peavine Alternative would cross approximately 19 private land parcels. The parcels that would be crossed are the same as those that would be crossed by the Mitchell Alternative.

3.3.4.5 Poeville Alternative

Approximately 22 percent of the land within the proposed ROW/easement for the Poeville Alternative is NFS land. Approximately 74 percent is private land (**Table 3.3-1**). The route would utilize existing utility corridors, consisting of 13.0 miles of transmission and distribution lines, including 9.3 miles of Regional Utility Corridors and 2.9 miles of Section 368 energy corridor. The Poeville Alternative is consistent with the Forest Plan, it is on and off of NFS land, utilizes existing utility corridors and provides a benefit to the public (**Table 3.3-5**).

The Poeville Alternative would cross an area designated as City of Reno Open Space on the City's Open Space and Greenways Plan (2007b). The Poeville Alternative would also cross two separate areas designated as Proposed Urban Connections on the Open Space and Greenways Plan. Potential impacts to City of Reno Open Space, Proposed Urban Connections, and the conceptual ring trail may result from the transmission line modifying the setting and characteristics of the area. The City of Reno would need to coordinate with NV Energy in the areas where the proposed ROW would cross the Proposed Urban Connections and conceptual ring trail to confirm any improvements within the proposed transmission line ROW do not interfere with transmission line operation and maintenance.

It is estimated that approximately 127 private parcels would be crossed (**Table 3.3-3**). Aerial photography (U.S. Farm Service Agency 2013) suggests that two parcels in Washoe County are developed with houses and accessory structures. On both parcels, a residential house would be partially within the 10-foot setback required next to the proposed ROW/easement. Accordingly,

the Poeville Alternative would not conform to the Truckee Meadows Regional Plan on either of these parcels because the edge of the proposed ROW/easement would be within 10 feet from existing structures, unless the centerline of the Poeville is shifted 10 feet further away from the homes. On one parcel in the City of Reno, a shed or garage structure would be partially located within the proposed ROW/easement.

The Poeville Alternative may have long-term impacts on the property values of private land. Based on conclusions of the Warren and Schiffmacher study, impacts on the property values of private properties developed with an existing house would be negligible. NV Energy would compensate private land owners based on fair market value to reduce the impacts to private property values.

3.3.4.6 Peavine/Poeville Alternative

Approximately 35 percent of the area within the proposed ROW/easement for the Peavine/Poeville Alternative is NFS land, and approximately 59 percent is private land (**Table 3.3-1**). Implementation of the Peavine/Poeville Alternative is consistent with the Forest Plan, it is on and off NFS land, utilizes existing utility corridors and is in the public interest.

Approximately 4.6 miles of the proposed transmission line, which is approximately 39 percent of its total length, would be located within existing utility corridors (**Table 3.3-5**). The Peavine/Poeville Alternative uses 4.4 miles of Regional Utility Corridors and a short section of Section 368 energy corridor at the Bordertown Substation. Thus, the Peavine/Poeville Alternative would utilize fewer miles of Regional Utility Corridor and Section 368 energy corridor than the Poeville Alternative, but more than the Peavine Alternative. Approximately 61 private land parcels would be crossed by the proposed transmission line (**Table 3.3-3**). Impacts to structures from setbacks and separation requirements would not be anticipated from this alternative. The Peavine/Poeville Alternative would cross an area designated as City of Reno Open Space on the City's Open Space and Greenways Plan (2007b) and would also cross a conceptual ring trail identified on this plan. Potential impacts to City of Reno Open Space and the conceptual ring trail may result from the transmission line modifying the setting and characteristics of the area. In addition, the City of Reno would have to coordinate with NV Energy in the areas where the proposed ROW would cross the conceptual ring trail to confirm any improvements within the proposed transmission line ROW do not interfere with transmission line operation and maintenance.

The Peavine/Poeville Alternative may result in long-term impacts to the property values of undeveloped private property as the 90-foot ROW/easement would be designated for the operation and maintenance of a transmission line. Owners would be compensated for the easement based on fair market value.

3.3.4.7 Cumulative Effects

Within the land use CIAA, ROW/easements currently exist for utilities, the Bordertown and California Substation facilities, and numerous state and county maintained roads. Additional ROW/easements also exist on private land for other agreements or commitments, such as ingress/egress and open space.

All ROW/easements on NFS land and BLM-administered public land are issued in concert with existing approved resource management plans, and there have been no overall change in planned land use. However, as the density of ROW/easements increases within the CIAA, the ability to

issue any additional ROW/easements or building permits may become more limited due to the potential for use conflicts. With the exception of the proposed project, there are no reasonably foreseeable future actions on NFS land or BLM-administered public land within the CIAA that would include or require a new ROW/easement to be issued. The reasonably foreseeable Stonegate Master Plan Development does not require any easements or ROWs across NFS land or BLM-administered public land. Owners of private land would be compensated for the loss of buildable land or value resulting from the proposed ROW/easement across their property. The proposed project, regardless of the action alternative selected, would have a minor contribution to cumulative impacts to land use.

3.4 PUBLIC HEALTH AND SAFETY

3.4.1 Issue Statement

A new transmission line could increase electromagnetic fields (EMFs) that may affect the health and safety of children at Verdi Elementary School and residents in Verdi and Long Valley, and along North Virginia Street who would live near the proposed transmission line.

- a. Issue measured by: Computer modeling of predicted maximum electric field during project operation.
- b. Issue measured by: Computer modeling of predicted maximum magnetic field during project operation.
- c. Issue measured by: Risk to public health and safety.

3.4.2 Affected Environment

3.4.2.1 Electric Fields

All household appliances and devices that use electricity create electric fields. The strength of an electric field is strongest near the appliance and decreases rapidly with distance away from the appliance. The measure of electric field strength is expressed in volts per meter or kV per meter. Typical electric fields measured one-foot away from common household appliances are shown in **Table 3.4-1**.

Table 3.4-1 Typical Electric Field Values for Appliances

APPLIANCE	ELECTRIC FIELD AT 12 INCHES AWAY (KV PER METER)
Electric Blanket	0.25
Broiler	0.13
Refrigerator	0.06
Iron	0.06
Hand Mixer	0.05
Coffee Pot	0.03

Source: Eneritech and Sheppard 2013

Electric current flowing in an energized transmission line creates an electric field. The strength of the electric field decreases rapidly with distance away from the transmission line. As an example, electric fields were measured for the existing #102 line, which is a 120 kV line, at Sunrise Creek Road near Henness Pass/Dog Valley Road, west of the California Substation. Electric fields were highest nearest to the conductor wires. Field measurements confirm that fields attenuate rapidly with distance. At 30, 60, 90, and 120 feet from the transmission line’s centerline, fields were 0.8 kV per meter, 0.4 kV per meter, 0.1 kV per meter, and 0.05 kV per meter, respectively. Electric fields are affected by the presence of grounded and conductive objects. For transmission lines, trees and buildings can significantly reduce ground level electric fields by shielding the nearby area.

3.4.2.2 Magnetic Fields

The electric current flowing in electric equipment, household appliances, and power transmission lines creates a magnetic field. The unit of measure for magnetic field intensity is the gauss or milligauss. As with electric fields, magnetic field strength diminishes rapidly with distance from the source. Unlike electric fields, magnetic fields are not shielded by most objects or materials. Illustrating how rapidly magnetic fields decrease with distance, **Table 3.4-2** presents magnetic field values measured at distances up to three feet away from common household appliances.

Table 3.4-2 Magnetic Fields from Household Appliances

APPLIANCE TYPE	MEASURED MAGNETIC FIELD (MILLIGAUSS)		
	1.2 INCHES AWAY FROM DEVICE	12 INCHES AWAY FROM DEVICE	36 INCHES AWAY FROM DEVICE
Coffee Grinders	60.9 to 77.9	0.3 to 6.5	0 to 1.5
Compact Fluorescent Bulbs	0 to 32.8	0 to 0.1	0
Computers, Desktop	3.8 to 68.9	0 -1.1	0
Computers, Laptop	0 to 5.1	0	0
Electric Leaf Blowers	272 to 4,642	17.1 to 155	1.2 to 6.2
Electric Toothbrushes	3.6 to 742	0 to 4.8	0 to 0.1
Liquid-crystal Display Televisions	1.1 to 3.9	0 to 2.5	0 to 2.2
Massagers/Massage Chairs	81.9 to 500	0.6 to 2.3	0 to 0.1
Power Tools – Corded	784 to 982	8.8 to 31.3	0.3 to 1.3
Power Tools – Cordless	9.0 to 227	0 to 2.2	0 to 0.2
Vacuum Cleaners (Personal/Car)	75.5 to 2,226	0.6 to 23.3	0

Source: Enertech and Sheppard 2013

3.4.2.3 Health-Based Standards for Electric and Magnetic Fields

Government health agencies and non-government scientific bodies have formed a number of scientific review panels to evaluate the large amount of available research conducted on power line EMFs. The International Agency for Research of Cancer (2002), International Commission on Non-Ionizing Radiation Protection (ICNIRP) (2010), National Institute of Environmental

Health Sciences (1999), and similar organizations agree that the weight of evidence cannot establish that EMFs cause adverse health effects. The only scientific and medical studies that demonstrate an adverse biological or health effect are those in which very high levels of electric currents and electric and/or magnetic would be felt as a very weak electric shock. Fields at these high intensities are not found in residential environments near transmission lines or elsewhere where the public has access.

Presently, there are no federal health-based standards for limiting public exposure to EMFs due to a lack of scientific evidence establishing adverse health effects from exposure. However, the American Conference of Governmental Industrial Hygienists (ACGIH), Institute of Electrical and Electronics Engineers (IEEE) International Committee on Electromagnetic Safety, and International Commission on Non-Ionizing Radiation Protection ICNIRP have all recommended science-based exposure limits for EMFs for occupational workers and the general public (**Table 3.4-3**).

Table 3.4-3 Recommended Limits for EMF Exposure

ORGANIZATION	EXPOSURE GROUP	ELECTRIC FIELD	MAGNETIC FIELD
ACGIH	Occupational	25 kV per meter (from 0 Hz to 100 Hz)	10,000 milligauss
ACGIH	Occupational For workers with cardiac pacemakers or similar medical electronic devices	1 kV per meter	1,000 milligauss
IEEE	General Public	5 kV per meter ¹ outside ROW and 10 kV per meter within power line ROW ² (from 1 Hz to 368 Hz)	9,040 milligauss (from 20 Hz to 759 Hz)
ICNIRP	Occupational	8.333 kV per meter	10,000 milligauss
ICNIRP	General Public	4.167 kV per meter	2,000 milligauss

Source: Enertech and Sheppard 2013

¹At 5 kV per meter induced spark discharges will be painful to approximately seven percent of adults (well-insulated individual touching ground)

² Under normal load conditions

Hz = Hertz

3.4.2.4 Existing Conditions

The strength of EMFs created by existing transmission lines were measured at various locations within the project area. Measurements were taken underneath the existing lines as well as at the location where the proposed project would be constructed. **Table 3.4-4** presents the strength of fields recorded within the proposed ROW.

Table 3.4-4 Baseline EMF Conditions within Project ROW

LOCATION	FIELD MEASUREMENTS ^{1,2}	
	ELECTRIC FIELD (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)
Alturas 345 kV transmission line near Long Valley Road	0.1 to 0.2	0.6 to 1.0
#102 120 kV transmission line Sunrise Creek Road near Henness Pass/Dog Valley Road	0.1 to 0.4	0.5 to 1.9
#204 25 kV distribution line Henness Pass/Dog Valley Road	0.1 to 0.2	0.1 to 0.3
Alturas 345 kV transmission line with #257 distribution line Peavine Ranch, North Virginia Street	0.1 to 1.0	1.9 to 5.6
#114/#106/#632 120 kV transmission line corridor Verdi Elementary School and Verdi Public Library at Bridge Street	0.1 to 0.5	1.2 to 2.6
#114/#106/#632 120 kV transmission line corridor Verdi Elementary School and Verdi Public Library at ball fields	0.1 to 0.6	0.2 to 4.1
#114/#106/#632 120 kV transmission line corridor Verdi residential area at (west) Bridge Street	0.1 to 0.8	1.4 to 7.2
#114/#106/#632 120 kV transmission line corridor Verdi residential area at Lakeview Drive	0.1 to 0.7	1.5 to 7.3

Source: Enertech and Sheppard 2013

¹ Range of values recorded in the location where the proposed transmission line would be placed. ROW edge is 45 feet from the proposed transmission line centerline with the exception of the Alturas 345 kV transmission line at Peavine Ranch, North Virginia Street. At this location the ROW is constrained, and therefore, the ROW edge is 20 feet from the centerline.

² Measurements taken on November 8, 2012 and November 29, 2012

3.4.3 Environmental Consequences

3.4.3.1 Methods of Analysis

Where the proposed transmission line would be placed next to an existing transmission or distribution line, the sum total electric field strength was calculated through computer modeling. This section presents the predicted EMF levels under maximum electrical loads inside the ROW and beyond the ROW edge. In addition to the voltage of the transmission line, the type of pole structure (H-frame structure or single pole structure) also influences the strength of EMFs. H-frame structures create slightly greater EMFs than single pole structures. As a result, six different EMF scenarios are possible along the action alternatives (**Table 3.4-5**).

Table 3.4-5 Power Line Configurations by Alternative

MODELED CONFIGURATION	ALTERNATIVE			
	MITCHELL	PEAVINE	POEVILLE	PEAVINE/ POEVILLE
Proposed Line alone as H-frame	✓	✓	✓	✓
Proposed Line next to Alturas 345 kV transmission line	✓	✓	✓	✓
Proposed Line next to #102 120 kV transmission line	✓	✓		
Proposed Line with 25 kV distribution line under-build	✓	✓	✓	
Proposed Line with 25 kV distribution line under-build next to Alturas 345 kV transmission line			✓	
Proposed Line as H-frame next to #114 and #106 120 kV transmission lines (replacing the de-energized #632 transmission line)			✓	✓

Source: Enertech and Sheppard 2013

3.4.3.2 Effects Indicators

In the absence of health-based exposure limits established by federal or state agencies, effects of the project are compared against exposure limits for the general public recommended by non-governmental organizations (**Table 3.4-3**). The IEEE recommends an exposure limit of 5 kV per meter outside of transmission line ROW, and 10 kV per meter within a transmission line ROW for electric fields and 9,040 milligauss for magnetic fields. The ICNIRP recommends an exposure limit of 4.2 kV per meter for electric fields and 2,000 milligauss for magnetic fields.

3.4.3.3 No Action Alternative

Under the No Action Alternative, construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur. There would be no project-related increase in EMFs or changes to EMF levels from existing transmission or distribution lines shown on **Table 3.4-4**.

3.4.3.4 Mitchell Alternative

Electric field strength and the number of miles associated with each line configuration for the Mitchell Alternative is presented in **Table 3.4-6**.

Table 3.4-6 Strength of Fields for the Mitchell Alternative

LINE CONFIGURATION	MILES	INSIDE ROW ¹ MAXIMUM		OUTSIDE ROW ¹ MAXIMUM	
		ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)	ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)
Proposed line alone as an H-frame	7.1	2.5	150.7	1.0	42.0
Proposed line as an H-frame next to Alturas 345 kV transmission line (south of the Bordertown Substation)	2.0	2.5	151.1	1.0	41.8
Proposed line as an H-frame next to #102 120 kV transmission line	2.2	2.6	153.2	1.0 outside of the #102/Mitchell corridor; 1.2 in the area between the two lines	46.9 in the area between the two lines
Proposed line as a single pole with 25 kV distribution under-build	0.4	0.5	36.6	0.5	28.1

Source: Eneritech and Sheppard 2013

¹ ROW edge is 45 feet from the proposed transmission line centerline

Under all transmission line configurations, the calculated strength of electric fields inside and outside of the ROW is well below the exposure limit recommended by IEEE and ICNIRP for the general public. Calculated magnetic fields are also well below the IEEE- and ICNIRP-recommended thresholds for the general public. Impact from EMFs would be negligible and risk to the health and safety of the public is not expected.

3.4.3.5 Peavine Alternative

Electric field strength and the number of miles associated with each line configuration for the Peavine Alternative is presented in **Table 3.4-7**.

Table 3.4-7 Strength of Fields for the Peavine Alternative

LINE CONFIGURATION	MILES	INSIDE ROW ¹ MAXIMUM		OUTSIDE ROW ¹ MAXIMUM	
		ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)	ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)
Proposed line alone as an H-frame	7.5	2.5	150.7	1.0	42.0
Proposed line as an H-frame next to Alturas 345 kV transmission line (south of Bordertown Substation)	2.0	2.5	151.1	1.0	41.8

LINE CONFIGURATION	MILES	INSIDE ROW ¹ MAXIMUM		OUTSIDE ROW ¹ MAXIMUM	
		ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)	ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)
Proposed line as an H-frame next to #102 120 kV transmission line	0.4	2.6	153.2	1.0 outside of the #102/Peavine corridor; 1.2 in the area between the two lines	46.9 in the area between the two lines
Proposed line as a single pole with 25 kV distribution under-build	0.4	0.5	36.6	0.5	28.1

Source: EnerTech and Sheppard 2013

¹ ROW edge is 45 feet from the proposed transmission line centerline

The Peavine Alternative has the same type of line configurations as the Mitchell Alternative. The only difference is the length of the line proposed for each configuration. Same as the Mitchell Alternative, EMF levels associated with the Peavine Alternative are well below the IEEE- and ICNIRP-recommended thresholds for the general public. Impact from EMFs would be negligible and risk to the health and safety of the public is not expected.

3.4.3.6 Poeville Alternative

Electric field strength and the number of miles associated with each line configuration for the Poeville Alternative is presented in **Table 3.4-8**.

Table 3.4-8 Strength of Fields for the Poeville Alternative

LINE CONFIGURATION	MILES	INSIDE ROW ¹ MAXIMUM		OUTSIDE ROW ¹ MAXIMUM	
		ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)	ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)
Proposed line alone as an H-frame	5.4	2.5	150.7	1.0	42.0
Proposed line as an H-frame next to Alturas 345 kV transmission line (south of Bordertown Substation)	5.5	2.5	151.1	1.0	41.8
Proposed line as a single pole with 25 kV distribution under-build	4.3	0.5	37.7	0.5	28.1
Proposed line as a single pole under-build with 25 kV distribution next to Alturas 345 kV transmission line ²	0.6	0.5	36.4	0.5	27.5

LINE CONFIGURATION	MILES	INSIDE ROW ¹ MAXIMUM		OUTSIDE ROW ¹ MAXIMUM	
		ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)	ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)
Proposed line as an H-frame next to #114 and #106 120 kV transmission lines (replacing the de-energized #632 transmission line)	2.2	2.9	144.0	2.5 in the area between the Poeville Alternative and #106 line; 0.9 outside of the #114/#106/Poeville corridor	60.8

Source: Enertech and Sheppard 2013

¹ ROW edge is 45 feet from proposed transmission line centerline with the exception of Alturas 345 kV transmission line at Peavine Ranch, North Virginia Street; At this location, the ROW is constrained, and therefore, the ROW edge is 20 feet from centerline.

² Along North Virginia Street, west of Copperfield Drive

The calculated EMFs produced by the Poeville Alternative under all transmission line configurations, inside the ROW and beyond, are well below the IEEE- and ICNIRP-recommended exposure limits for the general public. No exceedances would occur at the Verdi Elementary School, along the Verdi Nature trail next to the Verdi Public Library, or in the residential neighborhood through Verdi. Impact from EMFs would be negligible and risk to the health and safety of the public is not expected.

3.4.3.7 Peavine/Poeville Alternative

Electric field strength and the number of miles associated with each line configuration for the Peavine/Poeville Alternative is presented in **Table 3.4-9**.

Table 3.4-9 Strength of Fields for the Peavine/Poeville Alternative

LINE CONFIGURATION	MILES	INSIDE ROW ¹ MAXIMUM		OUTSIDE ROW ¹ MAXIMUM	
		ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)	ELECTRIC FIELDS (KV PER METER)	MAGNETIC FIELDS (MILLIGAUSS)
Proposed line alone as an H-frame	7.7	2.5	150.7	1.0	42.0
Proposed line as an H-frame next to Alturas 345 kV transmission line	2.0	2.5	151.1	1.0	41.8
Proposed line as an H-frame next to #114 and #106 120 kV transmission lines (replacing the de-energized #632 transmission line)	2.2	2.9	144.0	2.5 in the area between the Peavine/Poeville Alternative and #106 line; 0.9 outside of the #114/#106/Peavine/Poeville corridor	60.8

Source: Enertech and Sheppard 2013

¹ ROW edge is 45 feet from the proposed transmission line centerline

The calculated EMFs produced by the Peavine/Poeville Alternative under all transmission line configurations, inside the ROW and beyond, are well below the IEEE- and ICNIRP-recommended exposure limits for the general public. No exceedances would occur at the Verdi Elementary School, along the Verdi Nature trail next to the Verdi Public Library, or in the residential neighborhood through Verdi. Impact from EMFs would be negligible and risk to the health and safety of the public is not expected.

3.4.3.8 Cumulative Effects

The analysis presented in **Sections 3.4.3.4** through **3.4.3.7** presents baseline EMF conditions added to the modeled EMF fields that would be created by the project. The analysis accounted for all existing power lines that the proposed transmission line may have a cumulative effect on EMFs. There are no other power lines within the project area proposed in the reasonably foreseeable future. A summary of cumulative effects of the proposed project with existing power lines is shown in **Table 3.4-10**. The calculated EMFs produced by any of the action alternatives with existing power lines are well below the IEEE- and ICNIRP-recommended exposure limits for the general public. Cumulative effects from EMFs would be negligible and risk to public health and safety is not expected.

Table 3.4-10 Cumulative EMF Conditions within the Project Area

LOCATION	ELECTRIC FIELD WITHIN PROJECT ROW ¹ (KV PER METER)		MAGNETIC FIELD WITHIN PROJECT ROW ¹ (MILLIGAUSS)	
	BASELINE FIELD MEASUREMENTS MAXIMUM	MODELED FIELD MAXIMUM	BASELINE FIELD MEASUREMENTS MAXIMUM	MODELED FIELD MAXIMUM
Alturas 345 kV transmission line near Long Valley Road	0.2	2.5	1.0	151.1
#102 120 kV transmission line Sunrise Creek Road near Henness Pass/Dog Valley Road	0.4	2.6	1.9	153.2
#204 25 kV distribution line Henness Pass/Dog Valley Road	0.2	0.5	0.3	36.6
Alturas 345 kV transmission line with #257 distribution line Peavine Ranch, North Virginia Street	0.5	0.7	5.6	26.6
#114/#106/#632 120 kV transmission line corridor Verdi Elementary School and Verdi Public Library at Bridge Street	0.5	2.9	2.6	143.9
#114/#106/#632 120 kV transmission line corridor Verdi Elementary School and Verdi Public Library at ball fields	0.6	2.9	4.1	143.9

LOCATION	ELECTRIC FIELD WITHIN PROJECT ROW ¹ (KV PER METER)		MAGNETIC FIELD WITHIN PROJECT ROW ¹ (MILLIGAUSS)	
	BASELINE FIELD MEASUREMENTS MAXIMUM	MODELED FIELD MAXIMUM	BASELINE FIELD MEASUREMENTS MAXIMUM	MODELED FIELD MAXIMUM
#114/#106/#632 120 kV transmission line corridor Verdi residential area at (west) Bridge Street	0.8	2.9	7.2	143.9
#114/#106/#632 120 kV transmission line corridor Verdi residential area at Lakeview Drive	0.7	2.9	7.3	143.9

Source: Enertech and Sheppard 2013

¹ Range of values recorded in the location where the proposed transmission line would be placed. ROW edge is 45 feet from proposed transmission line centerline with the exception of Alturas 345 kV transmission line at Peavine Ranch, North Virginia Street. At this location, the ROW is constrained, and therefore, the ROW edge is 20 feet from centerline.

3.5 CULTURAL RESOURCES

Data Sources

Cultural resource inventories were conducted for the four action alternative corridors; however, archaeological sensitivity modeling was used to evaluate the potential effects of road widening for the purpose of disclosure in this EIS. The decision to use modeling in lieu of actual field inventories was based on the reasonable assumption that the potential to encounter cultural resources immediately next to the road would be low due to the presence of a pre-existing road and the minimal area of ground disturbance needed for road widening (Garner et al. 2014). Cultural resource inventories of the access routes will be completed as part of the Section 106 process and prior to signing the ROD. The Area of Potential Effects (APE) for cultural resources is a 600-foot-wide corridor centered on the proposed centerline for each transmission line corridor and a 120-foot-wide corridor centered on the existing roads that have been identified for widening. The disturbance corridor along roads would generally not exceed 30 feet, including the travelled way. While new access roads wider than 30 feet would not be expected, occasional widening beyond 30 feet may be necessary in areas where extensive blading and side cuts are required.

Regulatory Framework

The National Historic Preservation Act of 1966, as amended (NHPA), and the Archaeological Resources Protection Act of 1979 are the primary laws regulating preservation of cultural resources. Federal regulations obligate federal agencies to protect and manage cultural resource properties. Section 106 of the NHPA requires that the federal agency permitting the undertaking must “take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.” Effect is defined in the implementing regulations of Section 106 (36 CFR 800.16(i)) as “alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register.” For projects where it has been determined that the project will result in an “adverse effect” to historic

properties, Section 106 compliance is considered satisfied with the execution of a memorandum of agreement (MOA) or programmatic agreement, a legally binding document that describes the lead federal agencies' (in this case, the USFS) process of identifying and evaluating impacts on historic properties, and the plans for resolving adverse effects, in accordance with 36 CFR 800.14(b) and 36 CFR 800.16(t).

To be eligible for the NRHP (36 CFR 60.4), properties must be 50 years old (unless they are exceptionally important) and have national, state, or local significance in American history, architecture, archaeology, engineering, or culture. Historic properties may include places of traditional, religious, and cultural importance. They also must possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of four criteria:

- Criterion A: be associated with significant historical events or trends;
- Criterion B: be associated with historically significant people;
- Criterion C: have distinctive characteristics of a style or type, or have artistic value, or represent a significant entity whose components may lack individual distinction; and
- Criterion D: have yielded or have potential to yield important information.

The purpose of the Archaeological Resources Protection Act of 1979 is to secure the protection of archaeological resources and sites that are on public lands and Indian lands and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources.

The American Indian Religious Freedom Act was passed in 1978 to “protect and preserve for American Indians their inherent right to freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonial and traditional rites.”

The Native American Graves Protection and Repatriation Act became law in 1990; the regulations implementing the statute were completed and went into effect in January 1996. This law formally affirms the rights of Indian tribes, Native Alaskan entities, and Native Hawaiian organizations to custody of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony with which they have a relationship of cultural affiliation. In addition, the law and regulations describe procedures designed to ensure that all Americans can derive educational, historical, and scientific value from the remains and objects covered by the statute through public interpretation, documentation, and study.

3.5.1 Affected Environment

Cultural resources are the tangible remains or traces of past human activity identifiable through field survey, historical documentation, and/or oral evidence. The term “cultural resources” can apply to “those parts of the physical environment – natural and built – that have cultural value of some kind to some sociocultural group.” This term includes archaeological resources, historic resources, historical objects, Native American cultural items, spiritual places, religious practices, cultural uses of the natural environment, community values, or historical documents (King 1998).

Cultural resources can also include traditional cultural places, such as gathering areas, landmarks, and ethnographic locations. A Traditional Cultural Property (TCP) is a historic property associated with cultural practices or beliefs of a living community that: (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community (Parker and King 1998). This property type may be determined eligible for the NRHP if it meets criteria found in 36 CFR 60.4. Examples of Native American TCPs include places such as traditional landscapes, sacred mountains, and buildings; or areas where plants are collected for food, medicine, basket weaving, sites of ceremony and prayer, burial locations, "rock art" sites, and areas associated with creation stories. Other examples of TCPs include buildings, parks, neighborhoods, or other places required to maintain contemporary cultural traditions.

3.5.1.1 Cultural Context

A number of authoritative overviews and reports (e.g., Delacorte 1997; Elston 1982, 1986, 1994; Elston et al. 1977; Grayson 1993; Jackson et al. 1994; McGuire 2000, 2002; Moore and Burke 1992; Pendleton et al. 1982; Raven 1984; Thomas 1982) summarize the history of archaeological research in this region of the western Great Basin and Northeastern California. A regional framework regarding prehistory, ethnography, and history was also provided in the project-specific cultural resource inventory (Garner et al. 2013). The following brief descriptions of the cultural context from the cultural resource inventory report (Garner et al. 2013).

Terminal Pleistocene and Early Holocene Period (14000 - 7000 BP)

The Terminal Pleistocene and Early Holocene archaeological record is typically marked by various forms of leaf-shaped, lanceolate and often fluted points, and various stemmed points, that make up the "Western Pluvial Lakes Tradition" (Bedwell 1970, 1973), a term used to describe a lifeway focus associated with the receding Pleistocene lakes in the western Great Basin. Reliable radiocarbon dates associated with these points are rare, but some have been obtained which date from approximately 14,000 to as late as 7000 before present (BP) (Willig and Aikens 1988). Two tool complexes are typically found in these early contexts: Clovis and Great Basin Stemmed-series. The Clovis, or Clovis-like, complexes include small to large fluted and square-based spear points, large bifaces, heavy core-tools, backed scrapers, burins, and graters. Stemmed point complexes appear more frequently in Terminal Pleistocene and Early Holocene contexts; they are perhaps slightly more recent and have a wider geographic distribution. Recent studies suggest a hunting-oriented foraging pattern across broad territories, within which lithic material was obtained directly (Jones and Beck 1999; Jones et al. 2003; McGuire 2002; Milliken and Hildebrandt 1997; Nials 1996).

Post-Mazama Period (7000-5000 BP)

The first of a series of eruptions at Mount Mazama in central Oregon occurred approximately 7700 BP, and eruptions continued for a period of about 300 years. The subsequent ash-fall is found throughout the Great Basin, and provides an important tool for dating archaeological sites. These eruptions coincided with abrupt changes in settlement patterns and tool assemblages that presage Archaic adaptations. These assemblages are more diverse, with greater frequencies of bifaces, scrapers, and a variety of grinding implements. Weaponry technology begins to shift to throwing darts or arrows, replacing the Paleoarchaic thrusting spears.

The eruption of Mt. Mazama also coincided with the onset of the Middle Holocene Altithermal, when lakes and marshes began to recede. Elston (1982) suggested that pre-Archaic lifeways were too specialized to adapt easily to the declining lake-marsh habitats, and settlement systems subsequently crashed. The Archaic pattern then arose in response to the drying habitat.

Early Archaic Period (5000-3500 BP)

Evidence of Early Archaic cultural activity in the western Great Basin is widespread, represented by various split-stem projectile points (e.g., Gatecliff, Bare Creek, Martis). In addition to these are numerous flake tool scrapers, bifacial knives, heavy core tools and, for the first time, abundant ground and battered stone milling equipment. Although few exclusively Early Archaic sites have been investigated, nearly every major cave deposit and many open-air sites contain at least some Early Archaic material (Elston 1982; Pendleton et al. 1982; see also Beck 1995). Even more numerous are hundreds of small Early Archaic upland camps throughout the region.

In both California and the Great Basin, there is a documented increase in the ratio of large to small mammalian faunal remains in archaeological components dated to between 4500 and 1000 BP (Hildebrandt and McGuire 2002; McGuire et al. 2003). This trend is thought to represent the rise of logistical settlement systems. The Early Archaic period witnessed the initial rise of settlement hierarchies in this region of the Great Basin, corresponding to the archaeological equivalents of base camps, field camps, task stations, etc.

Middle Archaic Period (3500-1350 BP)

The Middle Archaic period in the western Great Basin and along the Sierran Front (Elston et al. 1977) witnessed the accelerated elaboration of logistically well-organized adaptive patterns, marked by increasing cultural complexity (Elston 1982, 1986; Thomas 1982). This is manifested in the archaeological record by the amazing richness and variety of textiles and other perishable remains, an explosive increase in rock art, and an increasing range of site types. The sizes, locations, and assemblages of Middle Archaic sites suggest that they served many different purposes, with use as long-term residential bases, smaller serially re-occupied camps, communal hunting/ butchering localities (Pendleton and Thomas 1983), quarries and stoneworking camps (Bloomer et al. 1997), and hunting and gathering stations. A specialized focus on the long-range logistical procurement of large game continues into the Middle Archaic period. Abundant plant remains and carefully fashioned, well-used milling equipment also attest to the rising importance of vegetal resources.

Late Archaic Period (1350-600 BP)

In keeping with the adaptive changes witnessed during the Middle Archaic period, Late Archaic occupations in the western Great Basin show increasing settlement centralization (e.g., Clay et al. 1996; Rosenthal 2000) and subsistence intensification, and a decrease in the area over which groups foraged. Late Archaic deposits marked by Rose Spring and Eastgate-series projectile points are ubiquitous throughout the region and occur in a wider range of settings than do earlier sites. Coinciding with these changes in settlement pattern are numerous technological shifts. House structures become smaller and less substantially built (McGuire 2000), caches are fewer and less elaborate, and many types of perishable artifacts seem to all but disappear from the record (Elston 1982, 1986; Pendleton et al. 1982). The bow and arrow also replace the atlatl as the principal weapon

during the Late Archaic, contributing to a major reorganization of flaked stone technologies. Bifaces decrease significantly in size, abundance, and morphological formality, and are replaced by numerous flake tools. Ground stone milling equipment shows a similar trend toward increasingly casual (i.e., unshaped) artifacts that were rarely cached. On balance, then, the shift to more expedient technologies—i.e., disposable tools that were less adaptable to varied circumstances—suggests that Late Archaic populations were less mobile and foraged more intensively over a limited area, obviating the need to transport and/or cache more reliable and specialized tools.

Terminal Prehistoric Period (600 BP-Contact)

Terminal Prehistoric occupation of this region of the western Great Basin is generally thought to be associated with the arrival of Numic-speaking peoples who entered the area from a homeland near the southern Sierra Nevada (Bettinger and Baumhoff 1982; Delacorte 1995; Madsen and Rhode 1994). Insofar as the study area appears to occupy a boundary zone between Washoe and Paiute groups, it is more than likely that this migration had a major effect on prehistoric lifeways in our project area.

With respect to settlement patterns, Late Archaic villages in the Humboldt and Stillwater marshes, the Truckee and Humboldt River drainages, and all along the northern Sierran Front and Honey Lake Valley, are abandoned at this time or have only thin veneers of Terminal Prehistoric material. There is a generally sparse archaeological record for this period. Where they occur, Terminal Prehistoric habitation sites are often situated in entirely different locations than in the Late Archaic. Settlements dating to this time often have a stand-alone quality: they are usually represented by a single house structure found in an isolated context, not tied to larger middens or residential complexes (McGuire 2002). House construction techniques are very informal, often no more than shallow, circular zones of soil discoloration suggestive of very short term, single- or several-season occupations. Their floor assemblages are correspondingly low-density, but heterogeneous, reflecting a range of domestic and subsistence-related tasks consistent with a family band occupation.

Aside from a shift to Desert Side-notched and Cottonwood series projectile points, none of these changes in settlement strategies seems to have been accompanied by significant changes in technology, raw material use patterns, or size of the areas over which people foraged. But if settlement patterns are any indication, Terminal Prehistoric socio-economic organization underwent a major transformation. Earlier band-like groups residing in large villages seem to have been replaced by family or household units living in independent camps, much like those reflected in the ethnographic record. Logistical resource procurement out of centralized villages was replaced simultaneously by a strategy in which independent households moved from one resource area to the next, making more intensive use of the landscape.

Regional Ethnography

Washoe

The Washoe traditionally occupied several chains of large valleys along the eastern slopes of the Sierra Nevada roughly centered on Lake Tahoe. Because the Washoe occupied a diversity of environments (i.e., mountains, foothills, etc.), they had access to many plants and animals that were either lacking or sparse in more arid areas. Washoe settlement and subsistence patterns were strongly influenced by variations in the seasonal abundance and distribution of wild foods.

Permanent settlements were located on high ground close to a reliable supply of fuel and water and with access to multiple biotic communities and resource types.

Given the size and environmental diversity of the Washoe homeland, subsistence activities were highly variable from one season to another, and often one year to the next. Fishing was of vital importance to the Washoe economy, with the numerous lakes and streams furnishing an almost endless supply of food throughout the year. Although less reliable than fishing, hunting was of considerable importance with deer, antelope, and mountain sheep pursued by individual hunters and, in the case of deer and especially antelope, through communal drives (d'Azevedo 1986; Lowie 1939). Small game, especially rabbits and hares, provided yet another important source of meat and a critical supply of skins for winter blankets and robes. Where shallow lakes and marshes furnished suitable habitat, ducks and other migratory waterfowl were also hunted, as were various upland game birds.

Plant foods were even more of a dietary mainstay for the Washoe than fish. Bulbs and roots such as camas, bitterroot, sego lily, and wild onion were collected in the early spring on the valley floors and upland meadows. Somewhat later in the season, attention shifted to various seed-bearing grasses and weedy annuals, which were gathered, processed, and stored in much the same way as that of the Paiute. Still later in the fall, as acorns and pine nuts began to mature, families traveled to the mountains to gather and store nuts for the coming winter.

Northern Paiute

At the time of Euro-American contact, the Northern Paiute occupied a vast, wedge-shaped area encompassing portions of eastern California, central Nevada, central and eastern Oregon, and western Idaho. The Northern Paiute were semi-nomadic foragers, whose settlement and subsistence patterns were closely geared to fluctuations in the seasonal availability and distribution of wild food resources.

Winters were typically spent in multi-family “villages” of from three to perhaps 10 houses located in sheltered areas near adequate supplies of fuel and water. A different pattern prevailed during summer months, when smaller household or family groups shifted residence between a series of more temporary field camps as new resources became available. Subsistence varied depending on the local and seasonal availability of resources. Plants comprised much of the diet from the late spring through the early fall, when a variety of seeds and roots were gathered and stored for winter use. At other times, fishing was of major importance. In more arid country such as the project area, where fish were of limited availability, attention shifted to various greens, shoots, and early ripening seeds that blanketed sunny hillsides and snow-free areas around springs, seeps, and seasonal drainages. Later in the fall, trips might also be made to procure pine nuts.

Hunting was of generally less significance than gathering, but nevertheless provided an important contribution to the Northern Paiute diet (Stewart 1941). Mountain sheep were hunted in the rugged uplands, and deer were pursued throughout the year over much of the area, although fall seems to have been the preferred season. Antelope were traditionally taken by means of communal drives held in the fall or early spring, when large numbers of animals could be driven into corrals at the end of converging fence lines. Where extensive marshes produced suitable habitat, ducks and other migratory waterfowl were captured using a variety of techniques that included nets, decoys, and

tule balsas. Many of the same techniques were also employed to hunt sage grouse and collect duck eggs.

History

Overland Trail

Non-native people began traveling through the project area very early in the historic-period, first as trappers and explorers, later as miners and settlers. The first recorded non-native travel route through the project area, a route of the Overland Trail, was established during the summer of 1845 when Caleb Greenwood lead a small party of California emigrants through Dog Valley to bypass the earlier and more difficult Truckee River Canyon route over the Sierra Nevada.

Heness Pass Road

The Henness Pass Road is a major transportation route used in the mid-nineteenth century that connected mining, logging, agriculture, and commerce in western Nevada and eastern California. The pioneering of the route is historically contested with some stating that Patrick Henness established the route in 1849-1850 while others believe Joseph Zumwalt designed the route in 1850 on his way westward to the North Yuba diggings.

Heness Pass Road follows or parallels a number of older historic-era linear trails such as the Old Dutch Flat Road and portions of both the Greenwood Party and California Trails. Henness Pass Road also joins the Overland Emigrant Trail a few miles west of Second Summit (Goodwin 1960).

The construction of the road itself was not stimulated until the discovery of silver and gold in Virginia City and Gold Hill, Nevada, around 1859. After the Comstock silver strike in 1859, a rush back to the east from California began. Improvements to the Henness Pass Road would facilitate this travel between California's northern mining towns and Virginia City in the 1860s. At that time, a combination of efforts put forth by both the Truckee Turnpike Company and the Henness Pass Turnpike Company created a road on which the "elevation was no more than six feet to the hundred" (Byrd 1992). The two turnpike companies worked from opposite directions to eventually connect the road near Jackson's Ranch in California.

Use of the road was at its peak from 1860 to 1868 when it was used by stages and freighters (Byrd 1992). The route also created a vein for passenger traffic as well as mail delivery and sales (Mackey et al. 1993). It was second only to the Placerville/Carson route in the volume of passengers. Traffic became so heavy between California and the Comstock that freighters were restricted to using the road during the day while stages would use the road at night. After the completion of the Central Pacific railroad in 1868, traffic on the road dropped considerably. However, the wagon road network continued to serve as a regional feeder line for freight between Truckee and Verdi.

The road remained an important transportation vein from Verdi into the Sierras. From the time the Central Pacific Railroad was completed until about 1909 the road was used for primarily local traffic. In 1909 it became a segment of the Lincoln Highway connecting the intercontinental interstate with the Sierra and northern California and in the early 1920s segments of the road were part of the Victory Highway. After 1925, the Victory Highway was renamed U.S. 40 and re-routed through the Truckee River Canyon. Around that same time U.S. 40 through Dog Valley again became known as the Henness Pass Road, which is also sometimes referred to as Dog Valley Road.

Logging and Lumbering

Logging was first initiated in the Truckee area after the discovery of the Comstock Lode in 1859. When production in the mines began to fall off in 1867, the lumbering business also began to suffer. However, as the Central Pacific Railroad reached Donner Summit in 1866-1867, a number of mills established operations in the Truckee Basin to supply the railroad with cordwood for fuel, lumber for construction, and ties for the road bed. Truckee soon became a major lumbering center. As timber markets expanded with completion of the Central Pacific, a growing emphasis was placed on the production of other wood products. Eighteen or more sawmills were operating in the Truckee area during the late nineteenth century, along with planing mills, box factories, sash and door establishments, a furniture factory, shingle mills, and charcoal kilns.

Logging and lumbering were the primary activity in Dog Valley in the mid-nineteenth and early twentieth centuries. Logging in Dog Valley began in the 1860s as the demand for lumber increased with the discovery of gold and silver on the Comstock. The only logging railroad in the project area is the Verdi Lumber Company (VLC) standard gauge railroad (Myrick 1962:440; also Waechter et al. 1995:Map III-4). The VLC system traveled north from Verdi through the South Branch of Dog Creek into Dog Valley, across First and Second summits, then west along Davies Creek and northwest to where it split into two branches: one up into Bear Valley and the other up Lemon Canyon. Numerous spur lines of the railroad split off into virgin lumber stands later to be deconstructed and built back up at the next new logging area. A vast network of recorded and unrecorded spurs are scattered across the eastern Sierras.

Verdi Lumber Company Railroad

The VLC operated out of Verdi, Nevada, between 1900 and 1926. It was one of biggest logging and milling operations in western Nevada and eastern California in its day, ranking with the region's largest outfits and equal in size and scope of operations with the contemporaneous Sierra Nevada Wood and Lumber Company/Hobart Estate (Goodwin 1960). Economy dictated that logging railroads be lightly constructed. The tracks were light rails fastened to often loosely placed ties on poorly ballasted roadbeds. Companies were noted for skimping on railroad maintenance, resulting in a high incidence of wrecks. The VLC, in common with many other lumber lines, was noted for this (Myrick 1962).

In August 1901, five miles of railroad and two switchbacks had been laid north through Dog Creek Canyon into Dog Valley (Myrick 1962). At the peak of its use the VLC had approximately 40 miles of operational track and even ran pleasure excursions on the railroad for locals.

As the supply of nearby timber became depleted, the company expanded and extended a standard gauge line through Dog Valley, over Second Summit, and on to Merrill in Sardine Valley, a distance of 12 miles, where they connected with the Boca and Loyalton Railroad. With private landholdings cut over and faced with timber shortages, the VLC purchased the first long-term timber contract from the Tahoe National Forest in October 1911.

A massive fire at the Verdi Lumber Company Sawmill in 1926 severely damaged the company's base of operations proving to be the catalyst of deconstruction in 1927. Financial difficulties stemming from the loss of their Verdi sawmill in the disastrous fire, plus the exhaustion of timber resources and increasing competition from other lumber companies (especially from the Hobart Estate), brought the activities of the company to an end (Goodwin 1960; Myrick 1962; Sinnott

1983). After the fire, the company erected a small circular sawmill and resumed logging until mid-summer 1926, in order to complete the logging in Bear Valley without penalty, as required under contract with the USFS (Goodwin 1960). During 1926 and 1927, the company completed the dismantling of more than 40 miles of logging railroad through Dog Valley and westward to the terminus in Lemon and Bear valleys (Goodwin 1960; Myrick 1962). Most of the old VLC railroad grades have since been transformed into modern dirt roads.

Poeville

Poeville is a small historical mining town located on the eastern face of Peavine Mountain. Poeville was also known as Peavine, Peavine City, Poe City, and later Podunk (Poedunk). The town was known as Peavine until 1863 and was re-named Poeville in 1864 after John Poe who discovered copper, gold, and silver veins on the east side of Peavine Peak (Paheer 1970). Poe believed he had discovered the next Comstock Lode, as an ore sample as rich as Comstock materials was presented at the state fair in 1864.

By 1868, about 13 veins were being exploited and new Central Pacific train lines running to Sacramento made work in this location viable, but overall income remained low. It was determined that the ore was rich in copper and not gold. Activity peaked in 1873-1874 when Peavine had a few hundred inhabitants, a 10-stamp mill, three hotels, brick and log houses, a toll road, and a post office named Poeville (Paheer 1970). The post office operated between September 1, 1874, and March 24, 1878. Major mines in and around Poeville included the Paymaster, Fravel, and Golden Fleece mines. Both the Paymaster and Golden Fleece mines yielded sulfide-rich ores that were nearly impossible to smelt and water was difficult to get to the mines. Because of this and other factors, activity at Poeville ceased and by 1880 the population declined to 15 inhabitants and work was all but done (Paheer 1970).

Recreation and the National Forest

By the turn of the twentieth century, land within the project area had become increasingly valuable for residential and recreational purposes. Prior use of NFS lands for grazing or timber production gave way to recreation, as recreation and allied services became the major economic forces shaping growth. This budding recreational economy amplified the rate of development and growth in population, which were further escalated with the establishment during the 1930s of a statewide network of engineered and major routes through the montane regions.

As the Truckee area and the neighboring Tahoe Basin attracted more interest and more tourists, resorts began to appear. Growing numbers of eastern visitors joined the members of San Francisco's elite and the wealthy mining and business interests of the Comstock at the area's best hotels; people of more modest means camped or vacationed in rustic hotels and cottages. The backwoods became increasingly populated by recreationists. The USFS initiated patrols for visitor safety and to respond to the increased fire danger. Fire lookouts were established, along with remote guard stations and ranger stations. Early horse trails were improved and telephone lines were installed, as part of a fairly extensive system which linked outlying USFS facilities with main USFS offices. Improved communications enhanced fire detection and prevention and aided recreational safety.

3.5.1.2 Cultural Resource Inventories

Project-specific cultural resource inventories identified cultural resources within the APE, including sites that are listed on the NRHP, sites eligible for listing on the NRHP, unevaluated sites, and sites that are no longer eligible. Unevaluated sites are assumed to be NRHP-eligible pending further evaluation. Site types encountered in the cultural resource inventories included prehistoric, historic, and multi-component. Prehistoric site types are predominantly lithic scatters and groundstone scatters. Historic site types are predominantly debris scatters but also include a ranch, mining features, roads, fences, a trail, water diversion features (flume/ditches/canals), a culvert/rock wall, and a railroad. The ranch site is the Peavine Ranch in Washoe County, which is listed on the NRHP for its applicability to historic agriculture events between 1850 and 1949 (National Park Service 2013). The multi-component sites are combinations of the above site types, such as a lithic scatter and historic debris scatter.

3.5.1.3 Native American Concerns

The Proposed Action lies within the traditional territory of the Washoe and Northern Paiute represented by the Reno-Sparks Indian Colony, Washoe Tribe of Nevada and California, and Pyramid Lake Paiute Tribe.

The Reno-Sparks Indian Colony disclosed the presence of a potential TCP within the project area. Designation of a TCP is a federal agency action, and no agency has completed a TCP listing in the project area. Therefore, a TCP study was performed consisting of research of published and unpublished ethnographies and history, conducting a series of meetings and interviews with representatives from the Reno-Sparks Indian Colony, Washoe Tribe of Nevada and California, and Pyramid Lake Paiute Tribe; presentations to tribal councils; and focused interviews and field trips with tribal individuals for the Tribes especially knowledgeable about the history of land use and traditions associated with the project area. Meetings and interviews were open-ended but focused on identifying historic properties and potential traditional cultural properties. The study included four tasks: identifying primary contacts, identifying issues and potential properties and areas of concern, and reporting the potential effects of the proposed project and formulating mitigation measures with Tribal input. Additional information on Tribal Consultation can be found in **Section 4.2.3**.

3.5.1.4 Mitchell Alternative

The Mitchell and Peavine alternatives encountered the fewest number of sites that are either eligible for listing on the NRHP or are unevaluated. Unevaluated sites are treated as NRHP-eligible pending further investigation. No NRHP-listed sites are found along the Mitchell Alternative; however, one site has been determined NRHP-eligible with SHPO concurrence.

Approximately 11.1 miles of roads would be widened for construction access for the Mitchell Alternative. Modeling predicts that the Mitchell Alternative would encounter the fewest number of cultural sites along these roads.

3.5.1.5 Peavine Alternative

The Peavine and Mitchell alternatives encountered the fewest number of sites that are either eligible for listing on the NRHP or are unevaluated. Unevaluated sites are treated as NRHP-eligible pending further investigation. No NRHP-listed sites are found along the Peavine Alternative; however, four cultural resources have been determined NRHP-eligible with SHPO concurrence.

Approximately 20.79 miles of roads would be widened for construction access under the Peavine Alternative. Modeling predicts that the Peavine Alternative would encounter more cultural sites along these roads compared to the Mitchell and Poeville alternatives, but would encounter fewer cultural sites compared to the Peavine/Poeville Alternative.

3.5.1.6 Poeville Alternative

One NRHP-listed site occurs along the Poeville Alternative, which is more than any other action alternative. The Poeville Alternative encountered more sites that are eligible for listing on the NRHP or are unevaluated compared to the Mitchell or Peavine alternatives, but would encounter the same number of sites compared to the Peavine/Poeville Alternative. Unevaluated sites are treated as NRHP-eligible pending further investigation.

Approximately 20.2 miles of roads would be widened for construction access under the Poeville Alternative. Modeling predicts that the Poeville Alternative would encounter less cultural sites along these roads compared to the Mitchell Alternative, but would encounter fewer cultural sites compared to the Peavine and Peavine/Poeville alternatives.

3.5.1.7 Peavine/Poeville Alternative

The Peavine/Poeville Alternative encountered the same amount of sites that are either eligible for listing under the NRHP or are unevaluated as the Poeville Alternative. Unevaluated sites are treated as NRHP-eligible pending further investigation. No NRHP-listed sites are found along the Peavine/Poeville Alternative.

The Peavine/Poeville Alternative would require the most road widening mileage at approximately 20.7 miles. Modeling predicts that along these roads, the Peavine/Poeville Alternative would encounter approximately the same number of cultural sites compared Poeville and less than the Peavine and Mitchell alternatives.

3.5.2 Environmental Consequences

3.5.2.1 Methods of Analysis

Assessment of potential effects or impacts on cultural resources is based on the NHPA regulations that define an effect as a direct or indirect alteration to the characteristics of a “historic property” that qualify it for inclusion in the NRHP. Adverse effects diminish the integrity of a property’s location, setting, design, materials, workmanship, feeling, or association.

As defined in 36 CFR 800.5, adverse effects on historic properties include, but are not limited to:

- i. Physical destruction of or damage to all or part of the property;
- ii. Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties (36 CFR 68) and applicable guidelines;
- iii. Removal of the property from its historic location;
- iv. Change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance;

- v. Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- vi. Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
- vii. Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

Within the APE of action alternatives, a comparison of the numbers of NRHP-eligible sites, unevaluated sites, and non-eligible sites potentially impacted between alternatives is presented. Within the APE of roads that would be widened to construct an alternative, a quantified prediction of impacts to sites (of unknown eligibility) was calculated based on sensitivity modeling (Garner et al. 2014).

The following indicators were considered when analyzing potential impacts to historic properties (i.e., NRHP-eligible cultural resources):

- The number of NRHP-eligible or unevaluated sites impacted; and
- The number of modeled sites of unknown eligibility potentially impacted.

3.5.2.2 No Action Alternative

Under the No Action Alternative, construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur; therefore, there would be no impacts to NRHP-eligible, potentially eligible, or unevaluated cultural resource sites from the proposed project.

3.5.2.3 Effects Common to All Action Alternatives

Potential impacts to cultural resources that are common to the action alternatives include the following:

- Direct and indirect impacts to cultural resources;
- Discovery of unanticipated finds during construction;
- Discovery of human remains during construction; and
- Unauthorized artifact collection and vandalism.

Prehistoric and historic sites eligible for listing in the NRHP, are distributed throughout the project area. Traditional Cultural Properties were also identified in the project area, however the USFS in consultation with Tribes and the SHPO concurred that there will be no adverse effects to these resources. Construction of the action alternatives may have direct effects on sites from excavation, grading, and other types of ground surface and subsurface disturbance. In forested communities, trees under transmission line wires would be removed for the life of the project for safety purposes. Logging activities during construction and throughout the maintenance phase of the project may have direct effects on NRHP-eligible sites due to tree falls, skidding, construction of log landings, and trimming/brushing activities. Once constructed, the presence of the transmission line may also

have direct effects on the visual setting of NRHP-eligible sites, especially those listed or deemed eligible based in large part on integrity of setting.

Construction of any of the action alternatives may have indirect effects on NRHP-eligible prehistoric and historic sites where ground disturbance results in increased erosion of surrounding landforms, archaeological contexts, and data potential may be altered from the displacement of artifacts and features. Additionally, unauthorized use of construction access roads by the public would increase the potential for public access to archaeological resources. Increased public access might result in unauthorized artifact collection or unintended damage.

Design Features to Avoid or Minimize Direct Effects

All NRHP-listed sites, NRHP-eligible sites, and unevaluated sites would be mitigated, which may include avoidance. Mitigation is a way to remedy or offset an adverse effect or a change in a historic property's qualifying characteristics in such a way as to diminish its integrity. Treatment is the act of mitigating those effects, or how one goes about implementing the mitigation measure(s) agreed upon in consultation. Thus, a mitigation plan for the undertaking may contain several treatment plans, one for each property being adversely affected. Data recovery is a common mitigation measure that, through implementation of a treatment plan, retrieves the important information present within an archaeological site that makes it eligible before the site's integrity is compromised or destroyed. Project specific design features to protect cultural resources (CU 1 through CU 7) are presented in **Appendix B**. Design feature CU 3 requires that a Historic Properties Treatment Plan (HPTP) would be developed in consultation with the California and/or Nevada State Historic Preservation Offices (SHPOs), tribes, and NV Energy for the selected alternative if avoidance of a cultural site identified as eligible or treated as eligible cannot be avoided.

Design Features to Avoid or Minimize Indirect Effects

The potential for soil erosion that may displace artifacts would be minimized through the implementation of Best Management Practices (BMPs) and immediate restoration of project-related surface disturbance. Design features developed for water and soil resources (WA 1 and WA 2) ensure that a SWPPP would be implemented. The effectiveness of erosion controls and the success of revegetation would be monitored and remedial actions would be taken, as necessary.

The implementation of design features developed for recreation resources and transportation (RT 3 through RT 7) would reduce the potential for unauthorized travel on restored roads which, in turn, would reduce the potential for unauthorized artifact collection and vandalism. All new temporary construction access roads would be restored immediately following construction. Restored roads on NFS land would have a physical closure (i.e., barricade) installed immediately to prevent unauthorized vehicle use from occurring on reclaimed roads. The effectiveness of barricades and the success of revegetation would be monitored and remedial actions would be taken, as necessary.

Mitigation

If avoidance of all NRHP-listed properties, NRHP-eligible properties, TCP-eligible and sites with unknown eligibility status is not possible, an MOA and HPTP would be prepared and signed prior

to construction. The MOA and HPTP would be developed with the California and Nevada SHPOs, Tribes, and NV Energy. The HPTP would be implemented according to the agreement and would become part of the COM Plan.

3.5.2.4 Cumulative Effects

It is likely, although unknown to what extent, that the construction of the existing utility lines, transportation network, agricultural development, livestock grazing, and urban development within the CIAA have directly impacted unknown cultural resources. In addition to those likely effects, these past and present actions have also impacted the visual setting (i.e., integrity of setting) of cultural resources, especially those sites listed or deemed eligible for inclusion on the NRHP. For example, the Alturas 345 kV transmission line has changed the viewshed of the Peavine Ranch historic property. Other present actions, including existing roads and limited residential development were constructed within the viewshed of the property prior to its inclusion on the NRHP.

Cumulative impacts from any of the action alternatives would be negligible because alternatives include design features when appropriate to minimize impacts to the viewshed of cultural sites, and mitigation measures in the event that cultural sites cannot be avoided. Unknown cultural resources outside of the current APE will continue to be impacted and disturbed due to livestock grazing and possibly unauthorized OHV recreation. According to the Environmental Assessment prepared for the Dog Valley Fuels Reduction and Ecosystem Enhancement Project (USFS 2009b), which is an ongoing resource management activity, there would not be any direct adverse impacts on cultural resources from the project. Reasonably foreseeable future resource management activities that would be conducted by the USFS would be implemented in compliance with Section 106 of the NHPA. Section 106 of the NHPA requires avoidance and/or mitigation of impacts to Historic Properties by federal undertakings.

Mitigation

For federal undertakings within the CIAA, if avoidance of NRHP-listed properties, NRHP eligible properties, and sites with unknown eligibility status is not possible, preparation and implementation of an approved MOA and HPTP would be required.

3.6 WATER RESOURCES AND SOILS

This section provides a discussion watersheds, streams, riparian zones, floodplains, soils, and water quality. The analysis area for water resources and soils consists of the 300- to 600-foot-wide variable-width corridor and the road widening corridor of each action alternative.

3.6.1 Affected Environment

3.6.1.1 Watersheds and Streams

As displayed on **Figure 3.6-1**, the project area spans two major watersheds: Truckee watershed and Honey-Eagle Lakes watershed. Streams within the southern portion of the project area are within the Truckee watershed and include the Truckee River. Streams in the northern portion of the project area are within the Honey-Eagle Lakes watershed, and drain to Long Valley Creek, White Lake, or Silver Lake. The total number of perennial, intermittent, and ephemeral streams of

each action alternative is presented in **Table 3.6-1**. There are no streams on public land administered by the BLM within the analysis area of any action alternative.

Table 3.6-1 Number of Streams within Analysis Area of Action Alternatives

STREAM FLOW REGIME	MITCHELL		PEAVINE		POEVILLE		PEAVINE/POEVILLE	
	NFS LAND	TOTAL	NFS LAND	TOTAL	NFS LAND	TOTAL	NFS LAND	TOTAL
Perennial	1	2	1	3	0	4	0	3
Intermittent	1	1	1	1	0	1	0	0
Ephemeral	7	8	11	16	8	19	9	15
Total	9	11	13	20	8	24	9	18

Source: JBR field investigation; U.S. Geological Survey topographic maps (1967a, 1967b, 1978, 1981); and aerial photography (U.S. Farm Service Agency 2013)

The perennial streams within the analysis areas of the Mitchell and Peavine alternatives include Sunrise Creek and Dog Creek, both of which are within the Truckee watershed. The analysis area of the Peavine Alternative also includes an additional perennial stream, Bull Ranch Creek. Perennial streams within the analysis areas of the Poeville and Peavine/Poeville Alternative include Sunrise Creek, Bull Ranch Creek, and the Truckee River. The analysis area of the Poeville Alternative also includes an additional perennial stream, Jones Creek.

3.6.1.2 Riparian Zones and Wetlands

Intermittent and perennial streams identified in **Table 3.6-1** support wetland riparian zones. The wetland riparian zones of the largest streams are dominated by willow shrubs, while riparian zones of smaller streams are dominated by wetland grasses and forbs (i.e., wet meadow). A few isolated springs and seeps are present outside of stream zones and are generally dominated by grasses and forbs. **Table 3.6-2** shows the acreage of wetlands, which includes the wetland riparian zones and off-channel wetlands that are found within the variable-width corridor and road widening corridor for each action alternative.

Table 3.6-2 Acres of Wetlands within Analysis Area

ANALYSIS AREA	MITCHELL		PEAVINE		POEVILLE		PEAVINE/POEVILLE	
	NFS LAND	TOTAL	NFS LAND	TOTAL	NFS LAND	TOTAL	NFS LAND	TOTAL
Variable-Width Corridor	0.6	13.7	0.1	13.2	3.9	14.1	1.1	21.8
Road Widening Corridor	1.0	1.1	1.1	1.4	0	0.2	1.1	1.3
Total	1.6	14.8	1.2	14.6	3.9	14.3	2.2	23.1

Source: USFS GIS data (USFS 2005; 2008a) and JBR field investigation

3.6.1.3 Waters of the United States and Waters of the State

Not all streams and wetlands within the analysis area would be considered a water of the United States subject to regulation under the Clean Water Act of 1977, as amended (CWA). In accordance with the definition of a water of the United States (33 CFR 328), stream segments that cross the California and Nevada state line, tributaries of the Truckee River, and wetlands adjacent to these streams would be considered as a water of the United States (**Figure 3.6-2**). Isolated streams and isolated wetlands that are not in proximity or adjacent to a tributary of the Truckee River would not be considered a water of the United States. Therefore, within the analysis area, any stream or wetland that drains toward Lemmon Valley or Cold Spring Valley would not be considered a water of the United States. The Poeville Alternative is the only alternative that contains streams and wetlands that drain toward Lemmon Valley and Cold Spring Valley.

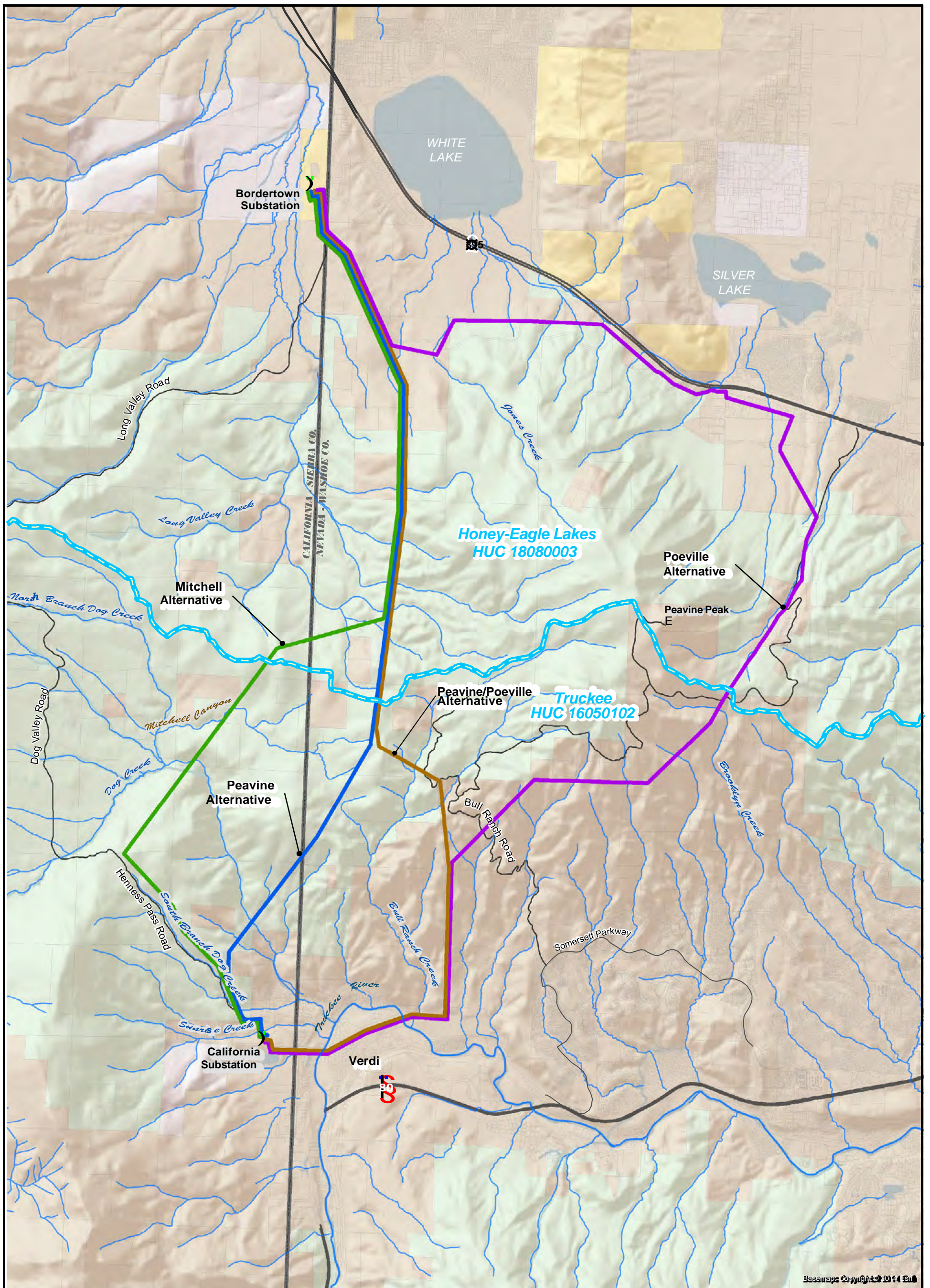
Regardless of their federal status, all surface waters and wetlands within the analysis area would be considered waters of the State. Waters of the State of California are found along the Mitchell and Peavine alternatives, and include Mitchell Creek, Dog Creek, South Branch of Dog Creek, Sunrise Creek, and one unnamed ephemeral channel. The remaining streams within the analysis area, including many unnamed streams, are waters of the State of Nevada.

3.6.1.4 Floodplains

The Federal Emergency Management Agency (FEMA) regulations (44 CFR 59.1) define “special flood hazard areas” as areas of land within a floodplain that are subject to a one percent or greater chance of inundation from a flood in any given year (also referred to as the base flood or 100-year flood). Special flood hazard areas are delineated on flood insurance rate maps by FEMA. Special flood hazard areas within the analysis area have been mapped on FEMA flood insurance rate map panels 06091C500C (2012), 32031C2813H (2013a), 32031C2814H (2013b), and 32031C3013G (2009). These special flood hazard areas are associated with the Truckee River, Dog Creek, and Jones Creek, and several unnamed intermittent and ephemeral streams located east and west of Jones Creek.

3.6.1.5 Soils

According to the Natural Resources Conservation Service (NRCS) (2012), there are more than 100 different soil mapping units within the analysis area. Using soil erosion characteristics, slope, and rock fragment content, the NRCS rates soil units according to the potential for soil loss from un-surfaced roads and trails. The possible erosion hazard rating categories which are used include: slight, moderate, and severe. Most of the soils within the analysis area of each action alternative have been rated as severe erosion hazard (**Figure 3.6-3**). A rating of "severe" indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed (NRCS 2012).



Transmission Line Alternatives

- Mitchell
- Peavine
- Poeville
- Peavine/Poeville

Watershed Boundary

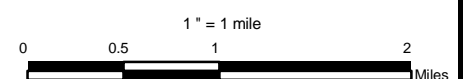
- USGS Hydrologic Unit Stream

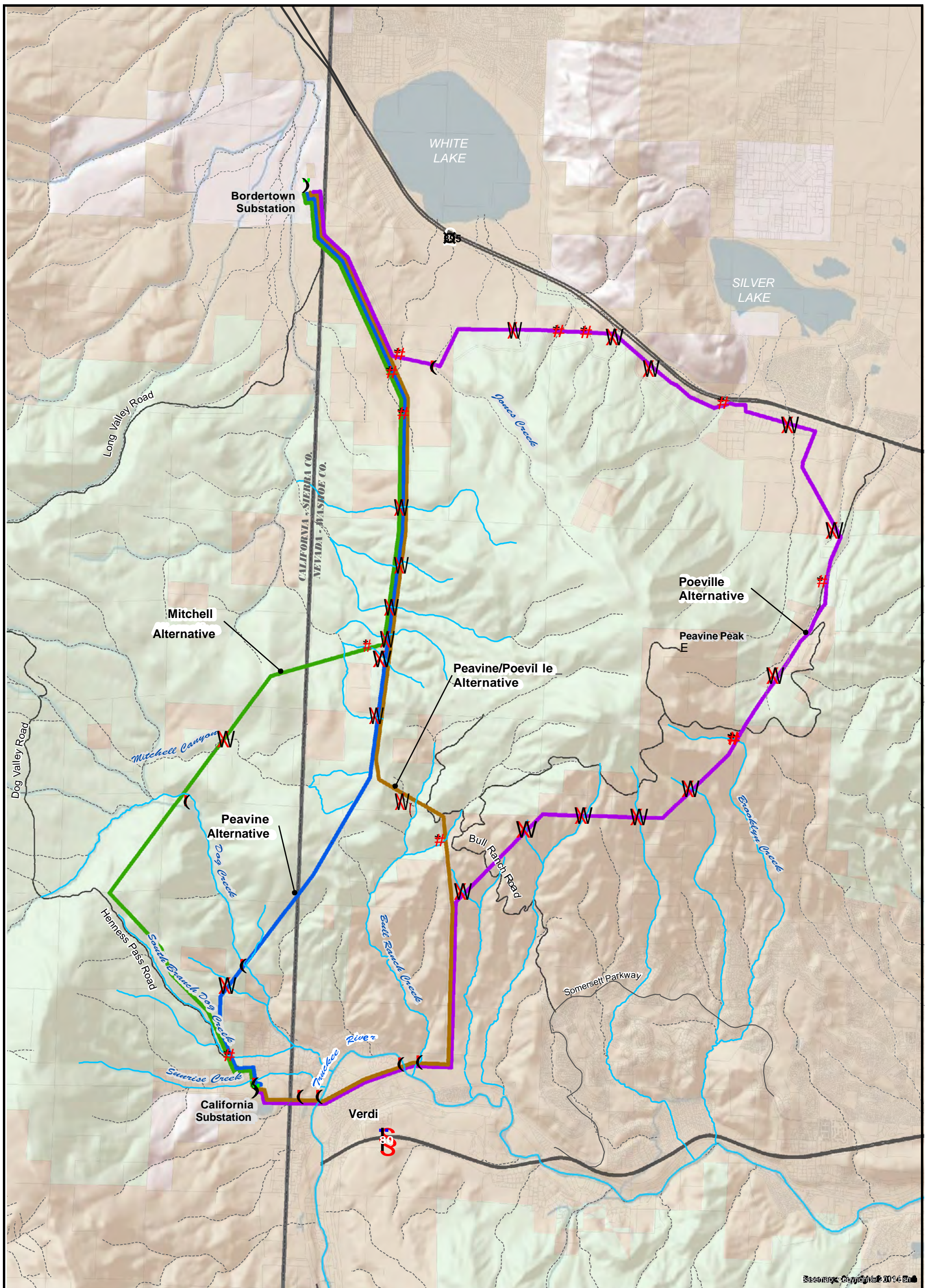
Land Ownership

- U.S. Forest Service
- U.S. Bureau of Land Management
- Private Land

**FIGURE 3.6-1
WATERSHED**

**BORDERTOWN TO CALIFORNIA
120 KV TRANSMISSION LINE EIS**





Transmission Line Alternatives

- Mitchell
- Peavine
- Poeville
- Peavine/Poeville

Land Ownership

- U.S. Forest Service
- Private Land

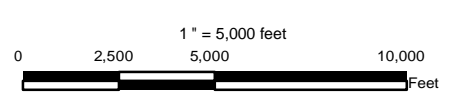
Stream Flow Regime

- W Ephemeral
- # Intermittent
- (Perennial
- Streams Intersecting The Project That Are Waters of the U.S.
- Streams

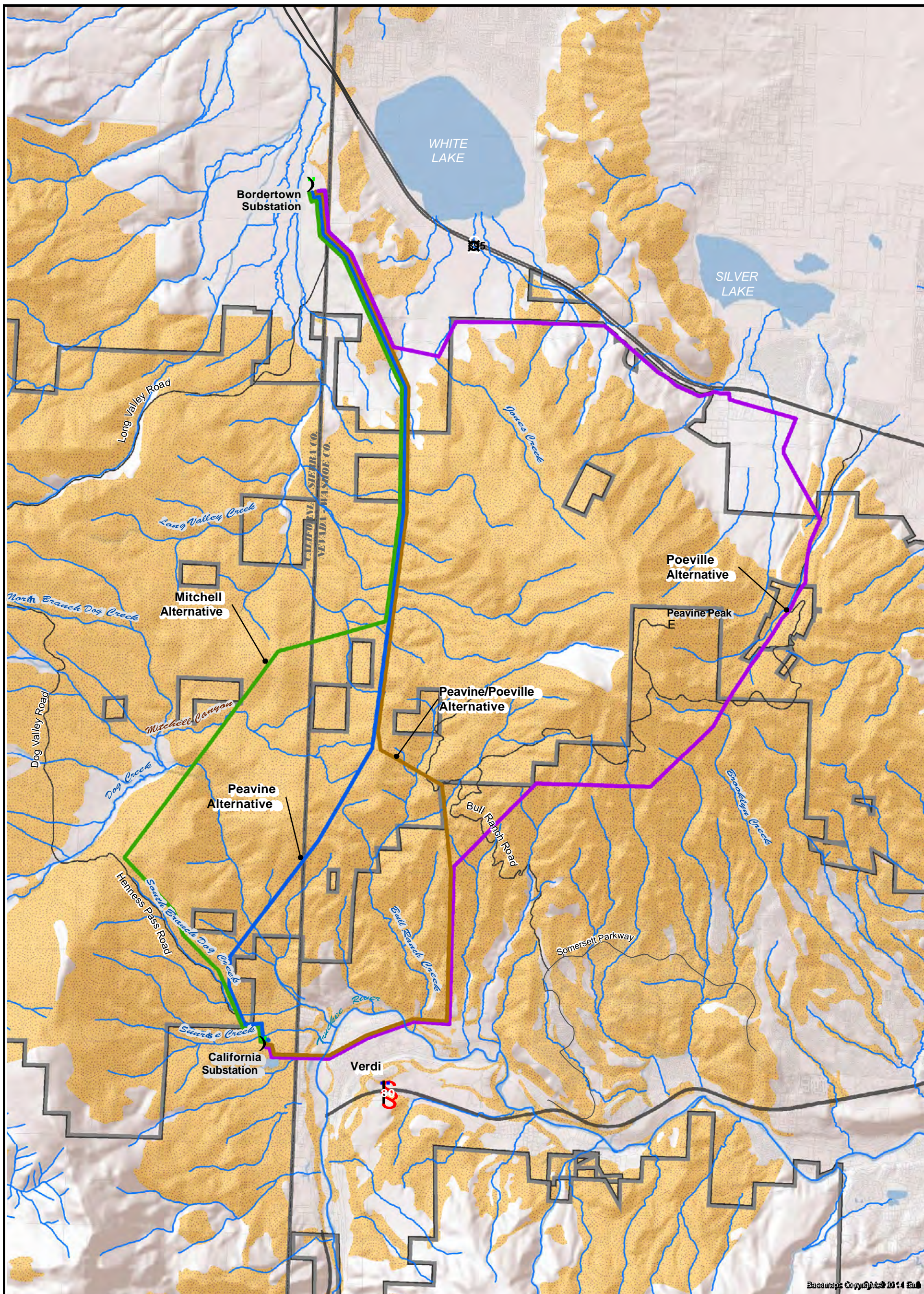


**FIGURE 3.6-2
WATERS OF THE U.S.**

**BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS**



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Basemap Copyright © 2014 Esri

[Dashed Line] Project Area
Transmission Line Alternatives
 [Green Line] Mitchell
 [Blue Line] Peavine
 [Purple Line] Poeville
 [Brown Line] Peavine/Poeville

[Orange Stippled Area] Soils with Severe Erosion Hazard
 [Blue Line] Stream
Land Ownership
 [Black Outline] U.S. Forest Service

**FIGURE 3.6-3
EROSION HAZARD**

**BORDERTOWN TO CALIFORNIA
120 KV TRANSMISSION LINE EIS**

0 0.5 1 2
 Miles
 1" = 1 mile

3.6.1.6 Water Quality

Streams within the Dog Creek and Hunter Creek-Truckee River sub-watersheds drain to the Stateline to Idlewild reach of the Truckee River. According to the Nevada Division of Environmental Protection (NDEP) (2012), the Stateline to Idlewild reach (NV06-TR-02_00) is a CWA 303(d)-listed impaired water body. Inclusion on the 303(d) list means the reach does not meet state water quality standards. Water quality standards for beneficial uses of this reach have been met for livestock irrigation, recreation, municipal or domestic supply, industrial supply, and propagation of wildlife. However, since the last reporting period, the reach failed to meet water quality standards for the aquatic life beneficial use category because of high water temperature. The aquatic life of major concern in this reach are all life stages of mountain whitefish, rainbow trout, and brown trout. The Stateline to Idlewild reach was previously listed on the 303(d) list due to high suspended sediment and turbidity, but has since been delisted for this parameter because monitoring has shown that the reach meets water quality standards for sediment and turbidity. All action alternatives either cross the Stateline to Idlewild reach of the Truckee River or cross tributaries that flow into this reach.

The remaining streams within the analysis area are a part of the Headwaters Long Valley Creek, Cold Spring Valley, Lemmon Valley subwatersheds. These streams do not drain into a waterbody that is a CWA 303(d)-listed impaired water body (CWRCB 2010; NDEP 2012).

3.6.2 Environmental Consequences

Methods of Analysis

The potential direct and indirect effects on soils and water resources were analyzed and quantified using the impact indicators listed below.

- Acres of soil disturbance rated as severe erosion hazard;
- Number of constructed fords and unimproved crossings on streams;
- Number of constructed fords and unimproved crossings within wetlands and riparian zones; and
- Acres of waters of the United States disturbed.

Design features listed in **Appendix B** have also been developed to reduce or avoid certain impacts, including impacts to water quality and from soil erosion. The analysis considers impacts of the project after the incorporation of these project design features.

3.6.2.1 No Action Alternative

Under the No Action Alternative, no impacts to soils and water resources would occur as construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur.

3.6.2.2 Effects Common to All Action Alternatives

Potential impacts to soils and water resources that are common to all of the action alternatives include the following:

- Direct and indirect impacts to soils and soil functions;
- Direct and indirect impacts to streams;

- Impacts to riparian zones and wetlands; and
- Impacts to waters of the United States.

The effects of construction, operations, and maintenance discussed below are the same for all action alternatives. However, the acres of soil disturbance and number of stream crossings and the resulting impacts to wetlands would vary with each alternative. It is assumed that the amount of temporary disturbance to soils is an indicator of the potential for soil loss from erosion. Following the discussion of effects common to all alternatives, a summary table comparing the magnitude of effects between alternatives is presented (**Table 3.6-3**).

Construction

Soils

The construction of any of the action alternatives would result in the permanent (long-term) loss of soil substrate in areas displaced by pole structures and at the Bordertown Substation. Installation of new poles would permanently displace an area of soil measuring 23 inches in diameter (0.0003 acre) at each pole. The total amount of soil displacement would vary depending on the type of structure installed (e.g., single-pole, two-pole H-frame, or three-pole dead-end/angle structure). Self-supporting pole structures on concrete foundations, which would only be used where the ROW is constrained, would displace an area of soil measuring 3 to 12 feet in diameter for each foundation. An average of seven pole structures per mile would be expected for any action alternative. All action alternatives would require the expansion of the Bordertown Substation, which would permanently impact up to approximately 3.7 acres of soil substrate. The Bordertown Substation expansion would occur on BLM-administered public land.

Disturbance to soils from construction and recontouring for the purposes of restoration would result in a loss of soil function which may be short-term or long-term. Use of vehicles and heavy equipment may compact soils which could inhibit water infiltration, increase runoff rates, restrict root growth, reduce soil aeration, and possibly affect soil microbiota. Soils at the base of each pole structure would be deliberately compacted to support structures which would cause similar effects. Loss of vegetation would indirectly affect soils.

Design Features to Avoid and Minimize Impacts to Soils

Effects of compaction can be short or long-term; however, construction practices and design features would reduce the potential for long-term effects. Restoration of disturbed areas under all action alternatives would routinely include loosening of compacted soils prior to seeding. To minimize the potential for soil compaction during construction, design feature WA 5 would prohibit the use of heavy equipment when soils are wet.

To recover soil function as quickly as possible, restoration would begin as soon as construction is complete. To encourage rapid re-growth of vegetation, design feature VG 5 specifies that shrub vegetation would be cleared primarily by mowing or chopping vegetation in a manner that leaves root systems intact. Revegetation would be monitored annually and would be measured against success criteria. Under a best case scenario, it would take approximately 3 to 5 years to meet success criteria, at which time, soils would be adequately stabilized. Short-term (i.e., 10 years or less) soil stabilization is expected but the time period would be directly related to the type, intensity, and duration of the disturbance. Revegetation success and soil stabilization on reclaimed

access roads would be slow if repeated damage from OHV use occurs. However, the OHV use of restored roads on NFS land would be minimized as much as possible through design features RT 7 and RT 8 which require the effectiveness of blockades to be evaluated and, if necessary, monitored by USFS OHV rangers until restoration is successful.

Streams

At road crossings, ephemeral streams would not likely need constructed improvements, particularly if the streams have a cobble bed, or do not have a steep banks. Where ford crossings are constructed, the side-slopes of the drainage would be laid back to a slope that allows for safe vehicle travel if the original contours are excessively steep and/or unstable and a more stable final contour can be specified. If needed, the slopes and drainage bottoms would be rock-armored to protect the channel bed and bank. Once the transmission line construction is complete, the crossing would be recontoured, de-compacted, stabilized, and seeded with agency-approved seed mixes. Heavy or mechanized equipment could be used, but restoration could be completed by hand if the site is wet or if hand treatment would result in higher success. Where riparian vegetation has been removed (which would be allowed on existing crossings) vegetation would be replaced.

Improved and unimproved stream crossings would disturb the bed and banks of streams which may cause erosion and sedimentation, and impacts to water quality. See discussion below for a description of water quality impacts.

Design Features to Avoid and Minimize Impacts to Streams

Design features that prohibit certain types of construction activities within meadows, wetlands, stream riparian zones, and 100-year floodplains would ensure that streams that have the greatest flow within the analysis area (i.e., perennial streams intermittent streams) are protected. Design feature WA 13 would prohibit new road crossings on perennial streams; SV 3 would prohibit road crossings on streams containing wetland meadows; WA 3 would keep staging areas away from streams; WL 10 prohibits construction within the 100-year floodplain of Dog Creek, Bull Ranch Creek, and the Truckee River; and design feature WA 4 prohibits poles within the 100-year floodplain of any stream or wetland.

Additionally, a number of design features have been developed to ensure temporary stream crossings are properly planned and constructed (design features WA 8 through WA 13). Design features also ensure that impacts to streams would not be long-term. Design feature WA 11 requires that constructed crossings would be monitored such that repairs or remedial measures are promptly implemented, and design features VG 6 and 7 require that disturbances would be successfully restored and stabilized.

Riparian Zones and Wetlands

The transmission line would span riparian zones and wetlands along streams. Ancillary facilities such as staging areas and log landings would be placed outside of streams. However, the widening of existing crossings on streams supporting riparian shrubs and construction of improved and unimproved stream crossings on intermittent streams may cause the loss of woody riparian vegetation which may also meet the criteria of a wetland. Isolated wetlands of any type that are found away from streams would not be impacted because these features are small and can be easily avoided.

Design Features to Avoid and Minimize Impacts to Riparian Zones and Wetlands

Riparian zones and wetlands that would be impacted occur along streams. Design features developed to avoid and minimize impacts to streams would also avoid and minimize impacts to riparian zones and wetlands.

Waters of the United States and Waters of the State

Design features developed to protect streams, riparian zones, and wetlands would prohibit placement of transmission line poles, staging areas, and log landings within streams and wetlands and would generally limit road improvement impacts to ephemeral channels. Unavoidable impacts to non-wetland waters of the United States and waters of the State may occur from construction of a road crossing.

The locations and types of road crossings have not been determined at this time. A delineation of jurisdictional features would be conducted for the selected alternative once the alternative has been engineered and the location of poles and access roads are known. For the purposes of this analysis, it is assumed that all crossings would need improvement. Using a maximum road width of 30 feet and the stream width identified through field work or aerial imagery, an estimate of impacts to waters of the United States is presented in **Table 3.6-3**. Impacts would be allowable under the CWA Section 404 permitting program using Nationwide Permit 12 Construction, Maintenance, and Repair of Utility Lines and Associated Facilities, provided that the project can meet permit conditions. Section 401 Water Quality Certification from Lahontan Regional Water Quality Control Board (LRWQCB) (California) or NDEP would be needed in order for the permit to be valid. Certification means that the project would not violate federal and state water quality standards. In California, the terms of a Section 401 Water Quality Certification would prohibit the permanent placement of armoring material in the stream but would allow temporary placement of armoring for up to 90 days (CWRCB 2012). Additionally, restoration of the stream would need to be completed within 30 days of completion of project construction. LRWQCB and NDEP may require additional conditions to minimize impacts.

For features that are waters of the State only, permits would be needed from NDEP or LRWQCB prior to impacts. Agencies may add permit conditions to minimize impacts.

Indirect effects (e.g., sedimentation) to stream channels that are considered waters of the United States and waters of the State would be the same as impacts to streams discussed above. Impacts would be short-term and minor because design features and any general or special conditions of state and federal permits would be implemented.

Floodplains

Construction, including temporary road crossings, would not require the placement of permanent, above-ground fills within designated special flood hazard areas. No impacts to floodplains would occur under any action alternative.

Water Quality

Construction of the proposed project would cause several types of soil disturbance (i.e., excavation, grading, compaction, etc.) that could subsequently cause localized, short-term water quality degradation. Disturbance of soil during construction would produce loose soil, which,

without proper management, could enter nearby streams. The water quality impact of road construction and widening is of particular concern when that road crosses a stream channel, closely parallels a stream channel, or traverses a steep slope. Restoration activities, which include recontouring and reseeding, may also disturb soil that could subsequently cause localized, short-term water quality degradation if sediment is captured by streams.

Implementation of design features (**Appendix B**) would reduce the potential for water quality degradation from accelerated erosion and sedimentation. Design feature WA 1 requires implementation of a Storm Water Pollution Prevention Plan (SWPPP). The objective of a SWPPP is to minimize erosion from project construction work sites and contain sediment. At a minimum, the SWPPP would identify the existing drainage patterns of the construction work sites and ROW/easement area; nearby drainages; sediment and non-sediment pollutant sources that can be reasonably expected; and the erosion and sediment control measures called best management practices (BMPs). The SWPPP includes maps for the project area with locations where specific BMPs would be installed or implemented. The SWPPP is updated and kept onsite throughout the duration of construction. Implementation of the iterative BMP process, and the site-specific application of BMPs are recognized by the Forest Service as the “most efficient means” and “primary tool” to protect soil and water resources from nonpoint sources of pollution (USFS 1988, 2000, 2011a, 2012c). The SWPPP is prepared in accordance with the National Pollution Discharge Elimination System General Construction Stormwater Permit to plan and execute erosion control measures. To ensure the efficacy of erosion controls identified in the SWPPP, inspections would be made at least once per week and before and after rain events for the duration of construction. The implementation of BMPs during project construction is reinforced by design features VG 6, WA 1, and WA 2. Design feature WA 2 ensures that inspections would be made by qualified personnel of NV Energy or its contractors and that maintenance of BMPs would occur on a frequent and regular basis. Examples of BMPs that NV Energy routinely uses to effectively minimize impacts to streams include limiting the clearing of vegetation at the edge of a stream to the minimum area necessary for vehicle passage; installing and maintaining sediment barriers, as necessary, until they are replaced by permanent erosion control devices or restoration of adjacent areas is complete; and, use of permanent waterbars, if needed, on slopes above drainages and on travel routes to minimize sediment flow from adjacent upland into drainages.

Design feature WA 4 prevents construction of pole sites and staging areas within the 100-year floodplain of any stream or within wetlands. This would effectively prohibit construction within very close proximity to perennial streams within the analysis area. Use of existing crossings of perennial streams would be allowed, but new crossings would be prohibited per design feature WA 13. Thus, accelerated sedimentation of perennial streams from construction disturbance within close proximity would not be anticipated.

In accordance with design feature VG 6, all areas of temporary ground disturbance that result from the construction of the project would be restored as required by the land management agency and per any applicable permits. Restoration would include restoring contours to their approximate pre-construction condition, stabilizing the area through seeding, mulching, placement of erosion control fabric, and installing erosion control features. Revegetation may include incorporation of chips into the soil, as needed. Erosion control includes installing cross drains and placing water bars in the road, as needed.

Revegetation would be monitored annually and would be measured against success criteria. Under a best case scenario, it would take approximately three to five years to meet success criteria, at which time, soils would be adequately stabilized. Short-term (i.e., 10 years or less) soil stabilization is expected but the time period would be directly related to the type, intensity, and duration of the disturbance. Revegetation success and soil stabilization on reclaimed access roads would be slow if repeated damage from OHV use occurs. However, the OHV use of restored roads on NFS land would be minimized as much as possible through design feature RT 7 which would require the effectiveness of blockades to be evaluated and monitoring would continue until the restoration is successful. Thus, any accelerated erosion and sedimentation from construction would be short-term until restoration activities are completed.

The potential for degradation of water quality through accidental release of potentially harmful or hazardous materials, such as diesel fuel, gasoline, or herbicides would be low. Because almost all streams crossed by the proposed transmission line within the analysis area are dry for most of the year and construction activities and staging is prohibited within the floodplain, direct contamination of a waterbody by an accidental spill or release of a hazardous material is unlikely. Additionally, implement of other design features provide added protect. For example, WA 1 requires implementation of a SWPPP and would identify the following: where hazardous materials would be stored; where trash would be placed; where motorized equipment would be parked, fueled, and serviced; and where construction materials would be stored. Design feature WA 3 would prohibit the storage of equipment fuels and staging of construction equipment within 300 feet of perennial streams and 150 feet of all other streams. Design feature HM 1 requires a Spill Prevention, Containment, and Countermeasures (SPCC) Plan to be implemented during construction to prevent spills and provide cleanup procedures in the event of a spill. Herbicides would not be used during rain events or immediately following rain events (design feature HE 4). Preparation and mixing of herbicides would occur at least 300 feet from surface waters (design feature HE 5). A spill cleanup kit would be readily available whenever herbicides are transported or stored (design feature HE 6).

Storm water run-off from the project area, specifically, from the analysis area of any action alternative, is not expected to elevate temperatures in the Truckee River because design feature WA 1 is intended to prevent run-off from reaching the river. Stantec (2013) conducted an analysis of the effect of storm water run-off on the 303(d) listing of the Truckee River. A rigorous analysis was not conducted for the Stateline to Idlewild reach, but the following observation was made: “The issue of temperature in the Truckee River is due to heat stress in the summer low flow period to cold water fisheries (i.e., trout). Since rain events are associated with cloud cover, summer rain events can logically be expected to have a cooling influence, however this was not substantiated in this analysis.” The creation of storm water detention basins, impoundments, or other storage systems where rainfall and storm water run-off may collect and warm before discharge to streams is not proposed as part of the project.

Operation and Maintenance

Temporary disturbance to soils, streams, or riparian zones and wetlands from maintenance-related repairs may occur, but would be localized and would occur only on an infrequent to rare basis. Restoration, if necessary, would begin as soon as repairs are complete, and would include stabilization of soils.

Impacts to waters of the United States for maintenance would be allowable under the CWA Section 404 permitting program provided that it can meet the conditions of Nationwide Permit 3 for Maintenance (USACE 2012). Nationwide Permit 3 allows for activities related to the repair, rehabilitation, or replacement of any previously authorized structure. Section 401 Water Quality Certification from the LRWQCB or NDEP would be needed in order for the permit to be valid. For features that are waters of the State only, permits would be needed from NDEP or LRWQCB prior to impacts. Agencies may add permit conditions to minimize impacts.

With reclamation of disturbances and implementation of BMPs and design features, impacts to soils, streams, riparian zones, and wetlands would be short-term and negligible. Effective BMPs would prevent impacts to water quality.

3.6.2.3 Comparison of Impacts

A summary of the direct and indirect impacts to water resources and soils from implementation of each action alternative is presented in **Table 3.6-3**. With implementation of the design features described in **Section 3.6.2.2**, impacts from implementation of any of the action alternatives would be short-term and negligible to minor.

Table 3.6-3 Effects by Action Alternative

EFFECTS INDICATOR ¹	MITCHELL		PEAVINE		POEVILLE		PEAVINE/POEVILLE	
	NFS LAND	ALL LAND	NFS LAND	ALL LAND	NFS LAND	ALL LAND	NFS LAND	ALL LAND
Soils Permanently Lost (acres)	0.07	3.8	0.07	3.8	0.01	3.9	0.03	3.8
Soils Temporarily Disturbed (acres)	176.5	281.7	184.2	302.1	162.2	617.7	127.3	364.3
Number of Stream Crossings (quantity)	7	9	12	16	0	15	11	16
Number of Wetland/Riparian Road Crossings (quantity)	0	2	0	7	2	9	0	8
Waters of the United States Impacted (acres) ²	0.007	0.007	0.010	0.010	0	0.031	0.010	0.010

¹ Acres and quantity numbers include access roads and road widening areas

² Acres of impacts after implementation of design features

3.6.2.4 Cumulative Effects

Surface water quality is considered good for both of the watersheds within the water resources and soils CIAA for sedimentation and turbidity (NDEP 2012) (Goodguide Scorecard 2013). The current good condition of the watersheds suggests that the effects of sedimentation from present actions are short-term or minimal, or both. Reasonably foreseeable future resource management activities would include project design features protecting watershed resources. Reasonably

foreseeable future resource management activities would cause some soil disturbance during implementation, but would include BMPs to minimize the potential for soil loss from erosion and may require topsoil to be salvaged. The reasonably foreseeable future Stonegate Master Plan Development on private land would disturb soils and create the potential for soil erosion. However, it be subject to compliance with NDEP regulations and would require a SWPPP to prevent erosion and sedimentation.

The action alternatives would not increase water temperatures or cause accelerated sedimentation of surface waters leading to reduced water quality (see **Section 3.6.2.2**). Because the action alternatives would not impact water quality, they would not contribute to any cumulative effects on water quality that other present and reasonably foreseeable future actions might have.

Effects on soils from the action alternatives, such as soil compaction and function would be remedied during restoration, which would be completed at the end of the 8 to 12 month construction period. Thus, the direct effects on soils from the action alternatives would generally be short-term. These short-term impacts would most likely attenuate before reasonably foreseeable future actions are implemented. Accordingly, the cumulative effect to soils from any of the action alternatives when combined with future actions would be negligible.

3.7 VEGETATION

This section provides a discussion of vegetation resources, including noxious weeds that may occur in the project area and surrounding areas. Special status plant species are discussed in **Section 3.8**. The analysis area for vegetation consists of either the 300- to 600-foot-wide variable-width corridor or the ROW and the road widening corridor of each action alternative.

3.7.1 Affected Environment

The plant assemblages within the project area reflect the unique setting along the western edge of the Great Basin and the eastern edge of the Sierra Nevada. The plant communities occurring within the project area are influenced by elevation, soils, aspect, and past disturbances such as logging, grazing and fire.

Several large-scale fires have burned across the region in the past three decades (USFS 2014f). Wildfire has caused an uneven distribution of tree size and age within the forested communities in the region. Shrub communities have also suffered the repeated effects of fire and have been converted to communities dominated by species that are adapted to disturbance. Following wildfires, vegetation communities may initially be dominated by weeds and annual grasses, such as cheatgrass, which is found in almost all vegetation communities. **Figure 3.2-1** depicts the modern and historic fires which have burned within the region.

Other factors have changed the vegetative communities of the project area, these range from biologic to anthropogenic. Biological disturbances of vegetation communities have occurred from climatic variations (i.e., drought) resulting in insect infestations in forested communities from Jeffrey pine beetle, pine engraver beetle, fir engraver beetle, and mountain pine beetle often resulting in tree mortality particularly in the Dog Valley area. The USFS manages stands of timber for habitat, forest health, fuels reduction, and implement management tools including forest thinning, brush removal, prescribed fire, and firewood sales. Two projects, the Dog Valley Fuels Reduction and Ecosystem Enhancement project (USFS 2010b) and the Beagle Personal Use

Fuelwood Area are currently being implemented along a portion of the Mitchell Alternative; primary actions include thinning overstocked stands of timber (USFS 2014d).

3.7.1.1 Vegetation Communities

Seventeen vegetation communities were identified within the project area. For the purposes of depicting vegetation communities in a readable map format, similar communities have been combined on **Figure 3.7-1**. The total acreage of vegetation communities within the variable-width corridor by land status for each action alternative is listed in **Table 3.7-1**. Descriptions of the most prevalent vegetation communities follow the table.

Table 3.7-1 Acres of Vegetation Communities within the Variable-Width Corridor

VEGETATION	MITCHELL	PEAVINE	POEVILLE	PEAVINE/ POEVILLE
USFS				
Bitterbrush-sagebrush	171.0	228.6	143.2	127.9
Eastside pine	140.8	83.7	--	42.2
Chaparral	97.6	92.7	8.3	90.9
Plantation	66.3	17.5	--	--
Mixed scrub	49.1	27.3	0.1	--
Annual grasses and forbs	19.7	17.7	0.9	8.9
Mixed conifer- white fir	18.1	--	--	--
Aspen	12.8	6.1	0.0	6.3
Snowbrush	9.8	6.2	0.8	6.2
Mountain mahogany	4.7	7.8	11.0	6.0
Low sage	4.2	5.7	3.0	10.4
Ruderal	0.5	0.5	6.0	--
Wet meadow	0.5	--	--	--
Jeffrey pine	0.2	0.8	0.1	12.6
Willow	0.1	0.1	3.9	1.1
Mountain sagebrush	--	--	9.7	--
Big sagebrush	--	0.7	3.9	0.7
Urban/developed	--	--	0.8	--
Totals	595.4	495.4	196.7	313.3
BLM				
Big sagebrush	14.3	14.3	14.3	14.3
Urban/developed	0.7	0.7	0.7	0.7
Bitterbrush-sagebrush	0.2	0.2	0.2	0.2
Totals	15.1	15.1	15.1	15.1
Private Land				
Bitterbrush-sagebrush	86.1	88.1	178.9	105.3
Big sagebrush	18.8	18.8	35.5	18.8
Jeffrey pine	11.4	11.4	10.2	12.5
Wet meadow	10.3	10.3	4.9	12.4
Low sage	6.3	6.3	2.8	11.6
Snowbrush	6.1	6.1	4.2	6.1

VEGETATION	MITCHELL	PEAVINE	POEVILLE	PEAVINE/ POEVILLE
Eastside pine	4.6	3.9	0.6	0.6
Ruderal	4.4	4.4	76.4	16.6
Willow	2.8	2.8	2.9	5.8
Chaparral	2.2	2.2	5.1	7.5
Annual grasses and forbs	1.2	1.2	318.2	167.4
Mountain sagebrush	0.9	0.9	8.4	0.9
Plantation	0.2	0.2	--	--
Mixed scrub	0.1	1.6	58.6	--
Urban/developed	--	--	36.5	7.8
Aspen	--	--	3.4	0.2
Mountain mahogany	--	--	3.8	--
Mixed riparian hardwood	--	--	2.4	2.4
Totals	155.4	158.2	752.8	375.9
Grand Total	765.9	668.5	965.2	704.0

Source: USFS 2005, 2008a; and JBR field surveys

Bitterbrush-Sagebrush Community

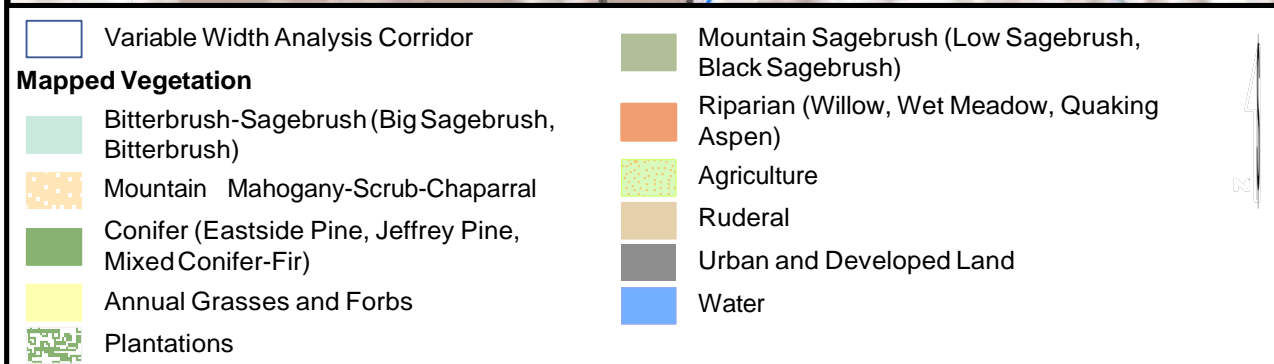
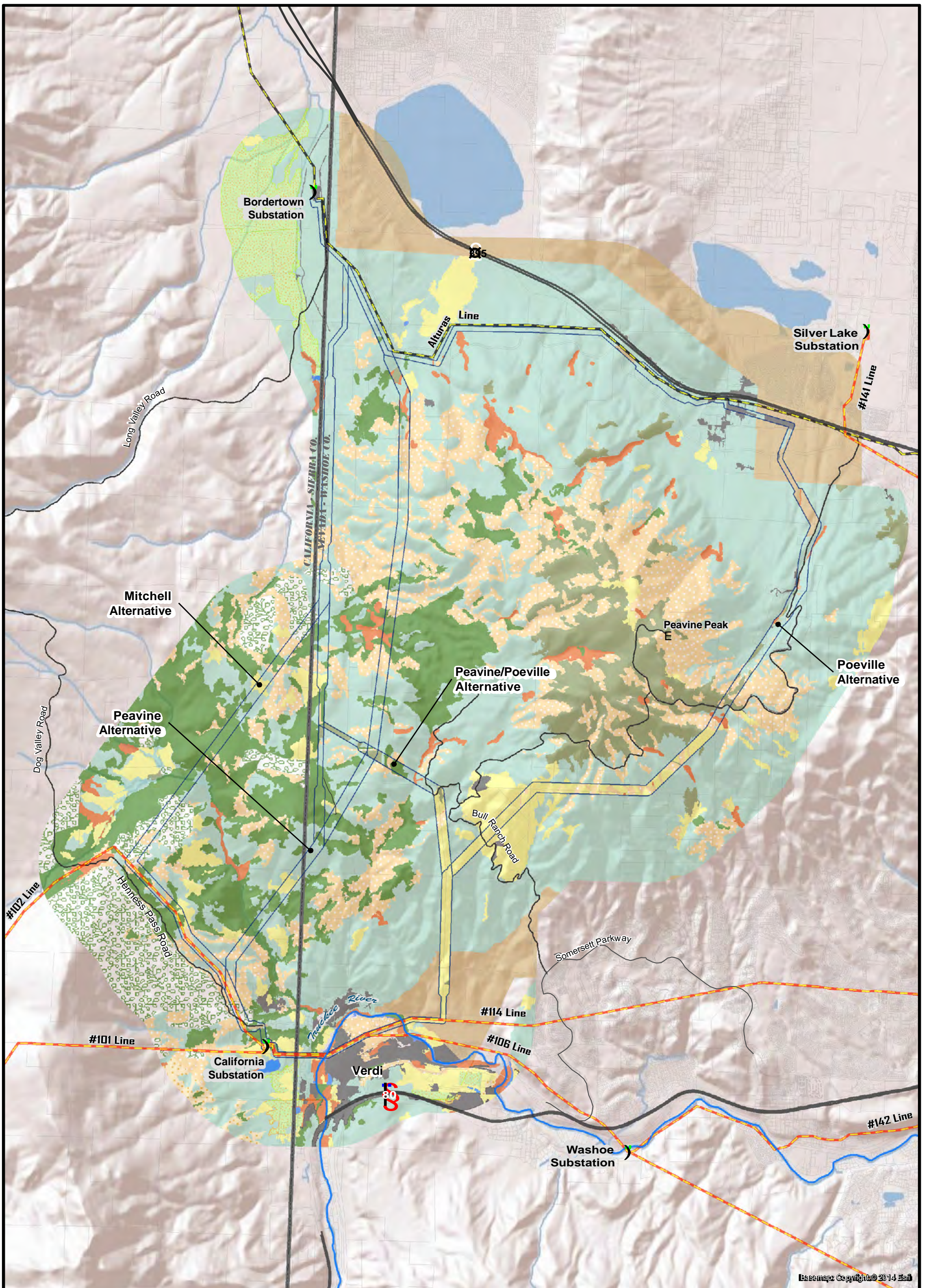
On eastside slopes of the northern Sierra Nevada, bitterbrush and upland sagebrushes (such as basin big sagebrush and mountain sagebrush) occasionally mix, forming the bitterbrush-sagebrush community (USFS 2008a). The community is spatially associated most commonly with the eastside pine and the mountain sagebrush communities. On Peavine Peak, the bitterbrush-sagebrush community is mostly present on the mid-elevation slopes down into the surrounding flats.

The bitterbrush-sagebrush community is the most abundant vegetation community within the variable-width corridor of each action alternative (**Figure 3.7-1**). However, the community is less abundant on the south aspect of Peavine Peak where the Poeville and Peavine/Poeville alternatives cross. This area is where wildland fires have notably altered the vegetation communities.

Eastside Pine Community

The eastside pine community is typically found at elevations of 5,000 to 7,000 feet above mean sea level (AMSL) (USFS 2008a). On the eastside of the northern Sierra Nevada, Jeffrey pine and ponderosa pine are the dominant overstory species. The understory is characterized by Great Basin shrubs, forbs and grasses such as big sagebrush, antelope bitterbrush, curl-leaf mountain mahogany, Bloomer's goldenbush, mule-ears, arrowleaf balsamroot, Idaho fescue, and wildrye grasses.

The eastside pine community occurs within the variable-width corridor for each of the action alternatives. However, the community is generally found west of Peavine Peak, and is more common within the Mitchell and Peavine alternatives. Some of this community is managed as timber.



**FIGURE 3.7-1
MAPPED VEGETATION**

**BORDERTOWN TO CALIFORNIA
120 kV TRANSMISSION LINE EIS**

1 in = 1 mile

0 0.5 1 2
Miles

Chaparral Communities

The Great Basin-mixed chaparral transition community and the upper montane mixed chaparral community were grouped for purposes of this analysis, forming the chaparral vegetation community. The communities are similar and share many common species. The Great Basin-mixed chaparral transition community, an eastside community, is a mixture of montane chaparral species such as snowbrush, greenleaf manzanita, bitter cherry, chokecherry, and snowberry with an equivalent vegetation cover of Great Basin shrub species such as mountain sagebrush, low sagebrush, desert gooseberry and bitterbrush (USFS 2008a; Nachlinger et al. 1992). The upper montane mixed chaparral community may also include mountain sagebrush and bitterbrush, but the more xeric Great Basin shrub species are typically not present. It occurs at elevations of 6,000 to 7,800 feet AMSL.

The chaparral community occurs within the variable-width corridor of each action alternative being fairly dominant on all but the Poeville Alternative.

Annual Grasses and Forbs and Ruderal Communities

The annual grasses and forbs community and the ruderal community are dominated by noxious weeds and invasive species, and both are particularly common on the dry, south-facing slopes of Peavine Peak. On Peavine Peak, the annual grasses and forbs community occurs at lower elevations, most commonly on more arid slopes and flats with a southerly aspect. The community is generally dominated by cheatgrass, an invasive species, as well as other non-natives or noxious weeds, such as medusahead. The annual grasses and forbs community often occurs as a direct result of wildfire or over-grazing within eastside pine or mixed conifer-fir communities or in areas dominated by sagebrush. The ruderal community is comprised of species that are first to colonize disturbed lands. Within the project area, the ruderal community is dominated by noxious weeds and invasive species, including cheatgrass. Other noxious weeds or invasive species common to the community include Scotch (cotton) thistle, musk thistle, bull thistle, Russian thistle, tumble mustard, and tessellate fiddleneck (Nachlinger et al. 1992).

These communities occur within the variable-width corridor of each of the action alternatives. However, they are more prevalent on the south aspect of Peavine Peak within the boundary of the Verdi Complex wildfires (**Figure 3.2-1**), and are therefore more common within areas of the Poeville and Peavine/Poeville alternatives.

Noxious Weeds and Invasive Species

Within the project area approximately 17 species of weeds, both noxious and invasive, have been documented occurring in large stands (Nevada Natural Heritage Program [NNHP] 2011; USFS 2014d). Of the noxious weed species identified within the area, several are of primary concern due to the degree of impact they have on ecosystem function and the density or size of the existing infestations. These species include: musk thistle, spotted knapweed, yellow star-thistle, bull thistle, medusahead, perennial pepperweed (tall whitetop), Scotch thistle, and tamarisk.

3.7.1.2 Mitchell Alternative

Vegetation communities within the Mitchell Alternative are presented in **Table 3-7-1**; bitterbrush-sagebrush and sagebrush communities combined constitute 37 percent of the vegetation within the

variable-width corridor. Forested communities (e.g., eastside pine, aspen, and plantation) contribute to 31 percent of the vegetation within the corridor. Chaparral, mountain mahogany, snowbrush, and mixed scrub combined comprise approximately 21 percent of the vegetation within the corridor. Willow, wet meadow, and aspen communities combined comprise approximately three percent of the vegetation within the corridor.

There are approximately 6.4 acres of mapped noxious weed infestations and 30 infestations of an unknown size (i.e., mapped as a point location) within the variable-width corridor and road widening area for the Mitchell Alternative. The primary noxious weed infestations include diffuse knapweed, medusahead, and Russian knapweed.

3.7.1.3 Peavine Alternative

The Peavine Alternative is primarily comprised of bitterbrush-sagebrush and sagebrush communities at 52 percent within the variable-width corridor (**Table 3.7-1**). Chaparral, mountain mahogany, and scrub comprise approximately 21 percent of the vegetation within the variable-width corridor, while forested communities comprise approximately 15 percent. Willow, wet meadow, and aspen communities combined comprise approximately 2 percent of the vegetation within the corridor.

There are approximately 12.7 acres of known noxious weed infestations and 23 infestations of an unknown size (i.e., mapped as a point location) within the variable-width corridor and road widening areas for the Peavine Alternative. Similar to the Mitchell Alternative, the primary noxious weed infestations include diffuse knapweed, Russian knapweed, and medusahead.

3.7.1.4 Poeville Alternative

Vegetation along the Poeville Alternative is comprised of two main groups of vegetation communities. Bitterbrush-sagebrush and sagebrush comprise 50 percent and annual grasses and forbs and ruderal make up approximately 41 percent of the total vegetation within the variable-width corridor (**Table 3.7-1**). Willow, wet meadow, aspen, and mixed riparian hardwoods communities combined comprise approximately 2 percent of the vegetation within the corridor.

There are approximately 34.3 acres of mapped noxious weed infestations and 115 infestations of an unknown size (i.e., mapped as a point location) within the variable-width corridor and road widening areas for the Poeville Alternative. Because of the length of the alternative, as well as the proximity to suburban and previously burned areas, the Poeville Alternative crosses more diverse weed infestations. The primary infestations are musk thistle, Scotch thistle, and medusahead along the southern portions of the alternative. On the northern portion of the alternative, diffuse knapweed and perennial pepperweed occur, among others.

3.7.1.5 Peavine/Poeville Alternative

The Peavine/Poeville Alternative has bitterbrush-sagebrush and sagebrush communities that comprise approximately 38 percent of the variable-width corridor (**Table 3.7-1**). Annual grasses and forbs and ruderal communities comprise approximately 27 percent of the vegetation within the variable-width corridor. Similar to the Peavine Alternative, the Peavine/Poeville Alternative has chaparral, mountain mahogany, and scrub combined comprising approximately 27 percent of vegetation within the corridor. Willow, wet meadow, aspen, and mixed riparian hardwoods communities combined comprise approximately four percent of the vegetation within the corridor.

There are approximately 30.3 acres of noxious weed infestations and 109 infestations mapped as a point location within the variable-width corridor and road widening areas for the Peavine/Poeville Alternative. Most of the infestations (e.g., musk thistle, medusahead, bull thistle, diffuse knapweed, perennial pepperweed, and Scotch thistle) are located within areas recently burned by wildfires.

3.7.2 Environmental Consequences

Methods of Analysis

The potential direct and indirect effects on vegetation resources were analyzed and quantified using the impact indicators listed below.

- Acres of vegetation community proposed to be restored;
- Acres of vegetation permanently removed;
- Acres of tree cutting needed to maintain safe transmission line clearance; and
- Acres of known noxious weed infestations within the variable-width corridor and road widening corridor as a measure of the potential to spread and/or introduce noxious weeds.

3.7.2.1 No Action Alternative

Under the No Action Alternative, there would be no impacts and losses to vegetation resources as construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur.

3.7.2.2 Effects Common to All Action Alternatives

Potential impacts to vegetation resources that are common to the action alternatives include the following:

- Disturbance or loss of vegetation communities;
- Introduction or spread of noxious weeds and invasive plants; and
- Accidental loss of vegetation from herbicide application.

Construction

Disturbance or Loss of Vegetation Communities

Impacts to vegetation include long-term loss of vegetation where permanent facilities would be constructed and short-term loss of vegetation from construction related disturbances. The expansion of the Bordertown Substation would cause the long-term (permanent) loss of approximately 3.7 acres of bitterbrush-sagebrush community. Additionally, the installation of poles would permanently remove a 0.0003-acre area of vegetation for each pole. On average, pole structures would be placed every 800 feet and the number of pole structures would be proportional to the length of the alternative. The type and amount of vegetation community that would be impacted cannot be determined at this time because the locations of pole structures are not known. However, vegetation communities that are present in the ROW (**Table 3.7-2**) provide an indication of the type and relative abundance of vegetation communities that could be permanently impacted by pole structures.

Table 3.7-2 Acres of Vegetation Communities within the ROW

VEGETATION COMMUNITY ¹	MITCHELL		PEAVINE		POEVILLE		PEAVINE/POEVILLE	
	NFS LAND	TOTAL	NFS LAND	TOTAL	NFS LAND	TOTAL	NFS LAND	TOTAL
Bitterbrush-sagebrush	25.0	48.1	33.3	56.4	36.1	81.0	20.4	51.9
Eastside pine	23.1	23.7	14.6	15.3	0.0	0.1	6.1	6.3
Jeffrey pine	0.0	2.3	0.1	2.4	0.0	1.6	1.9	3.9
Mixed conifer-fir	3.6	3.6	0.0	0.0	0.0	0.0	0.0	0.0
Plantation	9.9	9.9	2.6	2.6	0.0	0.0	0.0	0.0
Aspen	2.3	2.3	1.1	1.1	0.0	1.2	1.1	1.9
Chaparral	15.1	15.1	14.5	14.5	1.5	1.8	13.7	15.1
Annual grasses and forbs	2.2	2.3	2.5	2.6	0.0	52.2	0.2	30.7
Big sagebrush	0.0	3.7	0.0	3.8	1.2	11.5	0.0	3.8
Great Basin mixed scrub	7.3	7.3	4.7	4.7	0.0	8.8	0.0	0.0
Curl-leaf mountain mahogany	0.9	0.9	1.5	1.5	1.0	1.7	1.1	1.1
Low sagebrush	1.0	2.3	0.9	2.2	0.3	0.7	1.5	3.7
Mountain sagebrush	0.0	0.0	0.0	0.0	1.7	2.4	0.0	0.0
Ruderal	0.2	2.0	0.2	2.0	2.1	20.2	0.0	4.6
Snowbrush	0.5	0.7	0.5	0.7	0.0	0.9	0.5	0.7
Wet meadow	0.0	2.3	0.0	2.3	0.0	0.8	0.0	3.0
Willow	0.0	0.2	0.0	0.2	0.3	1.7	0.1	1.5
Total	91.1	126.7	76.5	112.3	44.2	186.6	46.6	128.2

Source: USFS 2014d

¹ Does not include Urban/Developed cover type

Most of the impacts to vegetation communities would result from the construction of temporary project features through vegetation removal or blading vegetation. As presented in **Table 2.3-1**, loss of vegetation cover would occur at pole sites, wire setup sites, staging areas, widened roads, new access roads, and within line clearance areas. The estimated construction disturbance from each action alternative is presented in **Table 3.7-3**.

Table 3.7-3 Estimated Temporary Construction Disturbance

ALTERNATIVE	TEMPORARY CONSTRUCTION DISTURBANCE (ACRES)
Mitchell	281.7
Peavine	302.1
Poeville	617.7
Peavine/Poeville	364.3

The existing roads that would be widened for construction access are known, and the vegetation communities that would be impacted within road widening areas are shown in **Table 3.7-4**. The locations for other construction activities/areas, such as staging areas and centerline travel roads are not known but would be constructed within the variable-width corridor. The acres of vegetation communities that are present within the variable-width corridor of each action alternative are shown in **Table 3.7-1**. However, the majority of surface disturbance from construction would occur within the ROW/easement. Therefore, the acres of vegetation communities that are present within ROW/easement (**Table 3.7-2**) represents an indication of the type and relative abundance of vegetation communities that could be disturbed by project construction activities.

Table 3.7-4 Acres of Vegetation Communities within Road Widening Corridors

VEGETATION COMMUNITY ¹	MITCHELL		PEAVINE		POEVILLE		PEAVINE/POEVILLE	
	NFS LAND	TOTAL	NFS LAND	TOTAL	NFS LAND	TOTAL	NFS LAND	TOTAL
Bitterbrush-sagebrush	4.1	10.3	12.9	25.8	1.3	25.7	7.0	22.0
Eastside pine	4.1	4.2	6.9	8.2	0.0	0.1	3.5	3.6
Jeffrey pine	0.0	0.2	0.0	0.2	0.0	0.3	0.0	0.0
Mixed conifer-fir	0.2	0.2	0.4	0.4	0.0	0.0	0.2	0.2
Plantation	0.0	0.0	1.3	1.3	0.0	0.0	0.0	0.0
Aspen	0.8	0.8	0.8	0.8	0.0	0.6	0.8	0.8
Chaparral	0.7	0.7	1.2	1.2	0.2	0.9	0.8	0.9
Willow	1.0	1.0	1.1	1.3	0.0	0.1	1.1	1.3
Annual grasses and forbs	0.0	1.2	0.4	3.4	0.2	6.9	0.2	3.5
Ruderal	0.0	0.2	0.0	2.6	0.0	10.5	0.0	8.1
Mountain sagebrush	0.5	0.7	0.5	0.7	0.4	0.5	0.5	0.7
Big sagebrush	0.0	0.2	0.0	0.3	0.0	0.8	0.0	0.4
Curl-leaf mountain mahogany	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0
Great Basin mixed scrub	0.1	0.2	0.0	0.1	0.0	2.5	0.0	2.3
Low sagebrush	0.0	0.0	0.3	0.4	0.1	0.1	0.0	0.0
Snowbrush	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wet meadow	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
Total ¹	11.5	20.0	25.8	47.0	2.4	49.3	14.1	43.8

Source: USFS 2014d

¹ Does not include vegetation communities within portions of the road widening corridor analysis area located inside of the variable-width corridor

The loss of vegetative cover would be short-term in all areas that are successfully restored (reclaimed and reseeded) following construction. Restoration would follow a detailed restoration plan that would be included as part of the COM Plan. To restore vegetative cover, restoration seed mixes and seeding rates would be tailored to the desired vegetation community, soil substrate, elevation, and land administration/ownership. Restoration success would be monitored until restoration is deemed successful by the USFS. It would likely take approximately three to five years to meet restoration success criteria under optimal conditions, depending on the localized environmental conditions at the restoration site and the type, intensity, and duration of the disturbance. Longer term impacts may occur in less ecologically resilient sites such as south facing slopes, steep slopes, and sites that lack soil may require more than five years or potentially may never be fully restored.

Tree removal within line clearance areas would have long-term impacts to forested communities and forest product resources. The re-growth of trees would not be allowed for the operational life of the project due to safety requirements which require a "tree-free" zone underneath and surrounding the transmission lines. The removal of trees would be a long-term alteration of the species composition and physical structure of forested communities. The forested community would be converted to one that is dominated by shrubs and other groundcover. **Table 3.7-5** presents the acreage of forested community that is within line clearance area and would be affected by tree removal. Note that the acreage of forest communities presented in **Table 3.7-5** is included in the estimated construction disturbance from each alternative, as presented in **Table 3.7-3**.

Table 3.7-5 Acres of Forested Community within Line Clearance Area

VEGETATION TYPE	MITCHELL	PEAVINE	POEVILLE	PEAVINE/POEVILLE
Forested community ^{1,2}	41.8	21.4	2.9	12.1

¹ Includes eastside pine, Jeffrey pine, mixed conifer-fir, plantation, and aspen vegetation communities (USFS 2014d)

² Transmission line clearance area was assumed to be the width of the ROW/easement, although trees outside the ROW/easement with the potential to fall on conductor wires would also be removed

Despite the minor variations in the acres of vegetation communities that would be cleared from each action alternative, the short-term and long-term impacts would be minor to negligible under any of the action alternatives. Impacts would be minor to negligible because the affected vegetation communities are locally and regionally common, based on the number of acres of each community available within five miles of the variable-width corridor of each action alternative (USFS 2014d). In addition, successful restoration of vegetation communities and effective implementation of design features would reduce impacts to vegetation resources to negligible or minor levels.

Design Features to Avoid or Minimize the Disturbance or Loss of Vegetation Communities

Design features have been developed to protect sensitive riparian vegetation communities (i.e., willow, wet meadow, and quaking aspen), which are the least abundant communities within the analysis area. Design feature WA 13 would prohibit new road crossings on perennial streams. Design feature WA 4 prohibits the placement of poles, staging areas, and fuel storage areas near floodplains and wetlands. Design feature SV 3 provides added protection on NFS land and specifically prohibits construction disturbance within wet meadows.

To ensure the restored vegetation communities would attain the appropriate community composition over time, the success criteria that would be used for reclaimed vegetation would be based upon established reference sites (design feature VG 7).

The short-term and long-term loss of vegetation would be a negligible to minor because all temporary construction disturbances would be restored as soon as construction is completed, and success criteria for the revegetation would be based on pre-established restoration standards.

Very few acres of vegetation would be lost in relation to vegetation communities available in the surrounding landscape. Design features would protect the least abundant and sensitive communities within the analysis area by limiting the type of project features that can be placed within or near willow, wet meadow, and quaking aspen communities. Vegetation communities that would be impacted are fairly abundant within the region based on a review of the acres of vegetation communities available within 5 miles of the variable-width corridor (USFS 2014d).

Introduction or Spread of Noxious Weeds and Invasive Plants

Construction activities could potentially introduce noxious and invasive weeds. Noxious weeds can change soil physiology and chemistry, and out-compete native species, leaving the infested habitats with low species diversity and vulnerable to fires. The removal of native vegetation communities and disturbance of soils would create conditions that facilitate weed infestations. The introduction of noxious and invasive weeds (e.g., seeds or plant parts) could occur from project vehicles, construction equipment, earth materials (e.g., fill dirt, topsoil, etc.), or erosion control installations (e.g., straw bales, wattles, etc.) contaminated with noxious weed seeds. The presence of existing noxious weed infestations within the analysis area would increase the likelihood for materials and construction equipment to be contaminated. Wind, precipitation, and inadvertent transport on public and project vehicles or other vectors, may disperse seeds from these sources into areas where surface disturbance has occurred within the analysis area.

On reclaimed centerline travel roads and other reclaimed access roads, revegetation success and recovery of vegetation communities would be slow if repeated damage from unauthorized OHV use occurs. The combination of disturbed soils and lack of effective vegetation cover would create optimal conditions for infestations of noxious weeds, especially if seeds are brought in by OHVs.

To address the potential for infestations, all temporary construction disturbances would be treated for noxious weeds. The treatment and the subsequent monitoring of the treatment success would follow a detailed weed treatment plan that would be included as part of the COM Plan.

Design Features to Avoid or Minimize the Introduction or Spread of Noxious Weeds and Invasive Plants

To reduce the potential for the introduction or spread of noxious weeds and invasive plants, design features (NW 1 through NW 11) would be implemented prior to, during, and following construction activities. Design features would prohibit the construction of access roads in areas heavily infested with noxious weeds or invasive plants. Prior to construction, weeds within 100 feet of the ROW would be mapped, and treated prior to construction. The treatment of noxious weeds would continue until disturbed areas are successfully reclaimed, which is typically three to five years. During construction, project vehicles and construction equipment would be cleaned

with a power washer of all mud, dirt, and plant parts. Materials brought to the project site such as fill material and seed mixes would be certified as weed-free.

To address the potential for unauthorized OHV use of construction access roads that could increase the risk of infestations, design features were developed to discourage unauthorized OHV use. Design features RT 3 and RT 4 require that all new temporary access roads have a physical closure (i.e., barricade) installed immediately following construction. Barricades would be monitored for effectiveness and compliance with the reclamation.

With implementation of a weed treatment plan and design features that ensure that treatment measures are taken during and after construction, the potential for weed infestations would be low. Effects would be minor. Monitoring and continued treatment until success is met would ensure that impacts are short-term.

Effects to Vegetation from Herbicide Application

Non-target vegetation may be inadvertently exposed to herbicide through direct spray, downwind drift, runoff of chemical laden soil, and accidental spills. During herbicide application, non-target vegetation immediately adjacent to noxious weed infestation treatment areas can be exposed to overspray. Exposure would cause damage to vegetation and possibly death of the plant. The magnitude of effects would be dependent on the specific herbicide product, timing of application, the species exposed, and the volume or concentration of chemical exposure.

Design Features to Avoid or Minimize Impacts From Herbicide Application

Design features HE 1 through HE 15 were developed to minimize or avoid effects of herbicide use to non-target or sensitive resources. For example, to minimize the potential for overspray, during spray applications, the spray nozzle would be kept as close to target plants as possible. The potential for drift would be reduced by the use of coarse droplet sizes and prohibiting spray applications when wind speed exceeds five miles per hour. Additional design features exclude herbicide spray applications near streams, meadows, wetlands, and riparian zones.

With implementation of design features, damage to vegetation from direct exposure, drift, and accidental spills would be avoided as much as possible. Where unavoidable, effects would be minor as the affected area would be small and localized. Effects would be short-term because many perennial plants would recover from inadvertent spray.

Operation and Maintenance

Under all action alternatives, new facilities are not anticipated during the operation and maintenance phase of the project, and therefore, additional long-term (permanent) loss of vegetation would not occur. However, temporary disturbance from maintenance-related construction activities to vegetation may occur, but would not be extensive and would occur on an infrequent to rare basis. Each disturbance episode to vegetation would be followed by restoration of vegetation, weed control, and stabilization of soils, if needed. Annual inspections conducted via helicopter or from walking to the pole structures from existing roads are not anticipated to impact vegetation communities.

Removal of trees from within the transmission line clearance area would continue as needed to meet safety standards through the operational life of the project. While actual disturbance from the

line clearance activities would be restored, long-term impacts are still anticipated for forested communities due to the removal of the overstory trees that are indicative of forested communities.

Inspections and maintenance activities would have the potential for inadvertent introduction of noxious and invasive weeds from the use of vehicles and equipment contaminated with noxious weed seeds and from temporary surface disturbance. The potential for introduction of noxious weeds during the maintenance phase would be much less than during the construction phase because of the fewer equipment and vehicles that would be needed, areas of ground disturbance would be localized and typically much smaller, and the construction period would be brief.

Design features (**Appendix B**) implemented during construction would also apply to the operations and maintenance phase of the project. With reclamation of disturbances and implementation of BMPs and design features, direct and indirect effects from the loss of vegetation communities would continue to be minimized, and impacts would range from negligible to minor, but would be long-term. Long-term impacts from noxious weed infestations could occur from maintenance of any of the action alternatives but would be negligible due to implementation of design features.

3.7.2.3 Cumulative Effects

Native vegetation communities have been permanently displaced by some roads and trails that comprise the transportation network. To a lesser extent, unauthorized OHV recreation has also resulted in a loss of vegetation communities. Conversion of some native vegetation to infestations of noxious weed and invasive species has also changed the species composition of some vegetation communities. Wildfire within the vegetation CIAA has also caused substantial changes to the composition and condition of the vegetation communities within the CIAA. For example, forested habitat has been not only modified, but in some areas has been entirely lost and converted to shrub and grass habitat following wildfire.

Existing utility lines have also changed the composition and structure of the vegetation communities within the ROW/easements of the utilities. Aerial imagery shows that forest communities have been permanently removed from the ROW/easements of existing transmission lines and pipelines. Vegetation communities within the ROW/easements where forest communities have been removed are now dominated by shrubs and grasses.

The construction or implementation of all of the present actions considered in this analysis may have introduced or contributed to the spread of noxious weeds and invasive species within the CIAA. Present actions that may continue to introduce or contribute to the spread of noxious weeds and invasive species within the CIAA include the maintenance of existing utility lines and roads, OHV recreation (whether authorized or not), and livestock grazing. Colonization of noxious weeds and invasive species within the CIAA often occurs in areas that have burned in wildfires.

Present resource management activities, such as prescribed burns and forest thinning projects such as such as the Dog Valley Fuels Reduction and Ecosystem Enhancement Project (13,056 acres), have impacted vegetation communities by changing the species composition and structure of vegetation cover. Forest plantations have also impacted vegetation communities from changes to the species composition and structure and have created variation in the maturity stages of forest communities. However, the objective of present resource management activities is generally to improve the health of vegetation communities.

reasonably foreseeable future Stonegate Master Plan Development would be expected to disturb some areas of native vegetation communities, although over 25 percent is proposed to be retained as open space. The buildings and impervious areas associated with this development (e.g., buildings, roads, parking lots, sidewalks, trails, etc.) would permanently impact vegetation cover.

Other reasonably foreseeable future actions in the CIAA that would have cumulative effects on vegetation include resource management activities such as Collie Stewardship Sale (11.4 acres) and personal use fuel wood cutting. An approximately 60.2-acre fuel wood cutting area is planned in the Mitchell Canyon area of the CIAA and 20 acres of fuel wood cutting annually is planned in the Dog Valley area. Reasonably foreseeable future resource management activities would generally improve the health of the vegetation communities in the CIAA, especially forested communities.

Under any action alternative, the proposed project would contribute to the loss or alteration of several hundred acres of vegetation, but losses would be minor and short-term, with the exception of trees, which would be long-term. These effects would decrease with time, as restored vegetation becomes established, with the exception of trees. To address noxious weeds and invasive species, design features would require that existing weed infestations be treated and require a number of measures to reduce the potential for infestations to spread. As a result, the proposed project would have minimal contribution to the spread of weeds, and the most likely cause of weed infestations would be other reasonably foreseeable actions other than resource management activities. With the effective implementation of design features and restoration, the cumulative impacts of any of the action alternatives to vegetation would be minor.

3.8 SPECIAL STATUS PLANTS

Special status plants are species that meet one or more of the following criteria:

- Federally-listed, proposed, or candidate for listing, as threatened or endangered;
- Designated as sensitive or species of concern by the USFS;
- Designated as sensitive by the BLM;
- Listed as threatened or endangered by the State of California or State of Nevada;
- Designated as rare by California Native Plant Society (CNPS) in its Inventory of Rare and Endangered Plants of California; and
- Listed as At-Risk with the NNHP.

3.8.1 Affected Environment

Table 3.8-1 presents the special status plants with the potential to occur in the project area. The determination of whether a species has the potential to occur was based on habitat preference (e.g., substrate type, vegetation community, and elevational range) and geographic distribution. Additional species dismissed from further review included those with special status designations in California that had an abundant distribution in Nevada.

Table 3.8-1 Potential Special Status Plants within the Analysis Area

SPECIAL STATUS PLANT	STATUS ¹	HABITAT	KNOWN DISTRIBUTION
Lemmon milkvetch (<i>Astragalus lemmonii</i>)	BS CA; CNPS 1B.2; NNHP	Seeps and wetlands within sagebrush scrub vegetation at elevations between 4,265 and 7,218 feet (CNPS 2012).	The nearest known location is Loyalton, California.
Upswept moonwort (<i>Botrychium ascendens</i>)	SS; CNPS 2.3; NNHP	Confined to riparian areas in open riparian meadow habitats between 4,700 and 9,000 feet. Generally found with mosses, grasses, sedges, rushes, and other riparian vegetation.	Sierra Nevada east slope; documented occurrence in the Hoover Wilderness.
Dainty moonwort (<i>Botrychium crenulatum</i>)	SS; CNPS 2.2; NNHP	Confined to riparian areas, in perennially wet or moist soils at elevations between 4,700 and 9,000 feet. Generally found in dense herbaceous vegetation with mosses, grasses, sedges, and rushes.	Sierra Nevada east slope.
Slender moonwort (<i>Botrychium lineare</i>)	SS; CNPS 1B.3	Confined to riparian areas, in perennially wet or moist soils within meadows, seeps and springs at elevations between 4,700 and 9,000 feet. Generally found with mosses, grasses, sedges, rushes, and other riparian vegetation.	Sierra Nevada east slope.
Altered andesite buckwheat (<i>Eriogonum robustum</i>)	SS; BS NV; NNHP	Andesitic soil on barren ridges, knolls and steep slopes. Substrate is dry, shallow, highly acidic (pH 3.3-5.5) gravelly clay soils mainly of the Smallcone Series, derived from weathering of hydrothermal sulfide deposits formed in andesite, or sometimes in rhyolitic or granitic rocks (Morefield 2001).	Virginia Range in Storey and Washoe counties and the Carson Range of the Sierra Nevada foothills and Peavine Peak, both areas in Washoe County, Nevada.
Sierra Valley ivesia (<i>Ivesia aperta</i> var. <i>aperta</i>)	SS; BS CA; BS NV; CNPS 1B.2; NVT	Vernally saturated meadows and ephemeral channels. In Nevada, the populations are restricted to shallow, slow draining soils which are volcanic in origin. These sites may be located in Great Basin scrub, lower montane forests, pinyon-juniper woodlands and vernal pools.	The majority of known populations occur in the vicinity of Sierra Valley. Nearest known population occurs on the northeast flank of Peavine Peak, Washoe County, Nevada (Witham 2000).
Dog Valley ivesia (<i>Ivesia aperta</i> var. <i>canina</i>)	SS; BS NV; CNPS 1B.1	Endemic to Dog Valley on vernal saturated sites such as meadow flats, ephemeral channels, and abandoned irrigation ditches. Soils typically have a surface layer that is sandy loam and slightly acidic. Subsoils are a clay loam derived from weathered to slightly fractured andesitic rock.	Previously known occurrences were restricted to Dog Valley, Sierra County, California. In 2011, the USFS found the first population known to occur in Nevada on the western flank of Peavine Peak, Washoe County, Nevada.

SPECIAL STATUS PLANT	STATUS ¹	HABITAT	KNOWN DISTRIBUTION
Webber ivesia (<i>Ivesia webberi</i>)	BS CA; BS NV; T and CH	Restricted to shallow, clayey soils with a rocky pavement like surface on mid-elevation (4,000 to 5,950) flats, benches or terraces. Occupied sites are sparsely vegetated; associated species include low sage and squirreltail (USFS 2010a; Witham 2000).	Douglas and Washoe counties, Nevada.
Jaw-leaf lupine (<i>Lupinus malacophyllus</i>)	SI	Occurs in colonies on dry, rocky hills and sandy or gravelly flats near Verdi, Nevada, at elevations between 4,590 and 5,650 feet. Associated species include big sagebrush, <i>Eriogonum</i> sp., and Indian paintbrush.	Endemic to west central Nevada, Washoe, Carson, Lyon, and Douglas counties.
Shevock bristle-moss (<i>Orthotrichum shevockii</i>)	SS; BS NV; CNPS 1B.3	Found on underhangs or crevices of granitic rock within pinyon–juniper to Jeffrey Pine forests. It grows in filtered light (Lewinsky-Haapasaari and Norris 1998).	Sierra Nevada east slope and the western edge of the Carson Range.
Altered andesite popcorn flower (<i>Plagiobothrys glomeratus</i>)	SS; BS NV	Restricted to altered andesite soil between 4,860 and 6,650 feet (Tiehm 2000). The distribution closely matches that of <i>Eriogonum robustum</i> , altered andesite buckwheat.	Endemic to western Nevada, known from the Virginia Range in Storey and Washoe counties; Carson Range of the Sierra Nevada foothills; and Peavine Peak in Washoe County.

¹ Status designations:

- SS – Forest Service Sensitive in Region 4
- SI – USFS Species of Interest in Region 4
- T – USFWS Endangered Species Act of 1973 (ESA) Threatened
- CH – USFWS ESA Critical Habitat
- BS CA – Bureau of Land Management Sensitive in California
- BS NV – Bureau of Land Management Sensitive in Nevada
- NVT – listed by the state of Nevada as Threatened
- NNHP – designated by the NNHP as At-Risk
- CNPS (California Native Plant Society) designations:

- 1B Plants rare, threatened or endangered in California and elsewhere.
 - 2 Plants rare, threatened or endangered in California, but more common elsewhere.
 - 3 Plants for which more information is needed – a review list.
 - 4 Plants of limited distribution – a watch list.
- .1 Seriously endangered in California.
 - .2 Fairly endangered in California.
 - .3 Not very endangered in California.

3.8.1.1 Potential Habitat

Field surveys for special status species were conducted within the ROW, the variable-width corridor, and road widening corridors for each action alternative. Special status plant populations were not found in association with any of the action alternatives. (Special status plants were found along the Stateline Alternative, which was eliminated as a viable alternative.)

Field surveys confirmed the presence of potential habitat for a number of special status plants. GIS and interpretation of aerial photo imagery were also used to identify potential habitat. Methods to identify potential habitat specific to each special status species are described in *Specialist Report: Special Status Plants Bordertown to California 120 kV Transmission Line Project* (USFS 2016b). Acres of potential habitat for special status plants are presented in **Tables 3.8-2** and **3.8-3**. Potential habitat is presented for NFS land and private land in order to track the amount of potential habitat that would be protected by design features, which are not always applicable on private land. No potential habitat for special status plants occur on BLM-administered public land.

Table 3.8-2 Potential Habitat within Variable-Width Corridor

SPECIAL STATUS SPECIES	MITCHELL (ACRES)		PEAVINE (ACRES)		POEVILLE (ACRES)		PEAVINE/POEVILLE (ACRES)	
	USFS	PRIVATE	USFS	PRIVATE	USFS	PRIVATE	USFS	PRIVATE
Upswept, Dainty, and Slender moonwort	1.8	0.3	1.7	0.3	0.8	0	1.8	0
Altered andesite buckwheat	0	0	0	0	0	0.7	0	0.5
Altered andesite popcorn flower	0	0	0	0	0	0.7	0	0.5
Sierra Valley ivesia	<0.1	<0.1	<0.1	<0.1	0	0	<0.1	<0.1
Dog Valley ivesia	1.9	8.9	1.9	8.9	0	0	1.9	8.9
Dog Valley ivesia All area within 1,640 feet of a known population (Occupied habitat)	0	0	35.5	0	0	0	35.5	0
Webber ivesia	1.9	12.6	1.9	12.6	0	1.1	2.0	12.6
Webber ivesia USFWS Critical Habitat (Occupied habitat)	0	0	0	0	0	0	0	0
Jaw-leaf lupine	42.9	309.4	203.0	319.3	148.9	383.8	0	350.3
Shevock bristle-moss	0	0	0	0	0	0	0	0
Lemmon milkvetch	4.51	0	0.6	0	1.2	0.4	1.1	0.4

Note: Potential habitat is not occupied unless otherwise noted

Table 3.8-3 Potential Habitat within Road-Widening Corridor

SPECIAL STATUS SPECIES	MITCHELL (ACRES)		PEAVINE (ACRES)		POEVILLE (ACRES)		PEAVINE/POEVILLE (ACRES)	
	USFS	PRIVATE	USFS	PRIVATE	USFS	PRIVATE	USFS	PRIVATE
Moonwort	0	0.2	0	0.2	0	0	0	0
Altered andesite buckwheat	0	0	0	0	0	0.6	0	0
Altered andesite popcorn flower	0	0	0	0	0	0.6	0	0
Sierra Valley ivesia	0	<0.1	0	<0.1	0	0	0	0
Dog Valley ivesia	0.1	0.2	0.1	0.2	0	0	0.1	0.2
Dog Valley ivesia All area within 1,640 feet of a known population (Occupied habitat)	0	0	0	0	0	0	0	0
Webber ivesia	0	0.6	0.1	0.6	0	0.6	0.1	0.6
Webber ivesia USFWS Critical Habitat (Occupied habitat)	0	0	0	0	0	0	0	0
Jaw-leaf lupine	0.4	7.5	0.4	7.6	0	0.7	0	6.8
Shevock bristle-moss	0	0	0	0	0	0	0	0
Lemmon milkvetch	0	<0.1	0	<0.1	0	<0.1	0	<0.1

Note: Potential habitat is not occupied unless otherwise noted; acreage does not include area inside the variable-width corridor which is disclosed in **Table 3.8-2**.

Dog Valley ivesia is the only species for which occupied habitat is known within the analysis area. Occupied habitat for Dog Valley ivesia is the area within 500 meters (1,640 feet) of a known population of Dog Valley ivesia. The use of a 500-meter buffer was based on a recent literature review conducted by BLM regarding the use of buffers to protect native pollinators of rare plants (Winder 2012).

3.8.1.2 Species Accounts

No potential habitat for the Shevock bristle-moss was identified within the variable-width or the road widening corridors, and therefore, a species account is not provided for this species.

Upswept, Dainty, and Slender Moonwort

Moonwort ferns have a unique lifecycle compared to other ferns or flowering plants. Moonwort ferns produce spores, which germinate underground. The plants then grow and reproduce below ground and for several years no portion of the plant may be visible above ground (Johnson-Groh et al. 2002; Johnson-Groh and Lee 2002). The above ground portion of all moonwort ferns consists of a single stem. Field surveys confirmed the presence of potential habitat within the analysis area which are areas that are perennially wet or moist. Potential habitat supports riparian vegetation such as aspen or willow communities that have understory of wetland graminoids, mosses, and wetland forbs.

Altered Andesite Buckwheat and Altered Andesite Popcorn Flower

Altered andesite buckwheat is a perennial mat forming plant. The altered andesite popcorn flower is a small upright annual and population numbers fluctuate year to year depending on the amount of precipitation. Both plants are endemic to Nevada and are not known to occur within California. Altered andesite buckwheat is restricted to hydrothermally-altered habitat patches, which occur in a band along and east of the eastern Sierra Nevada. Typical habitat sites are located on barren ridges, knolls, and steep slopes in dry, shallow, acidic (pH 3.3 to 5.5) soils. The popcorn flower grows in similar habitat, though it is slightly less restricted. The nearest known locations of altered andesite buckwheat and altered andesite popcorn flower are located on private land just outside the project area on the southeast flank of Peavine Peak about 1.0 to 1.5 miles to the southeast of the Poeville Alternative at an elevation of approximately 5,500 feet AMSL. Very limited potential habitat for both species was identified.

Sierra Valley Ivesia

Sierra Valley ivesia is a perennial herb in the rose family. Sierra Valley ivesia grows on shallow, vernaly saturated, slowly draining, sandy to rocky clay soils derived from mostly andesitic volcanic rock or alluvium. Habitat is found on benches and flats in meadows, seeps, and intermittent drainages in the yellow-pine, mountain sagebrush, and mountain mahogany zones. The elevation range of the species is 6,460 to 7,300 feet AMSL in Nevada and 4,855 to 7,545 feet AMSL in California (CNPS 2012; Morefield 2001). Sierra Valley ivesia is known to occur in Lassen, Plumas, and Sierra counties in California, and Storey and Washoe counties in Nevada. The nearest known population is within the project area, on the northwest flank of Peavine Peak, approximately 1.0 mile east of the Peavine Alternative and 3.0 miles west of the Poeville Alternative. The Ball Ranch populations in Sierra County, California, are also nearby, approximately 4.0 miles west of the Bordertown Substation.

Dog Valley Ivesia

Dog Valley ivesia is a perennial herb and can be distinguished from the Sierra Valley ivesia by its more decumbent stems, larger flowers, and larger petals. Prior to 2011, the nearest known location of Dog Valley ivesia was within Dog Valley approximately 0.25 mile west of the Mitchell Alternative. Within Dog Valley, it is located on alluvial fans associated with the main meadow in Dog Valley and on lower, open slopes in the eastside pine and Jeffrey pine vegetation communities (USFS 2010a). In 2011, botanical surveys conducted by the USFS identified a one-acre population approximately 6.5 miles south of the Bordertown Substation. This population is the only known population in Nevada. For the purpose of this analysis, all areas within 500 meters of any population on NFS land is considered occupied habitat. The use of a 500-meter buffer is based on studies that have determined this is an adequate distance to protect pollinators of rare plants (Winder 2012). Protecting pollinators is an important component in sustaining rare plant populations. The variable-width corridor of the Peavine and Peavine/Poeville alternatives overlap a portion (35.5 acres) of the 500-meter buffer, but do not overlap the area where plants currently exist. Road widening corridors do not overlap the population's 500-meter buffer. Field surveys confirmed potential habitat associated with meadows along the northern portion of the Mitchell Alternative, which has the same alignment as the Peavine and Peavine/Poeville alternatives in that area.

Webber Ivesia

Webber ivesia is a threatened species protected under the federal ESA. Webber ivesia was listed in June 2014 (Federal Register 79:106 pp 31878-31883) and the final rule also included the designation of critical habitat, which is also protected by the ESA. Designated critical habitat occurs within the project area, but not within the variable-width corridor of any action alternative (Federal Register 79:106 pp 32150). In the state of Nevada, Webber ivesia is considered Critically Endangered and is protected by NRS 527.260-527.300.

The habitat for Webber ivesia is restricted to shallow, clayey soils with a rocky pavement-like surface derived from andesitic rock types. Habitat is dominated by low sagebrush (Witham 2000). There are 15 known populations of Webber ivesia in California and Nevada. Ten locations occur across Lassen, Plumas, and Sierra counties, California; four locations are situated to the north and southwest of Reno, Nevada; and one population is in Douglas County, Nevada. The elevation range of known populations is from 3,400 to 6,700 feet AMSL. Botanical surveys conducted by the USFS and JBR in 2011 and 2013 identified five populations approximately 2.7 to 5.5 miles south of the Bordertown Substation on the Nevada side of the state line but none were found associated with the action alternatives. For the purpose of this analysis, all area within 500 meters of any population on NFS land is considered occupied habitat. There is no occupied or designated critical habitat for Webber ivesia within the variable-width corridor or road widening corridors of the action alternatives.

Jaw-leaf Lupine

Jaw-leaf lupine is an annual herb in the pea family, which grows up to several erect stems and has an abundance of pale purple/white, relatively large flowers (Cronquist et al. 1989). The entire plant is soft and hairy. Jaw-leaf lupine often colonizes openings within mixed conifer and sagebrush communities on sandy and/or gravelly flats and foothill slopes at elevations between 4,590 and 5,650 feet AMSL. Like other annual plants, bloom periods are influenced by precipitation. Jaw-leaf lupine has been reported on Peavine Peak within the habitat and elevation range mentioned above (Williams et al. 1992). Jaw-leaf lupine has also been reported outside of the project area near Verdi, Nevada.

Lemmon Milkvetch

Lemmon milkvetch is a slender, prostrate, or loosely matted perennial herb in the pea family. This milkvetch occurs in seeps and wetlands within sagebrush scrub vegetation at elevations between 4,265 and 7,218 feet AMSL (CNPS 2012). The nearest known location of this species is in Loyalton, California over 25 miles north of the analysis area. Lemmon milkvetch does not occur within the project area.

3.8.2 Environmental Consequences

3.8.2.1 Methods of Analysis

The specific indicator used to evaluate effects to special status plants is:

- Impact to special status plant populations (i.e., individuals or group of individuals).

3.8.2.2 No Action Alternative

Under the No Action Alternative, construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur; therefore there would be no impacts to special status plant populations or habitat.

3.8.2.3 Effects Common to All Action Alternatives

Construction

Plant Populations

Potential impacts to special status plant populations (i.e., individual plant or group of plants) include crushing foliage and root systems and uprooting plants during ground disturbing activities. Although no plant populations were found during field surveys, certain special status plants may occur in habitats that have been previously surveyed. Jaw-leaf lupine and altered andesite popcorn flower are spring annuals which are affected by seasonal fluctuation in precipitation and may not appear under dry conditions. Upswept, dainty, and slender moonwort can be difficult to detect as the ferns complete much of their life cycle below the ground, and above ground plant structures are not produced every year.

Design Features to Avoid or Minimize Impacts to Special Status Plant Populations

Design features have been developed to protect special status plant populations (and individual plants) (**Appendix B**). The implementation of design features SV 2, SV 4 through SV 8, and HE 11 would ensure that direct effects to special status plant populations are avoided under any action alternative. Design features SV 7 and SV 8 provide increased protection to Webber ivesia populations that occur on NFS land by prohibiting ground disturbance within 500 meters (1,640 feet) of the population. Design feature SV 1 would ensure that if a previously unknown population is found during construction, work would be halted and appropriate avoidance buffer and other necessary protective measures would be established.

To protect populations of jaw-leaf lupine, altered andesite popcorn flower, and moonwort ferns that were not found during surveys, but may be present in the analysis area, implementation of design feature SV 2 would ensure that field surveys are conducted in potential habitat once an alternative is selected and access roads and pole locations are known. If any of the special status plants are found, SV 5 and SV 6 require that all project related ground disturbance would avoid special status plant populations.

Construction of any action alternative would have no impacts to special status plant populations. None of the action alternatives would have impacts to occupied habitat for Webber ivesia.

Potential Habitat

Disturbance that alters habitat conditions may affect the ability of the habitat to be colonized by special status plants in the future. As described in **Section 3.7 Vegetation**, most of the impacts to potential habitat for special status plants would result from intentional vegetation removal during construction.

The ability of special status plants to colonize potential habitat that has been disturbed is unknown. The successful restoration of potential habitat depends on a number of factors including each disturbed site's localized environmental conditions and ability to exclude weed infestations. The disturbance to potential habitat that is currently unoccupied would have no change to the population size or distribution of currently known special status plants. There would be no effects to special status plant populations.

Operation and Maintenance

During the operation and maintenance phase of the project, new special status plant surveys would be conducted prior to any new disturbance within potential habitat. As during the construction phase, all disturbances would be restored. Design features that protect populations during the construction phase of the project would continue to be implemented during the operation and maintenance phase.

3.8.2.4 Mitchell Alternative

Although potential habitat for six special status plants occur within the analysis area of the Mitchell Alternative (**Tables 3.8-2 and 3.8-3**), no special status plants have not been found during special status plant surveys. Implementation of the Mitchell Alternative would not have impacts to special status plant populations.

3.8.2.5 Peavine Alternative

Potential habitat for six special status plants occur within the analysis area of the Peavine Alternative (**Tables 3.8-2 and 3.8-3**). However, special status plants have not been found during field surveys. The variable-width corridor of the Peavine Alternative contains 35.5 acres of the avoidance buffer area of the Dog Valley ivesia. The avoidance buffer area is the area within 1,640 feet (i.e., 500 meter) of a known population of Dog Valley ivesia where activities that have direct impacts to Dog Valley ivesia are prohibited by design features.

3.8.2.6 Poeville Alternative

Although potential habitat for six special status plants occur within the analysis area of the Poeville Alternative (**Tables 3.8-2 and 3.8-3**), special status plants have not been found during field surveys. Implementation of the Poeville Alternative would not have impacts to special status plant populations.

3.8.2.7 Peavine/Poeville Alternative

Potential habitat for eight special status plants occur within the analysis area of the Peavine/Poeville Alternative (**Tables 3.8-2 and 3.8-3**). However, special status plants have not been found during field surveys. The variable-width corridor of the Peavine/Poeville Alternative contains 35.5 acres of the avoidance buffer area of the Dog Valley ivesia. The avoidance buffer area is the area within 1,640 feet (i.e., 500 meter) of a known population of Dog Valley ivesia where activities that have direct impacts to Dog Valley ivesia are prohibited by design features.

3.8.2.8 Cumulative Effects

The cumulative effects from any of the action alternatives would be negligible because impacts to special status plant populations from the project would only be short-term and indirect.

3.9 WILDLIFE

This section provides a discussion of terrestrial and aquatic biological resources in the project area and surrounding areas. The analysis area for wildlife resources consists of the variable-width corridor and road widening corridor for the action alternatives. Special status wildlife species are discussed in **Section 3.10**.

3.9.1 Regulatory Framework

3.9.1.1 Humboldt-Toiyabe National Forest

The USFS manages land for habitat and wildlife as well as for other resource values. One of the primary ways this is accomplished is through Management Indicator Species (MIS). MIS are identified in the Forest Plan (USFS 1986) as representing a group of species having similar habitat requirements. Essentially, these species are analogs for all other species that might occur within a given habitat. Managing for these species allows the USFS to preserve a diversity of habitats for more common wildlife. USFS biologists are required to periodically monitor species to ensure management directions are sustaining these habitats and species.

The Sierra Nevada Forest Plan Amendment (SNFPA) amended the Forest Plan in 2001 and again in 2004 (USFS 2004). The SNFPA is designed to facilitate a regionally-consistent management of old forest ecosystem resources across USFS management boundaries and as such is called "framework" (e.g., Sierra Nevada Framework). The SNFPA also includes standards and guidelines related to other sensitive resources such as aquatic, meadow, and riparian ecosystems. The goals of the plan as they relate to wildlife resources include:

- Improve quantity and quality of useable habitat available for SNFPA species by increasing density of large trees, increasing structural diversity of vegetation, and improving the continuity and distribution of old forests across the landscape; and
- Protect and restore desired conditions of aquatic, riparian, and meadow ecosystems in Sierra Nevada national forests.

3.9.1.2 Bureau of Land Management Eagle Lake Field Office

The BLM manages habitat for wildlife outlined in the Eagle Lake RMP (BLM 2008b) through a variety of mechanisms. Under the authority of the Federal Land Policy and Management Act of 1976, public land must be managed to protect environmental quality and ecological relationships, and where appropriate, to preserve and protect their natural condition. Additionally, the BLM has signed Memorandums of Understandings with the California Department of Fish and Wildlife (CDFW) and Nevada Department of Wildlife (NDOW), where wildlife and wildlife habitat are managed in cooperation with either of these state agencies. Overall the goals for management of habitat for wildlife are to administer public land in a manner that promotes the recovery, restoration, maintenance, or enhancement of endemic wildlife populations.

3.9.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) (16 USC 703-712) is administered by the USFWS and is the cornerstone of migratory bird conservation and protection in the United States. The MBTA provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird" (16 USC 703). However, the

MBTA does not regulate habitat. The list of species protected by the MBTA was revised in March 2010, and includes almost all bird species (1,007 species) that are native to the United States.

3.9.2 Affected Environment

The following presents the habitats available to wildlife within the project area and the species that may or do occur within them.

3.9.2.1 Existing Setting

Wildlife Habitat

For wildlife, vegetation communities are aggregated into general habitat classifications. Available habitat (as defined by vegetation community) on the NFS land, BLM-administered public land, and private land within the variable-width corridor of each action alternative has been previously presented in **Table 3.7-1**.

Bitterbrush-sagebrush habitat is the most widely available habitat within the variable-width corridor for each action alternative. Other prevalent habitats within the variable-width corridor of action alternatives include forest (i.e., eastside pine), chaparral (with mixed scrub), and annual grasses. Aspen and riparian communities comprise less than one percent of the available habitat within the variable-width corridor of any action alternative. Both the Poeville and Peavine/Poeville alternatives have substantial non-native annual grasslands present within the variable-width corridor at 33 percent and 24 percent, respectively. Annual grasses consist primarily of cheatgrass and other non-native species, which are, in part, a reflection of past wildfires, particularly on the south facing slopes of Peavine Peak.

Management Indicator Species

The MIS that occur or are likely to occur within the project area are listed below. A detailed breakdown of the available habitat for each of the MIS is provided in **Table 3.9-3**. Five MIS species are described below. Three of the MIS, northern goshawk, yellow warbler, and Lahontan cutthroat trout (LCT) are described and addressed in **Section 3.10** as special status species.

- Northern goshawk;
- Lahontan cutthroat trout;
- Yellow warbler;
- Yellow-rumped warbler;
- Hairy woodpecker;
- Williamson's sapsucker;
- American marten;
- Mule deer; and
- Macroinvertebrates.

Yellow-Rumped Warbler

Yellow-rumped warblers are considered highly adaptable and can be found in a variety of habitats including coniferous forests, mixed woodlands, deciduous forests, pine plantations, and aspens (Floyd et al. 2007). According to U.S. Geological Survey Breeding Bird Survey information (Sauer et al. 2014), population trends of yellow-rumped warblers in the Sierra Nevada have been stable or declined in some areas between 1966 and 2013 and in Nevada, shows a similar trend, depending on regions. Within the project area, yellow-rumped warblers would likely be found in the mixed conifers stands. Yellow-rumped warblers were detected by the USFS during migratory bird surveys (USFS 2011c) and were noted along the Poeville Alternative in 2012.

Hairy Woodpecker

Hairy woodpeckers are widespread throughout North America and within the general project area, and are associated with deciduous and coniferous woodlands (Jackson et al. 2002). Hairy woodpeckers nest in trees with a minimum diameter of 10 inches and minimum height of 15 feet (Sousa 1987). Across their range, tree diameter of was the characteristic most used to indicate nest use. Within the project area, suitable habitat for this species includes portions of the aspen vegetation community and other areas where large-diameter trees occur. USFS migratory bird surveys in Dog Valley, west of the project area, detected hairy woodpeckers (USFS 2011d).

Williamson's Sapsucker

Williamson's sapsuckers are an uncommon species found along the length of the Sierra Nevada where they are considered a year-round resident (Gyug et al. 2012). The species breeds at middle to high elevations, generally from 4,900 to 10,500 feet AMSL in montane mixed deciduous-coniferous forest with aspen as an important nesting substrate (Gyug et al. 2012). Nests are located in fairly large snags (1 to 2.5 feet in diameter) (GBBO 2010), and the availability of trees with heartwood rot is a critical component of breeding habitat (Gyug et al. 2012). The U.S. Geological Survey Breeding Bird survey (Sauer et al. 2014) reports populations in the Sierra Nevada have been stable from 1966 to 2013. Aspen communities, particularly where they occur in proximity to forest communities, provide potential habitat for this species within the project area. Migratory bird surveys conducted in Dog Valley resulted in no detections of Williamson's sapsuckers; however, these birds have been detected nesting in the Carson Range (Floyd et al. 2007), which is southwest of the project area.

American Marten

American marten are uncommon species found within habitats of late-seral stage forests that are comprised of large live and dead trees, with coarse woody debris and a relatively low and closed canopy. These habitats provide cover for marten as well as habitat for their prey that include squirrels, voles, chipmunks, and wood rats. They also eat fruits and berries, particularly mountain ash (Harris et al. 1997; Jameson and Peeters 1988). The project area provides no habitat for marten. Marten occur west (California Natural Diversity Database 2013) and south of the project area in suitable habitat. Previous USFS surveys in the general area have resulted in no detections of marten (Easton 2013). Because habitat does not occur for American marten, they are not discussed further in this document.

Mule Deer

The majority of the deer that occupy the project area are part of the Verdi sub-herd, which is a sub-group of the larger Loyalton-Truckee Interstate herd. The Loyalton-Truckee Interstate herd is broadly distributed from the east side of Donner Summit, north to Sierra Valley, northeast to the Peterson Range in Nevada, south to Glenshire, California, and east to the western edge of Reno, including Peavine Peak.

A status report produced for the 2014-2015 season indicated the herd was stable and appeared healthy, although the long-term trend in abundance is downward, mostly due to habitat loss and fragmentation (NDOW 2015). The Verdi sub-herd has endured substantial declines largely due to loss of habitat from urban development, wildfires, increased recreation (NDOW 2015), and direct mortality due to collisions with vehicles.

Habitat for mule deer is commonly characterized by areas of thick brush or trees interspersed with openings. Mule deer prefer browsing on new growth of shrubs, forbs, and some grasses. Fawning occurs in moderately dense shrubland and forest, dense herbaceous vegetation, and high-elevation riparian and mountain shrub habitats with available water and forage. Fawn production is closely tied to the abundance of succulent, green forage during spring and summer months.

Mule deer often migrate from lower to higher elevations in spring and summer where water and forage are more available. Migration between seasonal ranges generally occurs along well-established routes (Innes 2013). Seasonal range habitats are broadly defined using the following parameters:

- **Winter** – A mosaic of palatable brush such as bitterbrush, desert peach, and sagebrush, which provides shelter and forage that is free of snow, commonly found at lower elevations;
- **Transitional** – Similar habitat as winter range but is used between summer and winter. These habitats should support sufficient browse and cover such as bitterbrush, sagebrush, and mountain mahogany, or available forbs, commonly found in middle elevations. These habitats are used in mild winters as well;
- **Summer and Fawning** – These habitats are commonly at higher elevations. Fawning habitat generally consists of aspen stands, riparian, or montane chaparral, where succulent browse is available. Cover both for thermal regulation and seclusion of does and fawns is particularly important; and
- **Migratory Corridors** – These are traditional areas where mule deer move between seasonal habitats.

Winter habitat is particularly important to mule deer because these lower elevation brush stands are often snow free and readily accessible for browsing and cover. During winters when significant snowfall occurs at higher elevations, this habitat becomes even more critical. The entire project area supports some type of seasonal range habitat, whether it is transitional, summer and fawning, or winter. The most abundant habitat available to mule deer within the project area is bitterbrush-sagebrush which provides winter, summer, and transitional habitat. Additionally, the Truckee River, bounded by Interstate 80, is considered a critical migratory corridor for the Loyalton-

Truckee Interstate herd as deer move between California and Nevada during the winter and late spring seasons.

The CDFW and NDOW have mapped and refined the seasonal habitats in the management of the Loyalton-Truckee herd as:

- **Summer Use** – That part of the overall range where 90 percent of the individuals are located between spring green-up and the first heavy snowfall;
- **Crucial Winter Use** – Areas within the winter range where 90 percent of the individuals are located when annual snow pack is at its maximum and/or temperatures are at a minimum in the two worst winters out of 10;
- **Winter-Spring High Use** – That part of the winter range where densities are at least 200 percent greater than the surrounding winter range density during the same period used to define winter range in the average five winters out of 10; and
- **Year-Round Use** – An area that provides year-round range for a population of mule deer. The resident mule deer use all of the area all year; it cannot be subdivided into seasonal ranges although it may be included within the overall range of the larger population.

The project area contains seasonal habitat, including crucial winter range habitat that is particularly important for mule deer. The USFS has set aside the Mitchell Canyon Deer Management Area (**Figure 3.9-1**), which includes 2,000 acres for mule deer winter range. The management area is located within the project area, including within areas of the variable-width corridor of the Mitchell and Peavine alternatives. Seasonal closure for motorized vehicles occurs during winter months (November 18 through April 1) to protect deer from disturbance during this period. The Mitchell Canyon Deer Management Area and important habitat areas delineated by the CDFW and NDOW are displayed on **Figure 3.9-1**.

The CDFW and NDOW have radio-collared numerous mule deer from the Loyalton-Truckee herd to study their seasonal movements (data from 2006 through 2012). Based on these studies, mule deer use of the project area is substantially greater within private property adjacent to the Reno urban interface (**Figure 3.9-1**).

Table 3.9-1 summarizes the area of mapped mule deer habitat within the variable-width corridor of each action alternative. Areas that are mapped as Winter-Spring High Use also represent Crucial Winter Use, but are currently utilized more heavily than other Crucial Winter Use areas, as documented by the presence of radio-collared deer.

The NDOW big game status reports for the past several years (NDOW 2011, 2012b, 2013a, 2014, 2015) indicate habitat loss particularly from urban/suburban development, wildfires, and displacement from recreation as critical issues for the Loyalton-Truckee Interstate herd. The NDOW management objectives for the Loyalton-Truckee Interstate herd, which numbers around 1,500 individuals, are "no net loss", meaning any serious impediment to the seasonal movement of deer, substantial removal of crucial winter habitat, or activities that might prevent access to critical seasonal habitat could impact this subset of the Loyalton-Truckee Interstate herd (Cox 2012).

Table 3.9-1 Mule Deer Seasonal Use Habitat within the Variable-Width Corridor

HABITAT	MITCHELL		PEAVINE		POEVILLE		PEAVINE/POEVILLE	
	PUBLIC LAND ¹	PRIVATE LAND	PUBLIC LAND ¹	PRIVATE LAND	PUBLIC LAND ¹	PRIVATE LAND	PUBLIC LAND ¹	PRIVATE LAND
Winter-Spring High Use	0	0	0	0	27.6	415.9	13.2	190.6
Winter-Spring Mule Deer Concentration Areas	0	0	0	0	0	39.7	0	39.7
Crucial Winter Use	152.8	17.5	165.1	21.6	1.33	21.8	0.7	21.8
Summer Use	315.6	12.6	63.4	11.7	13.8	11.7	63.1	11.7
Year-Round Use	149.7	128.9	296	128.6	73.9	147.1	250.3	129.0
Total	618.1	159	524.5	161.9	116.6	636.2	327.3	392.8

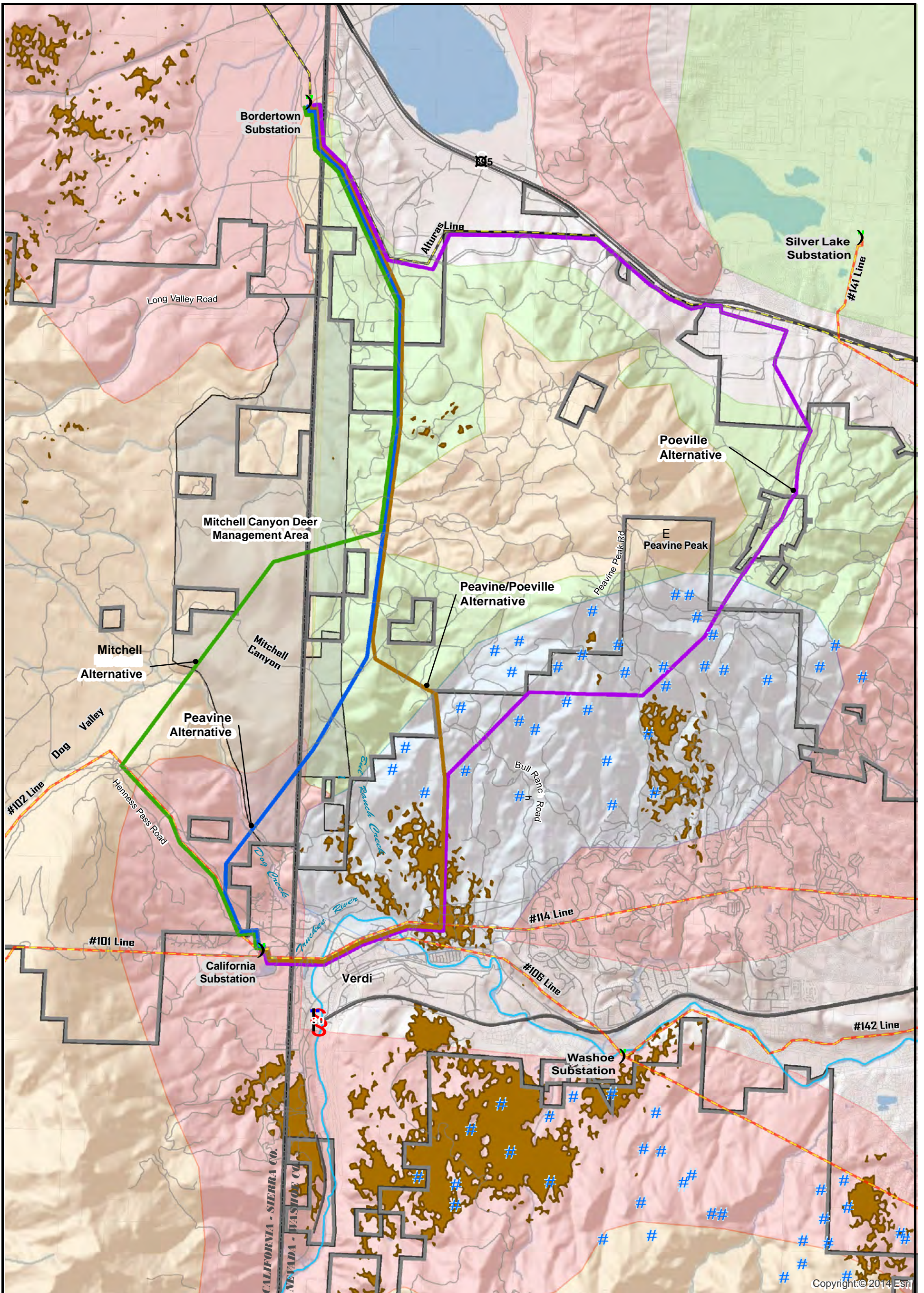
¹ Includes 13.8 acres of Summer Use and 1.3 acres of Crucial Winter Use on BLM-administered land at the Bordertown Substation

Macroinvertebrates

Freshwater benthic macroinvertebrates (benthos) are animals without backbones that are larger than 0.5 millimeter (the size of a pencil dot). These animals live on rocks, logs, sediment, debris, and aquatic plants during some period in their life. The benthos include crustaceans such as crayfish, clams and snails, aquatic worms and the immature forms of aquatic insects such as stonefly, caddisfly, and mayfly nymphs. Macroinvertebrates are an important part of the food chain, especially for fish. Many benthos feed on algae and bacteria, which are on the lower end of the food chain. Some shred and eat leaves and other organic matter that enters the water. Because of their abundance and position in the aquatic food chain, macroinvertebrates play a critical role in the natural flow of energy and nutrients. As macroinvertebrates die, they decay, leaving behind nutrients that are reused by aquatic plants and other animals in the food chain. Macroinvertebrates are present in the Truckee River (Tetra Tech 2007) and are likely present within the other perennial streams found in the project area.

Common Wildlife

A variety of common wildlife species occur within the project area because of the diversity of habitat types that are available. Species presented below either have been documented, are assumed to occur within the project area (NDOW 2012a), or could occur as ascertained using the California Wildlife Habitat Relationship System tool (CDFW 2005a).



<p>Transmission Line Alternatives</p> <ul style="list-style-type: none"> — Mitchell — Peavine — Poeville — Peavine/Poeville <p>Existing Transmission Lines</p> <ul style="list-style-type: none"> — 120 kV Transmission Line — 345 kV Transmission Line — Existing Roads J.S. Forest Service 	<p>Wildlife Data</p> <ul style="list-style-type: none"> # Winter Mule Deer Observation Locations (NDOW and CDFW-2010 & 2012 winter surveys) ■ Winter - Spring Mule Deer Concentration Areas (NDOW and CDFW-2006 to 2011 aggregate deer collar data) Mitchell Canyon Deer Management Area <p>Mapped Habitat</p> <ul style="list-style-type: none"> ■ Mule Deer Winter Spring High Use (Peavine) (NDOW and CDFW) ■ 2014 Mule Deer Crucial Winter (NDOW and CDFW) ■ 2014 Mule Deer Year Round (NDOW and CDFW) ■ 2014 Mule Deer Summer Use (NDOW and CDFW) 	<p>FIGURE 3.9-1 MULE DEER HABITAT</p> <p>BORDERTOWN TO CALIFORNIA 120 kV TRANSMISSION LINE EIS</p> <div style="text-align: right;"> <p>0 0.5 1 2 Miles</p> <p>1" = 1 Mile</p> </div>
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Mammals

Mammalian species, in addition to mule deer, that commonly occur within the bitterbrush-sagebrush and chaparral habitats are badger, bobcat, mountain lion, coyote, and various rodents including California ground squirrel, pocket mice, chipmunks, jackrabbit, cottontail, and yellow-bellied marmot. Within forest and aspen communities (i.e., habitats) black bear, yellow-pine chipmunk, raccoon, striped skunk, meadow jumping mouse, and deer mice occur. Within or adjacent to the Truckee River, North American river otter and weasel are expected to occur.

Birds

The project area is within the Pacific Flyway for migratory birds and within the contact between Great Basin and Sierra Nevada ecosystems. The area supports seasonal habitats for hundreds of birds. Depending on the season, the assemblages of birds occupying the project area would differ; some occurring only in the breeding season, while others utilizing the habitats for seasonal movements or occurring as incidentals. Over a number of years, the USFS has conducted surveys for migratory birds within Dog Valley. The USFS recorded 38 species of birds, representing breeding birds within the sampled habitats (e.g., meadow, forest) (USFS 2011d).

Aspen habitat is favored by a variety of cavity-nesting birds, such as bluebirds, sapsuckers, downy woodpeckers, nuthatches, and chickadees. Species of birds that may occur within the brush and conifer habitat of the project area include: house finch, Bewick's wren, rock wren, Cassin's finch, California quail, horned lark, meadow lark, spotted towhee, dark-eyed junco, northern flicker, Steller's jay, scrub jay, black-headed grosbeak, ruby-crowned kinglet, Brewer's blackbird, and pine siskin.

The Truckee River provides habitat for waterfowl and water dependent birds such as mallard duck, common merganser, wood duck, American dipper, belted kingfisher, heron and swallows.

A number of raptors maybe found within the available habitats. Raptors include red-tailed hawk, American kestrel, sharp-shinned hawk, Cooper's hawk, osprey, northern harrier, northern saw-whet owl, great-horned owl, long-eared owl, and western screech owl, among others.

Some of the birds that may or do occur within the project area are considered sensitive species or birds of conservation concern. Birds considered sensitive species by USFS or BLM are addressed in **Section 3.10**. Birds of conservation concern that may potentially occur within the project area are listed in **Table 3.9-2**.

Table 3.9-2 Migratory Birds of Conservation Concern in the Project Area

COMMON NAME	SCIENTIFIC NAME
Cinnamon Teal	<i>Anas cyanoptera</i>
Lesser Scaup	<i>Aythya affinis</i>
Sooty Grouse	<i>Dendragapus fuliginosus</i>
Snowy Egret	<i>Egretta thula</i>
Prairie Falcon	<i>Falco mexicanus</i>
Band-tailed Pigeon	<i>Patagioenas fasciata</i>

COMMON NAME	SCIENTIFIC NAME
Short-eared Owl	<i>Asio flammeus</i>
Common Poorwill	<i>Phalaenoptilus nuttallii</i>
Calliope Hummingbird	<i>Selasphorus calliope</i>
Rufous Hummingbird	<i>Selasphorus rufus</i>
Lewis's Woodpecker	<i>Melanerpes lewis</i>
Olive-sided Flycatcher	<i>Contopus cooperi</i>
Gray Flycatcher	<i>Empidonax wrightii</i>
Sage Thrasher	<i>Oreoscoptes montanus</i>
Virginia's Warbler	<i>Oreothlypis virginiae</i>
Hermit Warbler	<i>Setophaga occidentalis</i>
Green-tailed Towhee	<i>Pipilo chlorurus</i>
Brewer's Sparrow	<i>Spizella breweri</i>
Sagebrush Sparrow	<i>Artemisiospiza nevadensis</i>

Sources: GBBO 2010; USFWS 2008

Reptiles and Amphibians

The project area provides diverse brush habitat for reptiles and amphibians. Common species expected to occur are: Great Basin rattlesnake, western whipsnake, rubber boa, gopher snake, Sierra garter snake, western yellow-bellied racer, western fence lizard, long-nosed leopard lizard, zebra-tailed lizard, and horned lizards. Amphibians that may occur in riparian and wetland areas include western toad, Sierran tree (chorus) frog, and American bullfrog.

Aquatic Species

A range of fish species may occur in Dog Creek and/or the Truckee River. According to NDOW (2012a), brown trout, Lahontan redbreast, mountain sucker, mountain whitefish, Paiute sculpin, rainbow trout, speckled dace, and Tahoe sucker occur within the project area.

3.9.2.2 Mitchell Alternative

The Mitchell Alternative, as presented in **Table 3.7-1**, transects the greatest amount of forest and aspen habitats compared with the other action alternatives. Consequently, more species dependent on forested habitat would be likely to occur within its analysis area than the other alternatives. However, there would be less diversity of species dependent on riparian habitat because the Mitchell Alternative does not cross the Truckee River, unlike the Poeville and Peavine/Poeville alternatives. The Mitchell Alternative would cross Dog and Sunrise creeks, both of which provide minimal riparian habitat. Species associated with these habitats are presented above. As with all alternatives, the most dominant habitat type is bitterbrush-sagebrush. The MIS that may occur within the analysis area are yellow-rumped warbler, Williamson's sapsucker, hairy woodpecker, mule deer, and macroinvertebrates.

The analysis area of this alternative contains the most mapped mule deer summer habitat and the second most mapped crucial winter habitat of the alternatives (**Figure 3.9-1; Table 3.9-1**). Confidential data provided by NDOW from the collared deer seem to indicate that deer use these habitats as transitional rather than crucial winter as deer were not documented using the habitat as winter-spring high use. The collar data however, do not reflect deer that may occupy the analysis area year-round.

The analysis area has the least amount of fragmented habitat of any alternative, with approximately 79 percent of the area fragmented by roads or trails. The areas with the fewest roads or trails are within Mitchell Canyon and near Dog Creek.

3.9.2.3 Peavine Alternative

Habitats within the analysis area are similar to those of the Mitchell Alternative, but would be fewer because the alternative is shorter in length. The analysis area contains more bitterbrush-sagebrush and less conifer than the analysis area of the Mitchell Alternative. Because the Peavine and Mitchell alternatives coincide along much of their length, similar amounts of chaparral and mixed scrub occur within its analysis area as the Mitchell Alternative. Riparian and stream habitats are crossed at Dog and Sunrise creeks. Species that may occupy these habitats are presented above. The MIS that could occur within the analysis area are yellow-rumped warbler, Williamson's sapsucker, hairy woodpecker, mule deer, and macroinvertebrates.

The analysis area for the Peavine Alternative has the most mapped mule deer year-round use habitat (**Figure 3.9-1, Table 3.9-1**), along with significant crucial winter use habitat, but no data exists for how deer use these habitats. The analysis area does not appear to support winter-spring high use habitat, and habitat is therefore likely more transitional habitat.

The degree of habitat fragmentation within the analysis area and surrounding proximity varies. Less disturbed habitat occurs near Mitchell Canyon and Bull Ranch Creek, and southwest below Dog Creek. However, the habitat along approximately 85 percent of the Peavine Alternative is fragmented by numerous existing roads and trails (**Figure 3.9-1**). Despite this, the analysis area appears to contain less fragmented habitat from existing roads than either the Poeville or Peavine/Poeville alternatives.

3.9.2.4 Poeville Alternative

Habitat within the analysis area of the Poeville Alternative is diverse and includes all of the habitats described in **Table 3.7-1**. The analysis area contains the least amount of forested habitat relative to the other action alternatives. This analysis area has the most bitterbrush-sagebrush and annual grasses and forbs habitats. Riparian habitats are available along three perennial streams: Bull Ranch Creek, Jones Creek, and the Truckee River. As a result, a diversity of species, particularly migratory bird species, may occur within the analysis area. Macroinvertebrates may also occur in association with the perennial streams. Yellow-rumped warblers and mule deer were noted along this alternative during site visits in 2012. Historic mining features located near the Poeville Alternative may provide habitat for bats or other species.

According to NDOW radio-collar data, the analysis area of the Poeville Alternative contains some of the most important and well used mule deer habitat of all of the alternatives. Radio collar data spanning a number of years and seasonal winter surveys indicate mule deer congregate and remain relatively stationary during both winter and spring seasons in habitats within the analysis area. The

winter-spring high use habitat primarily occurs on private land (**Figure 3.9-1**; **Table 3.9-1**). The concentration areas total nearly 40 acres within the analysis area. The analysis area also contains year-round habitat both on NFS land and private land and crucial winter habitat on private land.

The analysis area contacts Reno's urban interface and bisects suburban areas along the northern and southern areas (e.g., Verdi), resulting in extensive road networks, including roads and trails that fragment habitat. The Poeville Alternative has approximately 0.4 mile of centerline with little fragmentation southwest of Peavine Peak. However, approximately 97 percent of the alternative has roads or trails along its length that fragments the habitat. Where fewer roads occur, it roughly corresponds to the areas of mule deer concentrations, hemmed in by urban neighborhoods. The distribution line that brings power to the summit of Peavine Peak provides some of the existing road disturbance, particularly on the north slope of Peavine Peak.

3.9.2.5 Peavine/Poeville Alternative

The analysis area of the Peavine/Poeville Alternative contains similar forested habitat as the Peavine Alternative, but joins the Poeville Alternative on private land, where it crosses shrub and annual grass habitats that are on the southern flank of Peavine Peak. The analysis area of the Peavine/Poeville Alternative also contains the same aquatic habitat associated with the Truckee River as the Poeville Alternative. The analysis area contains approximately 16 acres of aspen and willow habitats combined, which is more than either the Peavine Alternative or the Poeville Alternative. Aspen and willow habitats are potentially suitable habitat for a variety of avian species including MIS. The MIS expected to occur within the analysis area would include mule deer, yellow-rumped warbler, Williamson's sapsucker, hairy woodpecker, and macroinvertebrates.

Mule deer seasonal use habitats occur within the analysis area of the Peavine/Poeville Alternative, and the mapped habitats are similar to the Poeville Alternative. For example, within the analysis area, the alternative contains approximately 75 acres of summer use habitat and 379 acres of year-round habitat (**Table 3.9-1**). As with the Poeville Alternative, mule deer winter-spring high use habitat occurs within the analysis area, totaling about 40 acres of mapped deer concentration areas, as defined by collar data (**Figure 3.9-1**).

Fragmentation of habitat from existing roads is greater within the analysis area of the Peavine/Poeville Alternative than the other action alternatives. Beyond the analysis area, some of the habitats are less fragmented, although fragmentation increases in Verdi.

3.9.3 Environmental Consequences

3.9.3.1 Methods of Analysis

The indicators that were used to evaluate effects to wildlife resources are:

- Acres of vegetation communities disturbed but are proposed to be restored;
- Acres of vegetation permanently removed; and,
- Acres of tree cutting needed to maintain safe transmission line clearance.

With the exception of road widening, the specific locations of project elements are unknown. However poles and access roads and the associated habitat disturbance would be within the variable-width corridor, and the majority of the disturbance would occur within the ROW. Thus, the acres of available habitat types that are present within the ROW/easement are used as an indication of the type and relative abundance of habitat that may be impacted.

Additionally, the potential effects on wildlife resources were evaluated by determining the potential for an alternative to:

- Result in a downward trend in populations and/or habitat capability for MIS or other general wildlife species; and,
- Interfere with wildlife movement/migration or important seasonal habitat, particularly for mule deer.

3.9.3.2 No Action Alternative

Under the No Action Alternative, construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur. Thus, there would be no habitat loss, alteration, or fragmentation, and no wildlife disturbances from the existing conditions within the project area. Wildlife mortality incidental to construction and from increased predation and collisions associated with the proposed transmission line would not occur, nor would wildlife disturbance and displacement associated with construction and maintenance noise and activities. Wildlife assemblages would occur as they do currently.

3.9.3.3 Effects Common to All Action Alternatives

The proposed project may impact wildlife by altering migration and movement corridors from increased human disturbance and noise, increasing habitat fragmentation, loss of habitat through vegetation disturbance, and wildlife mortality. Migration corridors are used for annual migratory movement between source areas (e.g., summer and winter habitat). Movement corridors support daily movements, including breeding, resting, and foraging. The ability to migrate and move is essential to the health and survivorship of wildlife.

Construction

Wildlife Displacement and Habitat Removal

During construction, noise and human disturbances may cause wildlife to flee the local area. Displacement from noise and human disturbances would only impact the individuals that occur within or near the proposed ROW/easement as noise would attenuate with increased distance from construction activities. Displacement of individuals could result in loss of health and survivorship if the animals are displaced into low-quality habitat. However, impacts would be temporary and short-term because noise and human disturbances associated with the proposed project would be expected for a period of 8 to 12 months.

For all action alternatives, the surface disturbance required for project construction would result in the loss of available habitat for general wildlife, MIS, and migratory birds. Habitats that may be lost include browse, foraging, and cover habitat, and specifically for avian species, nesting substrate habitat. Mule deer have the greatest potential to be affected from habitat disturbance due to the limited availability of winter range habitat within the project area (**Figure 3.9-1**). **Table**

3.9-3 presents the acres of potential habitat within the proposed ROW/easement that could be altered or lost from project construction activities and identifies the species that may be displaced from these habitats. It is not anticipated that all of the vegetation within the ROW/easement would be cleared for construction.

Removal of Forested Habitats

During construction activities, trees within forested habitats would be removed at wire setup sites, access roads, and road widening areas. Additionally, trees within the transmission line clearance area would be cleared initially during construction, and then repeatedly cleared throughout the operational life of the project to comply with state and federal safety regulations. From the most abundant to least abundant, forested habitats include eastside pine, mixed conifer-white fir, plantation, aspen, and Jeffrey pine. The Mitchell Alternative has the most forested community, while the Poeville Alternative has the least (**Table 3.7-2**).

Design Features to Avoid/Minimize Disturbance to Wildlife and Habitat Removal

Design features (**Appendix B**) were developed to minimize potential impacts to wildlife from noise and human disturbance associated with project construction. To avoid disturbing wintering mule deer, design feature WL 6 precludes construction activities from November 25 through May 25 in areas mapped as crucial winter or winter-spring high use. Design feature WL 3 avoids disturbance to nesting birds by requiring that construction activities occur outside the typical avian breeding season (April 1 to July 31). If construction activities cannot be avoided during this time period, surveys will be conducted immediately prior to construction to locate active nesting areas. For mule deer habitat that would be permanently or temporarily lost from the project, design feature WL 8 requires offsite wildlife habitat improvement. Implementation of the design features would help to minimize direct impacts to wildlife during construction activities.

Design features were also developed to minimize the loss of important habitat types. For example, design features protect meadows, riparian, and riparian woodland areas. Design features prohibit new road crossings over perennial streams and prohibit the placement of poles, staging areas, and fuel storage areas near floodplains (which support riparian vegetation) and wetlands. Design feature SV 3 provides added protection on NFS land by specifically prohibiting construction disturbance within meadows, which would include wet meadows. These habitats are important to wildlife because they provide foraging, fawning, and nesting habitat to many wildlife species.

To minimize impacts to forested communities and large-diameter trees, design feature VG 1 requires that the placement of the ROW would avoid, wherever possible, isolated groups of trees and/or groups of trees with an average diameter at breast height of 24 inches or greater. Large-diameter trees are important to many species, including hairy woodpecker and Williamson's sapsucker, which are both MIS and require large-diameter trees for nesting.

Table 3.9-3 Wildlife Habitats within the ROW/Easement of Alternatives

SPECIES	VEGETATION/ HABITAT	MITCHELL		PEAVINE		POEVILLE		PEAVINE/POEVILLE	
		NFS	PRIVATE	NFS	PRIVATE	NFS	PRIVATE	NFS	PRIVATE
Yellow-rumped warbler, Hairy woodpecker, Williamson's sapsucker, Migratory birds	Mixed Conifer – White Fir	26.7	2.9	14.7	3	0	1.7	8.0	2.2
	Eastside Pine								
	Jeffrey Pine								
Mule deer (summer use), Migratory birds	Willow (Riparian)	0	0.2	0	0.2	0.3	1.4	0.1	1.4
Hairy woodpecker, Williamson's sapsucker, Mule deer (summer use includes Aspen), Migratory birds	Aspen	2.3	0	1.1	0	0	1.2	1.1	0.8
	Mixed Riparian Hardwood								
Mule deer, Migratory birds	Mountain Mahogany	63.8 ¹	8.3	69.5 ¹	8.3	55.3 ¹	41.3	50.7 ¹	18.1
	Great Basin Mixed Scrub								
	Bitterbrush-Sagebrush								
	Chaparral-Snowbrush								
	Mountain Sagebrush								
Mule deer (Big sagebrush), Migratory birds	Big Sagebrush	3.4	6.9	3.6	7	3.6	81	1.7	41.1
	Low Sage								
	Annual Grasses and Forbs and Ruderal								
	Urban/Developed								
Macroinvertebrates	Mixed Riparian Hardwood	0 Dog Creek	2.3 Sunrise Creek	0 Dog Creek	2.3 Sunrise Creek	0	0.8 Jones & Bull Ranch Creeks, Truckee River	0	3.0 Bull Ranch Creek, Truckee River
	Wet Meadow								
	Water (Perennial Streams)								

Source: USFS 2014d

¹ Includes approximately 15 acres of Bitterbrush-Sagebrush community on BLM-administered public land at the Bordertown Substation

Most surface disturbance from construction activities would be temporary and vegetation communities would be restored. Design feature VG 7 promotes successful restoration of disturbed habitat by requiring success to be based on reference sites selected by the USFS. To encourage the rapid recovery of vegetation communities that benefit mule deer, VG 5 requires that brush species be cut at ground level to preserve root systems allowing for re-growth. Accordingly, most impacts on wildlife from habitat disturbance would be short-term. Impacts would generally be negligible to minor because only a fraction of available habitat in the project area would be impacted. **Section 3.7.2.2** acknowledges that the loss of vegetative cover would be short-term in all areas that are successfully restored (reclaimed and reseeded) following construction. Wildlife habitat in less ecologically resilient sites such as south facing slopes, steep slopes, and sites that lack soil may require more than five years or potentially may never have all pre-construction wildlife functions fully restored. Certain vegetation communities within habitat designated for mule deer such as annual grasses and forbs and previously burned communities may have difficulty achieving restoration goals successfully within reasonable time-frames. For mule deer the failure to successfully restore target vegetation communities would represent a long-term loss of habitat and may result in more than a minor impact especially if the habitat is winter range. To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW or a Sierra Front Wildlife Working Group that would include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants. Long-term impacts would occur from the loss of forested habitats within the transmission line clearance area. Impacts from the removal trees from forested habitats would be measurable, but the overall impact to wildlife would be minor because the number of trees removed would be few in relation to the existing and available trees within and adjacent to the project area. Given the acres of eastside pine habitat that would be removed from construction and within the transmission line clearance area, impacts on this habitat type would be negligible to minor. Potential impacts to the other forested habitat types would be negligible to minor because between less than one percent and seven percent of these types that are available with the project area would be cleared from any of the action alternatives.

Habitat Fragmentation

Construction of any of the action alternatives has the potential to fragment habitat at varying degrees for most wildlife species. Habitat fragmentation creates altered landscapes that are fundamentally different from those shaped by natural disturbances that species have adapted to over evolutionary time (Franklin et al. 2002). Habitat fragmentation can result from many different types of disturbances, including noxious weed invasions and road development.

Shrub habitats are the most common habitat type within the project area that could be affected by weed infestations. Shrub vegetation communities are particularly susceptible to invasion of non-native plant species when disturbed. When non-native species invade native plant communities, they alter the plant assemblages, the structure of the community, and the succession progression of the native habitat. This in turn alters the wildlife species that may utilize the communities. Mixed conifer-white fir and wet meadow are also at risk following vegetation removal, particularly when source populations of non-native species occur in close proximity. Conversion of habitat to one

that is non-native can fragment habitat for many wildlife species that rely on continuous stands of native vegetation for forage and cover. As described in **Section 3.7.2.2**, to address the potential for infestations, all temporary construction disturbances would be treated for noxious weeds. The treatment and the monitoring of the treatment success would follow a detailed weed treatment plan that would be included as part of the COM Plan.

Habitat fragmentation from an increase in road density has recognized effects to wildlife. Rost and Bailey (1979), (as cited in Cox et al. 2009, p. 37) found an inverse relationship to habitat use by deer and elk with distance to roads. This displacement can result in under-use of the habitat near roads while overuse may occur in other locations. Some factors from an increase in road density (i.e., predator use, human use) can result in energetic costs (increased energy expenditure) to deer, particularly during winter when nutritional browse is low and movement through snow increases energetic demand (Parker et al. 1984). These types of disturbances have been described as impacting habitat in a non-linear fashion, and are based on the idea that a road's ecological effects extend many times wider than the road itself and that as road density increases, it correlates to a reduction in wildlife diversity and abundance.

Design Features to Avoid/Minimize Habitat Fragmentation Effects

As described in **Section 3.7.2.2**, design features would be implemented to reduce the threat of noxious weed invasions and limit the amount of habitat that would be fragmented. Design features NW 1 through NW 11 minimize the spread of noxious weeds through identification, avoidance, treatment, monitoring, reduction of vectors, and prevention. The implementation of a weed treatment plan and design features ensure that the potential for habitat fragmentation from weed infestations would be low and any weed infestations are effectively eradicated. The effects to wildlife from habitat fragmentation caused by noxious weed infestations would be temporary to short-term depending on the recovery rate of native vegetation after treatment of the noxious weeds. The viability of wildlife populations would not likely be impacted from noxious weed infestations. Impacts that may occur to wildlife due to habitat fragmentation from noxious weeds attributed to the proposed project would be minor to negligible.

Increased road density resulting from the proposed project would be temporary because all newly created access roads for construction would be restored, as would any road that is widened and used for construction access (see **Section 2.3.2.2**). During construction newly created access roads on NFS land would not be designated on or added to the Motor Vehicle Use Map (USFS 2011b), and therefore increase public accessibility via motorized vehicles would not occur during construction or afterwards when roads are reclaimed. To avoid long-term effects of habitat fragmentation from the construction of new access roads, design features RT 3 through RT 7 would ensure that vegetation communities are not disturbed by unauthorized motorized travel on restored roads. Per design feature RT 6, a signage and monitoring plan would include installing signs notifying the public that construction access roads are closed for restoration and monitoring the effectiveness of barriers.

The viability of wildlife populations, including mule deer, would not likely be impacted from habitat fragmentation. Nor would the impacts result in a contribution to a current or predicted downward trend in habitat capability for MIS. This is supported by the existing wildlife populations continuing to persist within the project areas despite the majority of the habitat being fragmented by existing roads, trails, pipelines, power lines, and other similar linear disturbances.

Summary of Construction Related Impacts

Based on the above analysis, short-term and any long-term potential impacts during construction activities from habitat disturbance, removal, alteration, or fragmentation for most wildlife species, such as MIS and migratory birds, would be negligible to minor. This is because the project would impact a minimal amount of existing available habitat relative to the amount of unaffected adjacent habitat. Additionally, design features would be implemented to address and minimize impacts from human disturbance, noxious weeds, habitat removal, and habitat fragmentation. The potential impacts would not result in reduced population viability for wildlife species that may occur within the project area, nor would they diminish habitat suitability for a variety of species. The design features require reduction in habitat disturbance, avoiding sensitive habitats; construction timing restrictions, post-construction restoration and monitoring, off-site or onsite wildlife habitat mitigation, and installing blockades to prevent motorized travel on newly created roads and to ensure these roads are successfully restored.

Operation and Maintenance

A number of long-term impacts may occur to wildlife through the operational life of the proposed transmission line. These impacts include wildlife collisions with the lines and increased predation by raptors due to the increased availability of perches offered by the structures.

Potential for Avian Mortality

Transmission lines pose a threat to avian species through collision with the line during flight. The upper shield wire is the largest threat to birds as it is a smaller diameter than the other lines and likely less visible. Vulnerability to collisions depends on many factors including bird behavior and maneuverability, topography, weather, and power line design and placement. Bird collisions with power lines have been documented for decades, and the risk of collision is considered highest in areas where birds congregate, such as where power lines bisect daily flight paths to meadows, wetlands, and river valleys. Generally, heavy bodied birds such as cranes, swans, pelicans, and waterfowl are considered most at risk of collisions in locations where low-light conditions or other low-visibility situations exist (Avian Power Line Interaction Committee 2012).

The Truckee River provides habitat for waterfowl and shorebirds, where birds making daily trips along the river would encounter lines crossing the river. Existing transmission lines cross the Truckee River and two alternatives (Poeville and Peavine/Poeville) would cross the Truckee River on the east and west sides of Verdi. At the east crossing, the Poeville and Peavine/Poeville alternatives would be placed next to a similar 120 kV transmission line. At the west crossing, the proposed transmission line would replace the existing inactive #632 line. It is unknown if avian mortality occurs to waterfowl or other species that frequent the river where the lines cross; however, the new transmission line crossings of the Truckee River would add very little to the existing aerial constraints.

The proposed project has the potential to cause mortality to individual birds as a result of line-strike. This impact would be considered a long-term minor impact. However, it would not result in reduced population viability for any given species or reduce the species existing distribution, nor would it result in a contribution to a current or predicted downward trend in habitat capability for MIS because the potential for avian collisions would not be increased from either alternative crossing the river.

Power lines have also long been implicated in the electrocution of avian species, particularly large birds such as golden eagles. Avian electrocutions can occur when a bird completes an electric circuit by simultaneously touching two energized parts or an energized part and a grounded part of the electrical equipment. The reason birds may complete an electric circuit can be attributed to two interrelated factors: environmental factors and engineering factors (Avian Power Line Interaction Committee 2006). Environmental factors include weather and season of year, which can influence bird migration patterns and behavior. Engineering factors refer to the ways in which power lines are designed and constructed, such as how far apart conductor wires are spaced. Improperly constructed power lines, especially distribution lines, are one cause of direct mortality for eagle species and can result in electrocution of birds attempting to utilize these structures for perching and nesting (Harness and Wilson 2001). Electrocution of birds is unlikely from newer constructed transmission lines that use avian-safe practices. Likewise, 120 kV lines do not pose a threat via electrocution due to the distance between the conductor lines and/or ground lines. These spans are greater than six feet, which is the average wing span of a golden eagle. No impacts from electrocution hazard are anticipated from operation of the project because NV Energy owns and operates avian safe transmission lines, as well as substations.

Potential for Increased Predation by Raptors

Transmission lines and distribution lines are features that provide perches where perches do not naturally occur. These perch sites may allow for hunting advantages for birds of prey, particularly in habitats devoid of tall features, such as trees or rock outcrops. Artificial perches would likely have the most impact on habitats lacking natural perches. Within these communities some species may avoid the habitats where the perches occur, or they may sustain predation. This impact would be considered a negligible to minor long-term impact. It is not expected to impact enough individuals of one particular species including MIS, or migratory birds to result in the reduction or change of a species' existing distribution. Reduced population viability for any given species is not expected.

Design Features to Minimize Impacts from Operations and Maintenance

No impacts from electrocution hazard are anticipated from operation of the transmission line because the transmission line and substations will be constructed to be avian-safe. To ensure avian safety, design feature WL 9 requires NV Energy to construct the proposed transmission in conformance with *Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006, prepared by the Avian Power Line Interaction Committee* (2006). Applicable design features (**Appendix B**) implemented during construction would also apply during operations and maintenance phase of the project. For example, any access roads created for a maintenance event would be restored and closed with physical barriers in accordance with design features, allowing for the recovery of wildlife habitat. With reclamation of disturbances and continued effective implementation of design features, the potential for long-term impacts to wildlife, particularly mule deer, would be minimized and reduced to minor levels during the operations and maintenance phase of the project.

3.9.3.4 Mitchell Alternative

The Mitchell Alternative is approximately 11.7 miles in length and would cross the most NFS land of all alternatives (8.4 miles). Construction of the Mitchell Alternative would disturb or remove

(short-term disturbance) approximately 282 acres of habitat, including tree removal from approximately 42 acres of forested communities from the transmission line clearance area.

Of all the action alternatives, the Mitchell Alternative would impact the most forested habitat, some of which consists of a varying aged plantation community. The forested habitat within this alternative is predominately young with little structural diversity (USFS 2011c). Forested habitat is not likely to support diversity both in species composition or age-class, but may provide transitional habitat for the MIS hairy woodpecker and Williamson's sapsucker. Mule deer and yellow-rumped warblers are known to occur in forested habitat. **Table 3.9-4** displays the amount of forested habitats that would be disturbed. Only road widening disturbance and the total amount of forested communities within the transmission line clearance area (i.e., ROW/easement) are presented because the locations of other project features such as new access roads and staging areas are unknown. While forested habitat would be allowed to recover in areas outside of the transmission line clearance area, impacts to forested habitat within the line clearance area would be considered long-term because trees would be removed for the life of the project.

Table 3.9-4 Mitchell Alternative Tree Removal in Forested Habitats

CONSTRUCTION ACTIVITY/ DISTURBANCE	CLEARING OF HABITATS WITH TREES ¹ (ACRES)	
	NFS LAND	TOTAL
Transmission Line Clearance Area ²	38.9	41.8
Widening Existing Roads ³	5.1	5.4
Total	44.0	47.2

¹ Includes Eastside Pine, Jeffrey Pine, Mixed Conifer-White Fir, Plantation, and Aspen communities

² Transmission line clearance area was assumed to be the 90-foot-wide ROW/easement

³ Excluding forested vegetation communities within the transmission line clearance area

A total of approximately 777 acres of mule deer habitat is available within the variable-width corridor. The breakdown of habitat types is presented in **Table 3.9-1**. The Mitchell Alternative would impact the most mule deer summer use habitat compared to the other action alternatives. Data from the CDFW and NDOW suggests that much of the habitat is transitional, supporting summer, year-round, and crucial winter habitats. The Mitchell Alternative would not cross winter-spring high use areas. Other types of wildlife that may be impacted from the Mitchell Alternative include habitat for macroinvertebrates and migratory birds associated with riparian habitat surrounding Dog Creek.

As with all of the action alternatives, the majority (78 percent) of the habitats that would be impacted from the Mitchell Alternative are fragmented by existing roads or trails. However, among all alternatives, the Mitchell Alternative has the least amount of fragmented habitat. Habitat relatively free of roads, trails, and other linear features is found in the Mitchell Canyon area to south of Dog Creek; roughly between Mitchell Canyon and the existing #102 transmission line (**Figure 3.9-1**). Restoration of roads would allow the recovery of wildlife habitat and minimize the long-term effects from habitat fragmentation. Additionally, approximately 1.1 miles of unauthorized roads on NFS land that would be widened, would be restored to remove the road in its entirety, reducing the amount of habitat fragmentation along the Mitchell Alternative.

Impacts associated with construction and maintenance of the Mitchell Alternative are not expected to have adverse impacts to MIS and other wildlife species beyond minor to negligible levels.

Impacts are expected to be similar as those presented for all action alternatives (**Section 3.9.2.2**). This alternative would impact the most acres of forested habitat by converting it to shrub habitat. However, the amount of habitat that may be removed from the Mitchell Alternative is minor in relation to existing available habitat in the project area. Approximately 231 acres of habitat loss may be short-term from construction surface disturbance (e.g., centerline, wire pulling, pole sites, etc.) and 46 acres of habitat loss may be long-term (forested habitat removal from pole placement, substation expansion, and line clearance).

Direct and indirect impacts range from negligible to minor with the implementation of design features. Impacts are not anticipated to result in a contribution to a current or predicted downward trend in habitat capability that would reduce existing distribution for any MIS or other wildlife species. Because design features developed for the project would reduce impacts to wildlife to levels that are negligible or minor, mitigation is not recommended, with the exception of habitat for mule deer. For mule deer, the failure to successfully restore target vegetation communities would represent a long-term loss of habitat and may result in more than a minor impact especially if the habitat is winter range.

Mitigation

To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW or a Sierra Front Wildlife Working Group that would include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants (WL 8).

3.9.3.5 Peavine Alternative

Total length of the Peavine Alternative is 10.3 miles and would cross 7.0 miles of NFS land. Despite the Peavine Alternative being the shortest alternative, it would require the most miles of new access roads relative to its length. The construction of the Peavine Alternative would disturb or remove (short term disturbance) approximately 302 acres of vegetation, including tree removal from 21 acres of forested communities from the transmission line clearance area.

The proposed ROW/easement for the Peavine Alternative contains approximately half as much forested habitat as that of the Mitchell Alternative, but has slightly more diverse habitat types than the Mitchell Alternative. Long-term impacts to forested habitat within the transmission line clearance area would be approximately 21 acres less than the Mitchell Alternative. As with all alternatives, shrub habitat is the most abundant, particularly bitterbrush-sagebrush habitat.

Impacts to wildlife from the Peavine Alternative would be expected to be similar as those presented above for all action alternatives (**Section 3.9.2.2**), and would not exceed levels that are minor to negligible. Impacts would be similar to those of the Mitchell Alternative as well, though there would be less potential impacts to forested habitats. As with the Mitchell Alternative, mule deer and yellow-rumped warblers are known to occur within habitats that would be affected. A total of approximately 686 acres of mule deer habitat is available within the variable-width corridor. For mule deer seasonal use, the Peavine Alternative is similar to the Mitchell Alternative in mapped habitat, though it offers more year-round habitat than it does summer use habitat. See **Table 3.9-1**

for types of mule deer habitats within the variable-width corridor. As shown on **Figure 3.9-1**, the Peavine Alternative would affect fewer acres of potential habitat of all alternatives and may be preferable for mule deer given the lack of winter-spring high use habitat.

Long-term habitat loss would impact approximately 25 acres, which include habitat lost from pole displacement, expansion of the Bordertown Substation, and the transmission line clearance area. Direct and indirect impacts range from negligible to minor and with the inclusion of design features, impacts are not anticipated to result in a contribution to a current or predicted downward trend in habitat capability that would reduce a species' existing distribution for a MIS or other wildlife species. Because design features developed for the project would reduce impacts to wildlife to levels that are negligible or minor, mitigation is not recommended, with the exception of habitat for mule deer. For mule deer, the failure to successfully restore target vegetation communities would represent a long-term loss of habitat and may result in more than a minor impact especially if the habitat is winter range.

Mitigation

To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW or a Sierra Front Wildlife Working Group that would include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants (WL 8).

3.9.3.6 Poeville Alternative

The Poeville Alternative is longest alternative but would cross the least amount of NFS land. Construction of the Poeville Alternative would disturb or remove (short-term disturbance) approximately 618 acres of vegetation communities (i.e., habitat types). Approximately three acres of forested communities would be removed from within the transmission line clearance area. Impacts are expected to be similar as those presented for all action alternatives (**Section 3.9.3.2**). This alternative would impact the least amount of forested habitat.

A total of approximately 753 acres of mule deer habitat is available within the variable-width corridor. The breakdown of habitat types is presented in **Table 3.9-1**. Construction activities would impact mule deer winter-spring high use habitat, which may result in displacing mule deer from the variable-width corridor. This area is on private land and currently has few established roads. New construction access roads may have minor short-term impacts associated with habitat fragmentation from loss of vegetation communities. As described in **Section 3.9.2.2**, a number of design features would be implemented to prevent motorized use or increased accessibility on new access roads, which would essentially avoid any long-term effects of fragmentation as a consequence of new roads.

Construction and maintenance of the proposed project are expected to result in negligible to minor short- and long-term impacts to MIS and other wildlife. Construction and maintenance is not expected to cause a downward trend in habitat capability that would reduce a species' existing distribution for a MIS or other wildlife species. Because design features developed for the proposed project would reduce impacts to wildlife to levels that are negligible or minor, mitigation

is not recommended, with the exception of habitat for mule deer. For mule deer, the failure to successfully restore target vegetation communities would represent a long-term loss of habitat and may result in more than a minor impact especially if the habitat is winter range.

Mitigation

To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW or a Sierra Front Wildlife Working Group that would include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants (WL 8).

3.9.3.7 Peavine/Poeville Alternative

The Peavine/Poeville Alternative is nearly 12 miles long and would cross a variety of wildlife habitats. Along the majority of its length, the Peavine/Poeville Alternative would be located in the exact location that the Peavine Alternative would be located, but because it transitions to the east, less forested habitat and more fire-affected habitat would be crossed. Construction of the Peavine/Poeville Alternative would disturb or remove (short-term disturbance) approximately 364 acres of vegetation communities (i.e., habitat types). Approximately 12 acres of forested communities would be removed from within the transmission line clearance area. Impacts to wildlife from the Peavine/Poeville Alternative would include those common to all action alternatives (see **Section 3.9.2.2**). This alternative would have more impact to forested habitat than the Poeville Alternative, but much less impact to forested habitat than the Mitchell and Peavine alternatives.

Approximately 720 total acres of mule deer habitat is available within the variable-width corridor. The breakdown of habitat types is presented in **Table 3.9-1**. Impacts associated with construction of the project would bisect mule deer winter-spring high use habitat, which could result in displacing mule deer from the corridor. With successful restoration of construction-related surface disturbance and implementation of design features, impacts would be negligible to minor and short-term. Impacts are similar to mule deer as those described under the Poeville Alternative for wintering mule deer. However, the Peavine/Poeville Alternative is anticipated to have minor adverse short-term and long-term impacts to most wildlife species. The impacts would not be expected to result in a contribution to a current or predicted downward trend in habitat capability that would reduce the existing distribution for a MIS or other wildlife species. Because design features developed for the project would reduce impacts to wildlife to levels that are negligible or minor, mitigation is not recommended, with the exception of habitat for mule deer.

Mitigation

To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW

or a Sierra Front Wildlife Working Group that would include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants (WL 8).

3.9.3.8 Cumulative Effects

In many parts of the wildlife CIAA, wildlife habitat has been lost or modified due to present actions. The majority of the habitat in the wildlife CIAA has been fragmented by utility lines and existing roads and trails. Fragmented habitats are still functional habitat for wildlife, but are of reduced quality and value than the larger contiguous areas of habitat that existed prior to these actions. Wildfire has caused landscape level changes to the composition and condition of the vegetation communities within the CIAA, which in turn, has contributed to the modification or loss of wildlife habitats. While the effects from most of the present actions have generally been adverse, most of the present resource management activities have directly or indirectly improved habitat quality. In the future, reasonably foreseeable resource management activities would have a neutral or beneficial impact on most wildlife species and habitat quality within the CIAA.

The Loyalton-Truckee Interstate mule deer herd, specifically, the Verdi sub-herd, utilize portions of the wildlife CIAA for movement corridors and Crucial Winter and Winter-Spring High Use habitats. The continuation of some present actions in the future is expected to have an adverse impact on the herd. As described in **Section 3.9.1.1**, NDOW (2015) reported that the long-term trend for the Loyalton-Truckee Interstate herd is declining. The agency also reported that the Verdi sub-herd has endured substantial declines largely due to loss of habitat from urban development, wildfires, increased recreation (NDOW 2012b), and direct mortality due to vehicular collisions. The reasonably foreseeable future Stonegate Master Plan Development would further reduce some areas of year-round mule deer habitat, although the majority of the planned development does not occur within any mapped mule deer habitat. The formation of the Sierra Front Wildlife Working Group made up of NDOW, NV Energy, Washoe County and other interested parties, whose purpose is to reduce impacts to mule deer within the Reno-Washoe County area provides a mechanism to address the decline of the local mule deer herd in the future. The proposed Wildlife Working Group would assist with present and developing actions that would reduce these potential impacts.

The contribution of the proposed project to cumulative wildlife habitat losses would be minor. The primary impacts from any action alternative consist of the loss, modification, and fragmentation of several hundred acres of wildlife habitat. With the exception of forested habitats, impacts to wildlife habitat would be short-term as habitat would be restored following disturbance. Implementation of design features that promote successful restoration of access roads and mitigation for habitats permanently and temporally removed would ensure that loss and fragmentation of mule deer habitat would also be short-term. The modification to forested habitats within the transmission line clearance area would be long-term, but impacts would also be minor. Forested habitat are abundant in the region and reasonably foreseeable resource management activities would have beneficial long-term effects to forested habitats as they are intended to improve forest health and reduce the potential for large catastrophic wildfires.

3.10 SPECIAL STATUS WILDLIFE

Special status wildlife are species that meet one or more of the following criteria:

- Listed, proposed or candidate for listing under the Federal and/or the California ESA as threatened, or endangered;
- Designated by the USFS or BLM as sensitive; and
- Designated by NDOW or CDFW as fully protected and/or species of special concern.

The information presented in this section is summarized from *Specialist Report: Special Status Wildlife Bordertown to California 120 kV Transmission Line Project* (USFS 2016c). Information used for this analysis includes specific data collected for this project as well as past survey data collected by the USFS and NDOW. Project specific surveys included:

- Forest dwelling raptors-reconnaissance surveys mainly within NFS land conducted in June 2011;
- Aspen-dependent species reconnaissance surveys along the Poeville Alternative conducted in August 2012; and
- Golden Eagle helicopter survey conducted in June 2012.

Other data sources included consultation or data queries with USFS, NDOW, USFWS, NNHP, and the California Natural Diversity Database.

3.10.1 Regulatory Framework

Biological resources in the project area are protected and/or regulated by a variety of federal and state laws and policies. The regulatory framework is described in *Specialist Report: Special Status Wildlife Bordertown to California 120 kV Transmission Line Project* (USFS 2016c). Key regulatory mechanisms applicable to the proposed project are discussed below.

Federal Endangered Species Act

The USFWS determines if a species should be listed under the ESA, and whether these species should be listed as candidate, proposed, threatened, or endangered. Endangered means a species that is in danger of extinction throughout all or a significant portion of its range. Threatened species are likely to become endangered in the foreseeable future. The USFWS also maintains a list of species or subspecies (i.e., taxa) that may warrant listing as threatened or endangered and for which the agency has sufficient biological information to support a rule to list as threatened or endangered. These species are referred to as candidate species. Proposed species are species (taxa) for which the USFWS has published a proposal to list as threatened or endangered in the *Federal Register*.

Humboldt-Toiyabe National Forest

The Forest Plan (1986) outlines the management direction of NFS land. The regulations require that the USFS maintain viable populations of all vertebrate wildlife and fish species native to the NFS land and manage for conservation of particular species. USFS sensitive species are plant and

animal species identified by a Regional Forester for which population viability is a concern, as evidenced by:

- Significant current or predicted downward trends in population numbers or density; and
- Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution (FSM 2670.5).

The SNFPA amended the Forest Plan in 2001 and again in 2004 (USFS 2004). The SNFPA is designed to facilitate a regionally-consistent management of old forest ecosystem resources across USFS management boundaries and as such is called "framework" (e.g., Sierra Nevada Framework). The umbrella management also applies to other sensitive resources such as aquatic, meadow, and riparian ecosystems. The goals of the plan as they relate to wildlife resources include:

- Improve quantity and quality of useable habitat available for SNFPA species by increasing density of large trees, increase structural diversity of vegetation, and improve the continuity and distribution of old forests across the landscape; and
- Protect and restore desired conditions of aquatic, riparian, and meadow ecosystems in Sierra Nevada national forests.

Bureau of Land Management

The Eagle Lake Field Office administers portions of land within the project area. The Eagle Lake RMP (BLM 2008b) outlines BLM sensitive species. The BLM Manual 6840.06 E (BLM 2008a) states that native species may be listed as sensitive if they meet certain criteria. The BLM affords these sensitive species the same level of protection as federal candidate species. The BLM's policy for sensitive species is to avoid authorizing actions that would contribute to the listing of a species as threatened or endangered.

California Endangered Species Act

Pursuant to the California ESA, a permit from the CDFW is required for projects that could result in take of a plant or animal species that is state-listed as threatened or endangered. The California ESA defines "take" as an activity that would directly or indirectly kill an individual of a species. Authorization for take of state-listed species can be obtained through a California Fish and Game Code Section 2080.1 consistency determination or a Section 2081 incidental take permit.

California Fish and Game Code -Fully Protected Species

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take of fully protected species. The CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species.

California Species of Special Concern

The CDFW maintains a list of species that may be experiencing or formerly experienced population declines or range retractions that may lead to the species qualifying for California ESA protection, or had naturally small populations exhibiting high susceptibility to risk from factors that could lead to declines qualifying the species for protection under the California ESA. Species under this designation are not afforded legal protection.

State of Nevada Sensitive Species

The NDOW maintains a list of species thought to occur in limited numbers, limited distribution, or may be vulnerable to climatic or landscape scale changes. These are listed as both sensitive species by NRS 501.331 or within the Wildlife Action Plan (NDOW 2013b) as Species of Conservation Priority. Some of these species are listed as sensitive by the BLM, USFWS or as a conservation priority bird species. Species under this designation are not afforded legal protection.

3.10.2 Affected Environment

Table 3.10-1 presents the special status wildlife that may have the potential to occur in the analysis area based on a review of species habitat requirements, vegetation maps, and interviews with state and federal biologists. Species that did not have the potential to occur are species that have a known range that do not overlap the region; have no potentially suitable habitat within at least 20 miles of the project area; or have significant barriers between known habitat and the project area. These species are also listed in **Table 3.10-1**, but are not carried forward for analysis.

Table 3.10-1 Special Status Species Potential for Occurrence in the Analysis Area

SPECIAL STATUS WILDLIFE	STATUS ¹	HABITAT	POTENTIAL FOR OCCURENCE ²
Pygmy rabbit <i>Brachylagus idahoensis</i>	SS	Restricted to big sagebrush habitats with friable soils suitable for digging burrows; generally in valley bottoms.	Unlikely to occur; area lacks stands of dense big sagebrush and friable soils. Not known to occur in the project area, and are not expected to occur in southern Washoe County (Federal Register 2010).
American badger <i>Taxidea taxus</i>	SSC	<i>Semi and arid shrubland or grassland with friable soils for digging burrows. Forages on pocket gophers, ground squirrels among others.</i>	<i>Likely to occur; potentially suitable habitat exists along all alternatives.</i>
Spotted bat <i>Euderma maculatum</i>	SS, SSC	Roosts on cliffs ranging in habitats from high elevation to deserts. Foraging habitat are areas with moth abundance.	Could occur; documented along the Truckee River in Nevada and at Smithneck Creek northwest of the project area (Bradley et al. 2006; California Natural Diversity Database 2013). Foraging habitat occurs, some roosting habitat occurs where rock outcrops exist.

SPECIAL STATUS WILDLIFE	STATUS ¹	HABITAT	POTENTIAL FOR OCCURENCE ²
Townsend's big-eared bat <i>Corynorhinus townsendii townsendii</i>	SS, BS, SSC	Highly associated with caves and mines. Found primarily in rural settings from deserts to lower, mid to high-elevation mixed coniferous-deciduous forest and has also been reported to utilize buildings, bridges, rock crevices and hollow trees as roost sites (Western Bat Working Group 2005).	Could occur; known to occur in the Truckee River Canyon and around Peavine (Bradley et al. 2006; Western Bat Working Group 2005; Brown and Berry 2002). Suitable habitat exists where rock outcrops or abandoned mine workings occur nearest the Poeville Alternative.
Fringed myotis <i>Myotis thysanodes</i>	BS	<i>Variety of habitats, generally lower elevation. Found roosting in trees, caves, buildings and mines. Forages on small beetles.</i>	<i>Could occur; documented west of the project area in California over eight miles west (California Natural Diversity Database 2013).</i>
Sierra Nevada red fox <i>Vulpes vulpes necator</i>	SS, SNF	Habitat of high elevation barren, conifer, and shrub habitats; montane meadows; subalpine woodlands and fell-fields.	Unlikely to occur; suitable habitat is not present in project area (Perrine et al. 2010). Historic sightings 15 miles west of the project area (<i>California Natural Diversity Database 2013</i>) near Dog Valley/Heness Pass Road.
Pallid bat <i>Antrozous pallidus</i>	BS	<i>Found in a variety of habitats from low elevation coniferous forest, woodlands to sagebrush. Forages on large ground dwelling insects but also moths.</i>	<i>Could occur; not documented near the project area in Nevada, but has been detected in California about eight miles west (California Natural Diversity Database 2013).</i>
Dark-nosed small-footed myotis <i>Myotis melanorhinus</i>	BS, SSC	Habitat includes a variety of vegetation communities, roosts in caves, mines, and trees. Forages in open areas.	Could occur; documented occurring near the Peavine area (Bradley et al. 2006). Both roosting and foraging habitat occurs in the project area.
Yu ma myotis <i>Myotis yumanensis</i>	BS	Habitat includes all landscapes including human built ones, roosts in outcrops, caves or buildings, forages primarily on emergent aquatic insects.	<i>Could occur; documented near the Truckee River (Bradley et al. 2006). Roosting and foraging habitat occur, though likely near water sources.</i>
Sierra Nevada snowshoe hare <i>Lepus americanus taioensis</i>	SSC	Inhabits mid-elevation riparian brush or young conifer thickets.	<i>Could occur; potentially suitable habitat occurs within the western portion of the project area.</i>
Greater sage-grouse <i>Centrocercus urophasianus</i>	SS, MIS	Habitat includes large stands of sagebrush, with forb and grass understory, brood rearing habitat includes mesic areas where there is a diversity of forbs and grasses and sagebrush for cover.	Unlikely to occur; not known to occur within the project area (Espinosa 2011). Suitable habitat is low due to numerous fires within sagebrush habitats and human occupation. Closest known lek is 22 miles northeast of the Bordertown Substation.

SPECIAL STATUS WILDLIFE	STATUS ¹	HABITAT	POTENTIAL FOR OCCURENCE ²
Northern goshawk <i>Accipiter gentilis</i>	MIS, SS, SNF, SSC, BS	Generally nests within late-seral stage montane forest; and in Nevada commonly nests in aspen.	Could occur; small, isolated patches of marginally suitable nesting habitat occurs along some of the action alternatives. NDOW documented species at location west of the Mitchell and Peavine alternatives (NDOW 2012a). A USFS-designated goshawk Protected Activity Center (PAC) is four miles west of the project area. Goshawks may use portions of the project area for foraging.
Golden eagle <i>Aquila chrysaetos</i>	BGE, BS, FP	Nests on cliffs and rocky scarps with large expanses of hunting territory. Also nests in conifers when rocks are unavailable.	Known to occur; observed during 2012 surveys, occupied nest is within four miles of project area. Two NDOW-known locations are within 10 miles of project area. Additionally, sightings of nesting golden eagles in conifers have been observed on the slopes of Peavine and within the Carson Range (JBR 2013a).
Bald eagle <i>Haliaeetus leucocephalus</i>	SS, BGE, FP, BS, CE	Nests in large trees or snags near large bodies of water.	Unlikely to occur; no suitable habitat for nesting within the project area. Foraging habitat is associated with the Truckee River. Documented at Stampede Reservoir over five miles southwest of the project area (<i>California Natural Diversity Database</i> 2013).
Northern Harrier <i>Circus cyaneus</i>	SSC	<i>Wide-ranging breeders in Nevada and northeastern California. Forages and nests within open habitats such as meadows and grasslands.</i>	<i>Known to occur; documented during golden eagle surveys and during breeding birds surveys in Nevada (Floyd et al. 2007), known to breed throughout northeastern California (Shuford and Gardali 2008).</i>
Mountain quail <i>Oreortyx pictus</i>	SS	Montane shrub and riparian habitat with <i>Ceanothus</i> near water sources.	Known to occur; potential habitat occurs throughout the project area, particularly where montane shrubs are present (Floyd et al. 2007).
Swainson's hawk <i>Buteo swainsoni</i>	SSC, BS, CT	<i>Common habitat includes agricultural lands with open foraging habitat, and tall trees for nesting.</i>	<i>Could occur; limited suitable habitat occurs near the Bordertown Substation, where large trees associated with ranches provide nesting opportunities. Reported as occurring in the general area by NDOW (2012a).</i>
Burrowing owl <i>Athene cunicularia</i>	SSC, BS	<i>This small owl nests and roosts within burrows, commonly excavated by fossorial mammals. Habitat is found within open grasslands, or other areas of open areas with sparse vegetation, whether natural or altered.</i>	<i>Could occur; potentially suitable habitat occurs in fire affected habitats on Peavine, as well as within the northern portions of the project area, such as near the Bordertown Substation.</i>

SPECIAL STATUS WILDLIFE	STATUS ¹	HABITAT	POTENTIAL FOR OCCURENCE ²
Long-eared owl <i>Asio otus</i>	SSC	Generally found within riparian, conifer or other woodland habitats which are open or adjacent to meadows and shrublands. Nest in old corvid or hawk nests in trees or on cliff faces.	Could occur; potentially suitable habitat occurs along the western portions of the project area (Truckee River and other riparian). NDOW records indicate these owls have been documented in the area (NDOW 2012a).
California spotted owl <i>Strix occidentalis occidentalis</i>	SS, SNF, BS, SSC	Occurs in dense, old-growth, multi-layered mixed conifer forest.	Unlikely to occur; not known to occur in the project area, suitable habitat is absent. Documented approximately 10 miles west of the project area (California Natural Diversity Database 2013).
Flammulated owl <i>Psiloscops flammeolus</i> (syn <i>Otus flammeolus</i>)	SS	Open coniferous forests, nest in dead trees with existing woodpecker holes.	Could occur; marginally suitable habitat occurs within the aspen and/or older conifer stands along the western portion of the project area. Known to nest in and near goshawk PAC (Easton 2014).
White-headed woodpecker <i>Picoides albolarvatus</i>	SS	Mixed conifer forests, with a diversity of pine species (for seed consumption) and mixed ages, generally nest in dead standing trees.	Known to occur; potentially suitable habitat occurs in patches throughout the project area. Species documented near or within the area during the Nevada Breeding Bird Atlas project (Floyd et al. 2007), and in California along the Mitchell Alternative during USFS reconnaissance surveys.
Sierra Nevada willow flycatcher <i>Empidonax traillii brewsterii</i>	SNF	Large, dense willow and riparian habitat along meadows and open water.	Unlikely to occur; willow stands lack density, size, and structural diversity. Closest known location is over six miles west along Worn Mill Canyon near Stampede Reservoir (California Natural Diversity Database 2013).
Yellow warbler <i>Setophaga petechia</i> (syn. <i>Dendroica petechia</i>)	MIS, SSC	Occur along streams or in bushy thickets and willows; sometimes found in montane chaparral; wide ranging.	Could occur; potentially suitable habitat present along vegetated drainages within the project area. Yellow warblers have been recorded near the Truckee River (Floyd et al. 2007; USFS 2011c).
Olive-sided flycatcher <i>Contopus cooperi</i>	SSC	These flycatchers are mostly associated with edges, openings, and natural and human-created clearings in otherwise relatively dense forests, but they also occupy semi-open forests.	Likely to occur; suitable habitat occurs where forest habitats are adjacent to roads, meadows or other openings. Have been documented in the Carson Range (Floyd et al. 2007) and during USFS surveys west of the project area (USFS 2012b).
Loggerhead shrike <i>Lanius ludovicianus</i>	SSC, BS	Open arid shrublands, woodlands, mountain mahogany, with a few perches/lookouts.	Known to occur; documented during the breeding bird surveys in Nevada on Peavine Mountain. (Floyd et al. 2007)

SPECIAL STATUS WILDLIFE	STATUS ¹	HABITAT	POTENTIAL FOR OCCURENCE ²
Northern sagebrush lizard <i>Sceloporus graciosus</i>	BS	Sagebrush habitats.	Likely to occur; suitable habitat occurs along nearly all alternatives.
Sierra Nevada yellow-legged frog <i>Rana sierrae</i>	E	At lower elevations, breeds in low gradient perennial streams, higher elevations in large waterbodies (those that do not freeze to the bottom in winter).	Unlikely to occur; outside known range. Known to occur approximately 13 miles west of the project area (<i>California Natural Diversity Database</i> 2013), and in Nevada within the Lake Tahoe Basin (CDFW 2011). No known historic distribution with the project area.
Lahontan cutthroat trout <i>Oncorhynchus clarkii henshawi</i>	T, MIS	Perennial streams and waterbodies on the east side of the northern Sierra Nevada Mountains.	Known to occur; LCT are known to be present in Dog Creek. Dog Creek drains to the Truckee River which is also occupied by LCT.

¹Status designation

USFWS ESA
E - Endangered
T - Threatened

Humboldt-Toiyabe National Forest
SS - USFS Region 4 Sensitive Species, Carson District
MIS - USFS Toiyabe Management Indicator Species
SNF - Sierra Nevada Framework Focal Species
BGE - Bald and Golden Eagle Protection Act (USFWS)

Bureau of Land Management
BS - Sensitive Species

State of California: California Endangered Species Act
CT - Threatened
CE - Endangered

California Department of Wildlife
SSC - Species of Special Concern
FP - Fully protected

² Potential for occurrence definitions

Unlikely to occur: Potentially suitable habitat is present, but species unlikely to be present in the project area because of current status of the species and very restricted distribution. These species are not addressed further.

Could occur: Suitable habitat is available in the project area; however, there are few or no other indicators that the species might be present.

Likely to occur: Habitat conditions, behavior of the species, known occurrences in the project vicinity, or other factors indicate a relatively high likelihood that the species would occur in the project area.

Known to occur: The species, or evidence of its presence, was observed in the project area during surveys or was reported by others.

Sources: NNHP 2012; NDOW 2012a; California Natural Diversity Database 2013; and other sources as cited

3.10.2.1 Species Accounts

Federally-Listed Threatened, Endangered, or Proposed Species

Lahontan Cutthroat Trout

The LCT was listed as an endangered species in 1970. In 1975, the LCT was reclassified as threatened to facilitate management and to allow for regulated angling. In 1995, USFWS released its recovery plan for LCT, encompassing six river basins within LCT historic range, including the Truckee River basin. Critical habitat has not been designated for LCT.

LCT were once the only trout (with one exception) found on the east side of the Sierra Nevada, residing in a variety of cold water streams, from large terminal desert lakes to small mountain lakes, from major rivers to small headwater creeks (Moyle 2002). Historically, LCT were endemic to the physiographic Lahontan basin of northern Nevada, eastern California, and southern Oregon (USFWS 1995). Today, the current distribution is a fraction of the historic range. Some of the formerly occupied streams or lakes have had reintroductions of LCT.

As part of the restoration effort for LCT, various streams have been identified within the Truckee River Basin as having existing populations of LCT or as potential reintroduction sites (USFWS 1995). Recovery objectives associated with these sites include maintaining and improving the hydrology, water quality, and fish passageways of the Truckee River Basin and its tributaries. Two perennial creeks, Dog Creek and Sunrise Creek, flow into the Truckee River where LCT are known to occur. Although listed as an unoccupied waterway in the 1995 Recovery Plan, LCT have been observed in Dog Creek in recent years (Mellison 2013). Threats to LCT include habitat loss, livestock grazing, urban development, mining, water diversion, poor water quality, hybridization and competition with non-native salmonids (USFWS 1995).

Sierra Nevada Yellow-legged Frog

The Sierra Nevada yellow-legged frog (SNYLF) was listed as endangered throughout its range in 2013 (Federal Register 2013a). Critical habitat was designated in 2014 (Federal Register 2014). The SNYLF is endemic to California in the Sierra Nevada and historically occurred in a small portion of Nevada adjacent to and within the Lake Tahoe Basin. The SNYLF historically inhabited ponds, tarns, lakes, and streams in fishless habitats from 4,000 to over 12,000 feet in elevation (Federal Register 2014; Stebbins and McGinnis 2012). SNYLF was the only true frog occurring in high elevation aquatic ecosystems of the Sierra Nevada (Stebbins and McGinnis 2012). Prior to 2007, SNYLF were classified as mountain yellow-legged frogs (*Rana muscosa*) which generally occur at lower elevations and are now considered the population of frogs of the southern and west slopes of the Sierra Nevada and southern Coast Ranges of California. SNYLF was widely distributed throughout the Sierra Nevada from northern Plumas to southern Fresno counties and it was abundant at many sites into the early 1960s (Federal Register 2014). CDFW biologists believe that 93 percent of the historical populations of SNYLF are extinct, including large groups of populations in the northern Sierra Nevada and other local populations (CDFW 2011). The SNYLF was listed as endangered in 2012 under California's ESA.

The SNYLF is found in streams, lakes and ponds in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitats (CDFW 2011). Varying descriptions exist for habitat preference, with the northern populations reported to use only streams, while the mid- and southern populations using ponds, lakes, and streams, varying from glaciated bedrock to grassy shores (Federal Register 2014).

The project area does contain lakes or streams with adjacent wet meadow habitats suitable for SNYLF, but SNYLF are not known to occur in or near the project area (California Natural Diversity Database 2015) and the closest known historic and extant populations are approximately 14 miles west (Sagehen Creek, California) and approximately 15 miles southwest (Independence Creek, California) of the California Substation (California Natural Diversity Database 2015).

Forest Service Sensitive Species

Mammals

The project area contains potential habitat for spotted bat and Townsend's big-eared bat. However, habitat potential is considered marginal within most of the alternatives due to the lack of caves or cave-like structures. Limited roosting occurs along the Poeville and Peavine/Poeville alternatives where rock outcrops and abandoned mine workings occur. The Peavine Alternative has some rock outcrops (USFS 2011c). Townsend's big-eared bats are known to occur in mine shafts on the slopes of Peavine Peak (Brown and Berry 2002).

Spotted Bat

Spotted bats are known from only a half-dozen sites in Nevada (Bradley et al. 2006). They occupy a large range throughout central western North America from southern British Columbia to northern Mexico (Bat Conservation International 2012). They are found in a wide variety of habitats from low elevation desert scrub to high elevation coniferous forest habitats, including sagebrush and riparian habitats. They are closely associated with rocky cliffs and are thought to roost alone. These bats are capable of flying a long distance for foraging, which includes a variety of insects. Foraging habitat are meadows, open coniferous woodland, and forest edges (Bradley et al. 2006). Spotted bat detections within the general area of the project are: in California at Smith Neck Creek (California Natural Diversity Database 2013), over 15 miles to the northwest; and east Reno, likely near the Truckee River (Bradley et al. 2006). The Peavine Alternative crosses a basalt outcrop, which may provide roosting habitat. The remainder of the project area provides little suitable roosting habitat for this bat, but does provide foraging habitat.

Townsend's Big-Eared Bat

Townsend's big-eared bats are found throughout western North America ranging from low desert to high mountain habitats. Distribution is strongly correlated with the availability of caves and abandoned mines. This year-round resident bat is found primarily in rural settings from deserts to lower, mid- to high-elevation mixed coniferous-deciduous forest. These bats were not surveyed for within the project area; but they have been detected within the southwestern (Bradley et al. 2006) and eastern (Brown and Berry 2002) portions of the project area.

Townsend's big-eared bats are moth specialists. Foraging occurs near vegetation and other surfaces and prey is probably gleaned from these surfaces. The project area provides foraging habitat throughout and suitable roosting habitat occurs in the project area within outcrops and abandoned mine workings, which occur across the slopes of Peavine Peak. Some of these workings are in close proximity to the Poeville and Peavine alternatives. Townsend's big-eared bats roost together in relatively small colonies ranging from 15 to 150 individuals depending on the roost site (Bradley et al. 2006). A study of selected adits and shafts on the slopes of Peavine Peak within NFS land, revealed three adits with individual Townsend's big-eared bats (Brown and Berry 2002).

Birds

Sensitive bird species with the potential to occur or are known to occur within the project area are: Northern goshawk; mountain quail; flammulated owl; and white-headed woodpecker.

Northern Goshawk

Northern goshawks are typically associated with late seral or old growth forests, characterized by contiguous stands of large trees and large snags with closed canopies and relatively open understory (Reynolds et al. 1992). On the Carson District, known goshawk nest sites are found in large aspens and conifers with an approximate average canopy cover of 55 to 78 percent (unpublished field data, on file at Carson Ranger District). Within the Sierra Nevada, northern goshawk nesting territories occur in elevations ranging from 2,500 feet AMSL in ponderosa pine habitat through 10,000 feet AMSL in red fir and lodgepole pine habitat or within eastside pine forests. Foraging habitat use probably varies seasonally in response to prey availability. Results from some studies suggest goshawks forage in all forest types, but appear to select forests with a high number of large trees, greater canopy cover with a high basal area, and relatively open understories in which to hunt (Beier and Drennan 1997).

The major threats to goshawks include loss of critical nesting and foraging habitat from land management practices (i.e. vegetation management such as fuels reduction, livestock grazing, etc.), natural events such as fire or wind storms (Reynolds et al. 1992), and human disturbance (Squires and Kennedy 2006), particularly during breeding season.

Goshawks have not been recorded nesting within the project area, including along any of the action alternatives. In the general Dog Valley area, goshawks have been known to nest in two locations. One of these locations is within a USFS-designated northern goshawk PAC. It is located approximately four miles west of the Mitchell and Peavine alternatives, but it has not been active since 2004. Annual USFS surveys are conducted throughout the area and there have been no detections since that time.

Within the project area, pockets of potentially suitable habitat occur along portions of each of the action alternatives (**Table 3.10-2**). Although these pockets are generally considered too small in size (e.g., one to five acres) to support nesting goshawks, anomalous occurrences of goshawks nesting in very small, non-typical habitat types throughout their known distribution have been recorded (Vasquez and Spicer 2005).

Mountain Quail

Mountain quail use a variety of habitat types for nesting such as old growth coniferous forest, mixed montane shrub, regenerating clearcuts, and old burned areas (Gutiérrez and Delehanty 1999). In the Sierra Nevada, mountain quail are found nesting and foraging predominantly in montane chaparral habitat composed of chinquapin, snowbrush, and greenleaf manzanita (Gutiérrez and Delehanty 1999) where they feed on seeds, fruit, and insects.

Nests are often concealed under logs or fallen pine branches, in weeds, shrubs, or at the base of large trees. Mountain quail usually nest within a few hundred yards of water to provide chicks with required water supply after hatching (Gutiérrez and Delehanty 1999).

Mountain quail are known to occur throughout the Carson District. Suitable habitat is present for mountain quail in the project area particularly in areas where montane chaparral is present. Incidental sightings of mountain quail have been detected in the Long Valley area near the northern

goshawk PAC (USFS 2011d) and were documented in or near the project area during surveys for the Nevada Breeding Bird Atlas (Floyd et al. 2007).

Flammulated Owl

Flammulated owls nest in a variety of open coniferous forests between 6,000 and 10,000 feet AMSL. Flammulated owls prefer older forests and are often found in association with old growth yellow pine forests mixed with red fir, white fir, and incense cedar (McCallum 1994). In Nevada, flammulated owls have been found nesting within aspens (GBBO 2010) and will occupy stands as small as 125 acres (Dunham et al. 1996). Flammulated owls are secondary cavity nesters and prefer cavities excavated by northern flickers and pileated woodpeckers (Arsenault et al. 2002). Older forests tend to have a higher abundance of snags and live trees with suitable nesting cavities; however, critical to foraging and roosting is a mosaic of habitats. Foraging habitat is generally a well-developed but more open understory and forest/grassland edge habitats (McCallum 1994). These owls forage almost exclusively on insects and other arthropods, mostly moths, beetles, and grasshoppers.

Flammulated owls have been documented on the Carson Ranger District and most recently were detected within aspen and mixed conifers stands in the Long Valley area (Easton 2013). Habitat requirements for flammulated owls are similar to those of the northern goshawk. Limited habitat for these owls occurs in areas of older stands of conifer as well as aspen stands that occur in small patches along some of the action alternatives.

White-Headed Woodpecker

White-headed woodpeckers occur from southern British Columbia, north central Washington, northern Idaho south through Oregon, east of the Cascades, to southern California and west-central Nevada (Garrett et al. 1996). They are known in Nevada from the Carson Range within the Carson Ranger District and Tahoe Basin (GBBO 2010). White-headed woodpeckers are year-round residents and generally are found at elevations between 4,000 and 9,000 feet AMSL in ponderosa pine or Jeffrey pine (eastside) and mixed conifer habitat type (Garrett et al. 1996). Preferred habitat appears to be multi-storied, multi-species forest with large diameter trees, numerous snags and 50 to 70 percent canopy cover (GBBO 2010). However, white-headed woodpeckers are also found in open-canopied conifer stands with nest sites often occurring in relatively open habitat or along forest edges (Garrett et al. 1996).

A pair of white-headed woodpeckers was noted along the Mitchell Alternative in 2011 and was likely nesting within the area (USFS 2011c). Habitat requirements for white-headed woodpeckers somewhat overlap with the northern goshawk and flammulated owl, although white-headed woodpeckers tend to tolerate more open habitat conditions compared to the other two species. Potentially suitable habitat occurs in areas of older mixed conifer and aspen stands, as well as open larger diameter conifers.

Greater Sage-Grouse

The greater sage-grouse is both a USFS and BLM sensitive species and considered a game bird in Nevada. Greater sage-grouse are known obligates of sagebrush habitats, meaning that they require sagebrush for some part of their life cycle. Greater sage-grouse use sagebrush for roosting, cover,

and food. During Nevada winters, they select wind-swept ridges with short, scattered black sagebrush (*Artemisia nova*) or low sagebrush (*Artemisia arbuscula*) plants as winter feeding areas (Connelly et al. 2011; Thacker 2010; Young and Palmquist 1992). Despite the fact that this species occurs widely in sagebrush throughout the west, it has undergone a decline in numbers due to a variety of interrelated impacts, from wildland fire affected habitat, habitat fragmentation, and increased predation.

Greater sage-grouse court and mate on traditional communal display grounds called strutting grounds, or leks. Male birds establish territories on the lek and display and vocalize to hold these territories and to attract female birds. Greater sage-grouse utilize springs, streams, and wet meadow habitats as brood-rearing sites, where young birds can find insects and nutritious green vegetation.

As part of the planning effort for this project, habitat maps developed for the Nevada and Northeastern California Greater Sage Grouse Land Use Plan Amendment FEIS (BLM and USFS 2015; Coates et al. 2014) were reviewed to determine if the project area is within identified habitat for the greater sage-grouse. The document outlines four habitat types: Core Habitat, Priority Habitat, General Habitat, and Non-habitat.

- Core Habitat, defined as areas of suitable sage-grouse habitat use found within areas of estimated high space use, also referred to as Preliminary Priority Habitat.
- Priority Habitat, defined as areas that are determined to be highly suitable habitat for sage-grouse that are not contained within the Core Management Areas, referred to as Preliminary General Habitat.
- General Habitat is defined as areas determined to be suitable habitat for sage-grouse, though less suitable than Priority Habitat and not contained within the Core Habitat.
- Non-habitat is defined as areas determined to be unsuitable for greater sage-grouse.

Based on this review, approximately 15 acres of priority habitat (formerly called Preliminary General Habitat) is mapped within the variable-width corridor on public land, while approximately nine acres are mapped within the variable-width corridor on private land. Only General Habitat and Non-habitat vary by alternative. These habitats overlay forested habitats and highly disturbed areas. No Core Habitat occurs within 20 miles of the project area.

The closest historic lek is known from the Cold Springs area, which is greater than seven miles north of the Bordertown Substation. According to Shawn Espinosa with NDOW (Espinosa 2011), the amount of human disturbance and other land alterations both in the project area and the surrounding areas, have decreased habitat quality for sage-grouse that may have historically once occupied the project area. According to Espinosa, these areas were always considered to be on the fringe of the distribution for sage-grouse. The nearest known population was last seen in the late 1970s, near Cold Springs, prior to the construction of large housing developments in the area. NDOW (Freese 2015) has indicated the closest known active lek is located in the Dog Skin Mountains, approximately 22 miles northeast of the Bordertown Substation.

BLM Sensitive Species

Mammals

A number of mammal species are listed by the BLM Eagle Lake Field Office as sensitive. The BLM indicated that six species of BLM sensitive bats could occur in the project area: long-eared myotis, fringed myotis, pallid bat, dark-nosed small-footed myotis, Yuma myotis, and Townsend's big-eared bat (described above). For nearly all species of bats, the most common habitat is foraging habitats associated with riparian or wet areas. Four species of bats can be found roosting in trees: long-eared myotis, pallid bat, small-footed myotis, and fringed myotis. All have the potential to be found roosting in rock outcrops, caves, or mines, which are limited within the action alternatives.

Long-eared Myotis

Primarily a bat of forests, where older trees provide roosting sites beneath bark or within cavities, occasionally uses crevices in cliffs and buildings. This is one of the most wide ranging bats, occurring from Alaska to Mexico (Bat Conservation International 2012; Bradley et al. 2006). Long-eared myotis usually form maternity colonies of up to 200 females. The species hibernates in winter and become active with onset of warm weather, spring to fall.

Fringed Myotis

Fringed myotis appear to be most common within oak and pinyon-juniper habitats (Bradley et al. 2006), but may occur conifer forest, scrub, and sagebrush. Believed to hibernate in winter becoming active with onset of warm weather. They forage primarily on beetles and moths, though non-flying insects have been documented.

Pallid Bat

The pallid bat inhabits low desert shrubland, juniper woodlands, and grasslands. Pallid bats most commonly occur in low, dry regions with rock outcrops, usually near water, and roost in rock crevices, buildings, rock piles, tree cavities, shallow caves, and abandoned mines (NatureServe 2012; Bradley et al. 2006). Their primary food sources are crickets, grasshoppers, beetles, scorpions, and spiders.

Dark-nosed (Western) Small-footed Myotis

The taxon has been split; leaving the species in Nevada and California as the small-footed dark-nosed myotis, *Myotis melanorhinus* (Bat Conservation International 2012). This species of bat occurs west of the Rockies in varied habitats, most common in pinyon-juniper communities (Bogen et al. 1998).

Yuma Myotis

The Yuma myotis inhabits riparian areas, scrublands, deserts, and forests and is commonly found roosting in bridges, buildings, cliff crevices, caves, mines, and trees. Its primary diet is emergent aquatic insects such as caddis flies, midges, and small moths and beetles (Bradley et al. 2006). Believed to be migratory in Nevada; most active in Nevada with warm weather, spring to fall.

Birds

Golden Eagle

Golden eagles inhabit wide open terrain, both agricultural and shrub covered with suitable nest features. Generally rock outcrops, crags, and cliffs are selected as nesting substrate and occasionally conifers. Nest sites are normally located with expansive views of their home range territory, which is generally large. Like other long-lived species, golden eagles have a low reproductive rate, with their productivity linked to prey abundance and seasonal weather. Their primary prey base are rabbits and hares, especially black-tailed hares (jack rabbits) (Kochert et al. 2002). Golden eagles are not a forest species and are uncommon within them. However, where forests provide a suitable nesting substrate adjacent to suitable foraging habitat, golden eagles can occur (Ryser 1995). The project area provides roosting, foraging, and nesting habitat for golden eagles. Two golden eagle nests were located during surveys; both are over three miles from any action alternative (JBR 2013a). A pair of golden eagles were seen in 2012 soaring over the Poeville Alternative as well.

Swainson's Hawk

Swainson's hawks are strongly associated with large nest trees such as cottonwoods, oaks or others adjacent to grassland or agricultural lands (Floyd et al. 2007). They are long-distance migrants and nest later than most raptors. They prefer tall trees adjacent to foraging habitat. In western Nevada, they are generally found near ranches with trees. Over most of the species' range, breeding Swainson's hawks show a strong dependence on ground squirrels, voles, or other abundant small mammal prey. Territory density appears to be positively associated with the availability of specific regional prey such as ground squirrels and voles. Following the breeding season, this species shifts from foraging on small mammals to insects (e.g., grasshoppers and crickets) (Woodbridge 1998). The project area provides little nesting habitat for these hawks, but they could occur during migration or during dispersal.

Burrowing Owl

Burrowing owls require open habitat with existing burrows dug by ground squirrels, kit fox, or other fossorial mammals usually in open areas with good surrounding visibility. Burrowing owls are present in northern Nevada in the spring and summer months and winter in the southwestern states (Poulin et al. 2011). Habitat is extremely limited along the action alternatives, with potentially suitable habitat available within the Long Valley grassland and open habitats and in burned areas around the Bordertown Substation.

Loggerhead Shrike

Loggerhead shrikes are commonly found in arid open country and shrublands with higher perches suitable for searching for prey. They occur where shrubby but open habitat is suitable, on the Poeville and Peavine alternatives. They are widely dispersed across Nevada, but are less so across California (Floyd et al. 2006; Reuven 1996).

Other Species

Sagebrush Lizard

In California, this subspecies occurs in the Great Basin desert east of the Sierra Nevada and in the northeast corner of the state. It ranges north into eastern Washington and east into southern Idaho, Montana, Wyoming, Nebraska, Utah, Colorado, Arizona, and New Mexico. In Nevada, it is wide ranging within sagebrush habitats. Found in sagebrush and other types of shrublands, mainly in the mountains (at higher elevations than the western fence lizard). Sagebrush lizard prefers open areas with scattered low bushes and lots of sun (Stebbins and McGinnis 2012). All action alternatives have some potentially suitable habitat.

California Species of Special Concern

Mammals

Sierra Nevada Snowshoe Hare

This subspecies of snowshoe hare occurs in the mid- to higher elevations of the Sierra Nevada from Mount Lassen to Mono County in California. In Nevada, they have been documented in the Lake Tahoe region (Hall 1995; Collins 1998). They prefer riparian habitats with thick brush with downed logs and access to conifer branches for browsing during the winter months when other browse is buried under snow (Collins 1998). Limited habitat for this species occurs within the project area.

American Badger

American badgers are large members of the weasel family and are powerful diggers for construction of dens or the acquisition of prey (e.g., ground squirrels). They prefer open grasslands, open shrub habitats or treeless habitats with friable soil and suitable prey (Jameson and Peeters 1988). In the project area they could occur outside forested habitats, particularly on the slopes of Peavine Mountain or within the Bordertown area.

Birds

Northern Harrier

Widely distributed across treeless landscapes, generally seen gliding above foraging habitat in search of voles, mice, and other prey sources. Commonly found nesting within wetlands, marshes or riparian areas where vegetation can conceal nests. Species nests on the ground, usually in dense vegetation (Shuford and Gardali 2008). Known to occur within the project area.

Long-eared Owl

These owls are strongly associated with riparian woodlands with dense vegetation; however foraging habitat is almost exclusively open terrain. Primary prey are voles or other nocturnal rodents. They typically nest in trees utilizing a previously built nest, occasionally nests within cavities of trees or rock outcrops (Marks et al. 1994). In California, they have a limited distribution across the state.

Yellow Warbler

The yellow warbler is found almost exclusively in riparian habitat, notably those with dense willow thickets; a common victim of nest parasitism by brown-headed cowbirds. Yellow warblers breed in the Sierra Nevada and Great Basin in areas that support willows or other dense riparian habitat (Floyd et al. 2007). They are summer residents on the Carson Ranger District. Yellow warblers were noted during the Nevada Bird Atlas breeding bird surveys within a portion of the project area (near Verdi) (Floyd et al. 2007) and during migratory bird surveys for a project in Dog Valley. Yellow warblers are closely tied to riparian habitats that contain willow, alder, and elderberry components for nesting. However, non-breeders (migrants) may be found in mixed conifer habitat associated with riparian areas or conifer stands that contain substantial amounts of brush (Lowther et al. 1999). Portions of the project area contain riparian vegetation potentially suitable for yellow warblers such as willow, alder, and bitter cherry; however, the riparian habitat is likely too small and too open to support breeding habitat.

Olive-Sided Flycatcher

A bird of conifer forests, nesting along forest edges and openings both natural and human made. Nesting territories are large and strongly defended. Territories generally have a large tree (tall) or snag from which the flycatchers sing or catch flying insects (Altman and Sallabanks 2012). Olive-sided flycatchers were noted during nesting bird surveys west of the project area near Dog Valley (USFS 2012b) and have been documented in the Carson Range (Floyd et al. 2007).

3.10.2.2 Mitchell Alternative

Table 3.10-2 presents the habitats within the ROW and the special status species that may occur within or adjacent to the Mitchell Alternative. Among all alternatives, the Mitchell Alternative has the least amount of fragmented habitat from roughly Mitchell Canyon area to south of Dog Creek. The Mitchell Alternative has the most conifer habitat (e.g. mixed conifer, eastside pine, and Jeffery pine communities) available as potential habitat for special status species. Based on field surveys, the conifer habitat likely does not support enough diversity both in species composition or age-class for some of the special status bird species. However, these habitats could provide transitional habitat for flammulated owl and foraging habitat for northern goshawk where aspen stands and conifer forests intermix or where roads provide corridors through dense forests. This alternative is four miles east of a northern goshawk PAC. Riparian habitat surrounding Dog Creek may provide habitat for yellow warblers, but it is likely that the habitat patch size is too small or not diverse enough for nesting. This habitat also may provide foraging opportunities for bat species, although roosting habitat was not identified during the reconnaissance surveys. LCT are known to occur within Dog Creek as well.

Most of the special status species that could occur within the project area would be incidental or occur as a result of dispersal. The Mitchell Alternative has suitable mountain quail nesting habitat and golden eagle foraging habitat. Potential habitat for the northern sagebrush lizard, American badger, loggerhead shrike, burrowing owl, northern harrier, and olive-sided flycatcher occurs in patches.

3.10.2.3 Peavine Alternative

Habitat components and potential species are similar to those presented under the Mitchell Alternative (**Table 3.10.2**); however, the length of the Peavine Alternative is shorter. The Peavine Alternative has the second most potential habitat for special status conifer-dependent species. However, the conifer habitats are unlikely to support nesting habitat for most sensitive bird species (e.g., flammulated owl, northern goshawk, olive-sided flycatcher), but could support dispersal habitat or incidental occurrences because these birds may be found within a variety of habitats outside nesting season.

Given the habitats bisected by the Peavine Alternative are similar to those of the Mitchell Alternative, the same special status species could also occur as described in **Section 3.10.2.2**.

3.10.2.4 Poeville Alternative

Habitat crossed by the Poeville Alternative is diverse and includes all habitats described in **Table 3.10-2**. However, the alternative crosses the least amount of conifer habitat. Therefore, occurrences of conifer-related species such as northern goshawk, white-headed woodpecker, and flammulated owl would likely be only incidental. The Poeville Alternative provides potential habitat for Townsend's big-eared, fringed myotis, and dark-nosed small-footed myotis bats on private land where mine workings occur. Shrub habitat may also provide nesting, foraging, and cover habitat for mountain quail, American badger, loggerhead shrike, and northern sagebrush lizard. On private land, three perennial streams are crossed; Bull Ranch Creek, Jones Creek, and the Truckee River. These areas could support riparian dependent species such as the yellow warbler, depending on the vegetation complexity and patch size; as well as potential nesting habitat for northern harrier and long-eared owl. The Truckee River supports LCT and foraging habitat for bat species. Golden eagles are expected to occasionally forage within the brush and open habitats of this alternative.

3.10.2.5 Peavine/Poeville Alternative

Table 3.10-2 presents the habitats within the ROW and the special status species that may occur within or adjacent to the Peavine/Poeville Alternative. This alternative has habitat similar to both the Peavine and Poeville alternatives, though it likely has limited habitat for roosting bats and fewer acres of habitat for conifer-dependent species, particularly compared to the Peavine Alternative (10.2 acres of conifer vs. 17.5 acres for Peavine). Similar to Poeville, the Truckee River and Bull Ranch Creek provide foraging habitat for bat species, as well as potential riparian habitat for long-eared owl, northern harrier, and aquatic habitat for LCT. Montane and sagebrush habitats encompass the second greatest acres of all the alternatives. These habitats could support species such as American badger, mountain quail, golden eagle, loggerhead shrike, and sagebrush lizard. As with the Poeville Alternative, other special status species that could occur along this alternative would likely occur as incidentals.

Table 3.10-2 Special Status Species Wildlife Habitats within the ROW of Alternatives

SPECIES ANALYZED	VEGETATION /HABITAT	MITCHELL		PEAVINE		POEVILLE		PEAVINE/POEVILLE	
		USFS	PRIVATE	USFS	PRIVATE	USFS	PRIVATE	USFS	PRIVATE
Northern goshawk, Flammulated owl, White-headed woodpecker, Olive-sided flycatcher	Mixed Conifer	26.7	2.9	14.7	3.0	0	1.7	8.0	2.2
	Eastside Pine								
	Jeffrey Pine								
Yellow warbler, Northern goshawk, Flammulated owl, Snowshoe hare, Northern harrier	Willow-Willow Scrub (Riparian)	0	0.2	0	0.2	0.3	1.4	0.1	1.4
Yellow warbler, Northern goshawk, Flammulated owl, Long-eared owl, Bat species (foraging), Sierra Nevada Snowshoe hare, Northern harrier, Olive-sided flycatcher	Aspen	2.3	0	1.1	0	0	1.2	1.1	0.8
	Riparian Mixed Hardwood								
Mountain quail, Golden eagle (Mountain sagebrush for foraging), American badger, Loggerhead shrike, Sagebrush lizard	Mountain Mahogany	63.8 ¹	8.3	69.5 ¹	8.3	55.3 ¹	41.3	50.7 ¹	18.1
	Snowbrush								
	Great Basin Mixed Scrub								
	Bitterbrush								
	Bitterbrush-Sagebrush								
	Chaparral								
	Mountain Sagebrush								

SPECIES ANALYZED	VEGETATION /HABITAT	MITCHELL		PEAVINE		POEVILLE		PEAVINE/POEVILLE	
		USFS	PRIVATE	USFS	PRIVATE	USFS	PRIVATE	USFS	PRIVATE
Golden eagle (foraging habitat), American badger, burrowing owl, Swainson's hawk (w/ large nesting trees)	Big Sagebrush	3.4	6.9	3.6	7.0	3.6	81.0	1.7	41.1
	Low Sagebrush								
	Annual Grasses, Ruderal								
	Urban and Developed								
Bat species, LCT	Riparian Mixed Hardwood	0 Dog Creek	2.3 Sunrise Creek	0 Dog Creek	2.3 Sunrise Creek	0	0.8 Jones Cr., Bull Ranch Cr, Truckee River	0	3.0 Bull Ranch Cr., Truckee River
	Wet Meadow Water								
	Water								

Source: USFS 2014d

¹ Includes approximately 15 acres of Bitterbrush-Sagebrush community on BLM-administered public land at the Bordertown Substation

3.10.3 Environmental Consequences

3.10.3.1 Methods of Analysis

Potential effects on special status wildlife species were evaluated by determining the potential for an alternative to:

- Result in a loss of population viability or a trend toward federal listing for USFS Sensitive wildlife; or
- Disturbance to federally-listed species: LCT.

3.10.3.2 No Action Alternative

Under the No Action Alternative, there would be no impacts to special status wildlife or their habitats from the proposed project and subsequent operation and maintenance of the transmission line. There would be no increase in ground disturbance, habitat removal, or disturbance from the existing conditions. Wildlife assemblages would occur as they do currently.

3.10.3.3 Effects Common to All Action Alternatives

A Biological Assessment, which evaluated impacts to federally listed species has been prepared and available upon request from the USFS. A Biological Evaluation, evaluating impacts to USFS sensitive species has also been prepared and is available upon request from the USFS. Both of these documents have been incorporated by reference into this Final EIS.

The construction and operation of the proposed transmission line would not result in a barrier for, or restrict the range of, special-status species. However, project construction may impact wildlife by altering migration and movement corridors from human disturbance and noise; removing, altering, or fragmenting habitat, or cause direct wildlife mortality from construction related equipment. When the line is operational, a number of long-term on-going impacts may occur. These include collisions with the lines and increased predation by raptors due to the increased availability of perches offered by the structures. The mechanisms of impacts and design features that would be implemented to avoid and minimize them are described in **Section 3.9.2.2**. These impacts and design features would be the same for special status species.

The amount of each vegetation community that occurs within 5 miles of the proposed transmission line is presented in *Specialist Report: Vegetation Resources Bordertown to California 120 kV Transmission Line Project* (USFS 2014d). As the report shows, suitable habitat for the species presented in **Table 3.10-2** is abundant within the surrounding proximity of the proposed ROW/easement. Thus potential impacts from displacement and habitat disturbance is anticipated to be negligible due to the abundance of adjacent undisturbed habitat available for special status wildlife.

Federally Listed Species

As described in **Section 3.10.1**, the only federally listed species that is known to, likely to, or could occur within the project area is LCT. The potential impacts to water quality (i.e., aquatic habitats) would be addressed primarily through implementation of a SWPPP and BMPs, restoration of project disturbances, and implementation of design features (**Appendix B**) specific to minimizing

impacts to water resources and soils (see **Section 3.6.2.2, Water Resources and Soils**). Design features address the potential for erosion and sedimentation from temporary road crossings by ensuring that stream crossings are properly planned and constructed. Design feature WA 13 would prohibit new road crossings on perennial streams; WA 3 would keep staging areas away from streams and WA 4 prohibits poles within the 100-year floodplain of any stream or wetland.

Design feature WL 10 was specifically developed to avoid or minimize effects to LCT:

WL 10: To limit the potential for impacts to aquatic resources, particularly to Lahontan cutthroat trout, pole sites or roads will not be placed within the 100-year floodplain in drainages occupied by Lahontan cutthroat trout, specifically Dog Creek and the Truckee River. During construction, no soil disturbing activities will occur within the 100-year floodplain of either drainage.

Under all action alternatives, with the restoration of project disturbances, effective BMPs, and implementation of design features that include avoidance of LCT habitat, there would be no anticipated effects to LCT. As described in **Section 3.6.2.2**, the action alternatives would not be expected to increase surface water temperatures or accelerate sedimentation of surface waters containing trout or otherwise.

Forest Service Sensitive Species

Pockets of aspens and conifers which may support anomalous occurrence of nesting Northern goshawk, flammulated owl, or white-headed woodpecker occur in the project area. Therefore, as a measure of extra caution, design feature WL 2 requires that surveys be conducted for these species prior to construction to locate any nesting activity. If nesting is detected, a designated PAC would be delineated and no construction activities may occur between April 15 through September 30. Pole construction would need to be designed to avoid the PAC.

3.10.3.4 Mitchell Alternative

Construction of the Mitchell Alternative would permanently remove 3.8 acres of vegetation cover (i.e., wildlife habitat). Approximately 3.7 acres of the permanent loss would be at the Bordertown Substation. The remaining 0.1 acre would be associated with vegetation cover displaced by proposed pole structures. The exact location of permanent ground disturbance associated with the placement of pole structures is unknown; however, it is known that all pole structures will be located within the proposed ROW/easement. Approximately 281.7 acres of vegetation communities (i.e., habitats) may be temporarily removed from construction activities. Temporary construction disturbance may occur anywhere within the variable-width corridor, but would generally be located within the ROW/easement because this is where pole structures would be located.

Table 3.10-2 indicates the potential habitat for special status wildlife species that could be impacted by the Mitchell Alternative. This alternative has the most acres of forested habitat (29.6 acres) that would be converted to shrub habitat as a result of construction and maintenance. Impacts are expected to be similar as those presented for general wildlife (**Section 3.9.2.2**). **Section 3.9.2.3** describes short- and long-term impacts to wildlife habitats for the Mitchell Alternative, which would also be applicable to special status wildlife.

Direct and indirect impacts range from negligible to minor and with the inclusion and implementation of design features. Impacts are not anticipated to result in a contribution to a current or predicted downward trend in habitat capability that would reduce a species existing distribution, result in a species trend toward federal listing, or result in a jeopardy determination for an ESA species.

3.10.3.5 Peavine Alternative

Construction of the Peavine Alternative would permanently remove 3.8 acres of vegetation. Approximately 3.7 acres of the permanent loss would be at the Bordertown Substation. The remaining 0.1 acre would be associated with vegetation cover displaced by proposed pole structures. The exact location of permanent ground disturbance associated with the placement of pole structures is unknown; however, it is known that all pole structures will be located within the proposed ROW/easement. Approximately 302.1 acres of vegetation communities (i.e., habitats) may be temporarily removed from construction activities. Temporary construction disturbance may occur anywhere within the variable-width corridor, but would generally be located within the ROW/easement because this is where pole structures would be located.

Table 3.10-2 indicates the potential habitat and special status wildlife species that could be affected by the Peavine Alternative. The Peavine Alternative contains less forested habitat, approximately half that of the Mitchell Alternative (17.7 acres), but overall has slightly more diverse habitat types than along the Mitchell Alternative. As with all alternatives, brush habitat is the most abundant, particularly bitterbrush-sagebrush habitat. Impacts are expected to be similar as those presented for general wildlife (**Section 3.9.2.2**). **Section 3.9.2.4** describes short- and long-term impacts to wildlife habitats for the Peavine Alternative, which would also be applicable to special status wildlife.

Direct and indirect impacts for the Peavine Alternative would be the same as those described under the Mitchell Alternative.

3.10.3.6 Poeville Alternative

Construction of the Poeville Alternative would permanently remove 3.9 acres of vegetation. Approximately 3.7 acres of the permanent loss would be at the Bordertown Substation. The remaining 0.2 acre would be associated with vegetation cover displaced by proposed pole structures. The exact location of permanent ground disturbance associated with the placement of pole structures is unknown; however, it is known that all pole structures will be located within the proposed ROW/easement. Approximately 617.7 acres of vegetation communities (i.e., habitats) may be temporarily removed from construction activities. Temporary construction disturbance may occur anywhere within the variable-width corridor, but would generally be located within the ROW/easement because this is where pole structures would be located.

Table 3.10-2 indicates the potential habitat and special status wildlife species that could be affected by the Poeville Alternative. Impacts are expected to be similar as those presented for general wildlife (**Section 3.9.2.2**). **Section 3.9.2.5** describes short- and long-term impacts to wildlife habitats for the Poeville Alternative, which would also be applicable to special status wildlife. While **Table 3.10-2** shows that all alternatives have foraging habitat for bats, only the Poeville Alternative has adits or other mine workings either within or adjacent to the variable-width corridor. These features are not expected to be impacted as a result of project construction.

Direct and indirect impacts for the Poeville Alternative would be the same as those described under the Mitchell Alternative.

3.10.3.7 Peavine/Poeville Alternative

Construction of the Peavine/Poeville Alternative would permanently remove 3.8 acres of vegetation. Approximately 3.7 acres of the permanent loss would be at the Bordertown Substation. The remaining 0.1 acre would be associated with vegetation cover displaced by proposed pole structures. The exact location of permanent ground disturbance associated with the placement of pole structures is unknown; however, it is known that all pole structures will be located within the proposed ROW/easement. Approximately 364.3 acres of vegetation communities (i.e., habitats) may be temporarily removed from construction activities. Temporary construction disturbance may occur anywhere within the variable-width corridor, but would generally be located within the ROW/easement because this is where pole structures would be located.

Table 3.10-2 indicates the potential habitat and special status wildlife species that could be affected by the Peavine/Poeville Alternative. Impacts are expected to be similar as those presented for general wildlife (**Section 3.9.2.2**). **Section 3.9.2.6** describes short- and long-term impacts to wildlife habitats for the Peavine/Poeville Alternative, which would also be applicable to special status wildlife.

Direct and indirect impacts for the Peavine/Poeville Alternative would be the same as those described under the Mitchell Alternative.

3.10.3.8 Cumulative Effects

Cumulative effects to special status wildlife have generally consisted as habitat impacts, which have been the same as described under the cumulative effects to wildlife (**Section 3.9.2.7**).

3.10.3.9 Cumulative Effects

Implementation of a Fire Prevention Plan, maintaining the required vegetation clearance within the ROW, and high-speed relay equipment to de-energize the proposed transmission line in a failure would reduce the risk of wildfire. Fuels reduction that has occurred from present resource management activities, particularly the Dog Valley Fuels Reduction and Ecosystem Enhancement Project (USFS 2009b) and would continue to occur from reasonably foreseeable future management activities. Where the Mitchell and Peavine alternatives overlap, the Dog Valley Fuels Reduction and Ecosystem Enhancement Project, design feature FP 2 would require vegetation clearing to be consistent with the methods and criteria used for the fuels reduction project. The cumulative effects from any of the action alternatives would be negligible.

3.11 WILDFIRE

For the purposes of this analysis, the wildfire analysis area has been defined as the area within two miles of the proposed transmission line centerline of the action alternatives, as well as the area within two miles of the California and Bordertown substations. This analysis area was used because it captures the wildfire history and access to the transmission line alternatives.

3.11.1 Affected Environment

3.11.1.1 Wildfire History

Approximately 9,657 acres of the analysis area (15 percent) has burned in wildfires in the 13 years from 2000 to 2013 (BLM 2014a; CAL FIRE 2012) (**Table 3.11-1**). Large portions of the analysis area were also burned in wildfires occurring earlier than 2000, as shown on **Figure 3.2-1**.

Table 3.11-1 Fire History in the Analysis Area (2000-2013)

YEAR	NAME	ACRES IN ANALYSIS AREA ¹	TOTAL ACRES BURNED ¹
2000	Unknown/Unnamed	17	17
2000	Seneca Fire	493	1,109
2000	Peavine Fire (2000)	10	10
2000	Mitchell Canyon Fire	604	604
2001	Peavine Fire (2001)	66	66
2003	Red Rock Fire	118	118
2003	Robb Fire	1,356	2,197
2004	Verdi Fire	1,080	1,080
2004	Summerset Fire	14	14
2006	Verdi Fire	5,661	5,661
2007	Balls Canyon Fire	238	4,368
Total		9,657	15,244

Source: BLM 2014a; CAL FIRE 2012

¹This data contains only fires that were over 10 acres

The causes of wildfires within the analysis area include lightning, smoking, equipment use, debris burning, campfires, and arson (CAL FIRE 2012). Existing transmission lines occur within the analysis area, but according to the data, none of the past wildfires have been linked to being caused directly or indirectly by transmission lines. The BLM (2014a) data does not provide information of the cause of wildfires.

3.11.1.2 Wildfire Risk Rating

The Healthy Forests Restoration Act of 2003 was enacted to reduce hazardous fuels on public land for the protection of communities, watersheds, and certain other at-risk lands from catastrophic wildfire. The Wildland-Urban Interface as defined by the Healthy Forests Restoration Act is the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels (National Wildfire Coordinating Group 2012).

Communities in Washoe County and the city of Reno have been assigned a fire risk rating of low, moderate, high, or extreme, based on a scoring system. To arrive at a score for the community, five primary factors that affect potential fire hazard were assessed: 1) community design; 2) construction materials; 3) defensible space; 4) availability and capability of fire suppression resources; and, 5) physical conditions such as topography (Washoe County 2005). All private land in Nevada that is within the analysis area with the exception of the Silver Lake community, north of U.S. Highway 395 has a fire risk rating of moderate or high (Washoe County 2005). The

communities of Verdi and Mogul, Nevada, are both adjacent to NFS land and are identified as Wildland-Urban Interface communities (Washoe County 2005). The fire risk rating for the communities of Verdi and Mogul is moderate. Within California, the fire risk rating is designated as “fire hazard severity zone”, and the possible ratings include moderate, high, and very high (CAL FIRE 2007). The rating is essentially a measure of the likelihood of burning and how it burns, for example the intensity, speed, and embers produced. Portions of the Verdi community located in Sierra County, California, are within moderate, high, and very high fire hazard severity zones. Other private land in California within the analysis area is also within moderate to very high fire hazard severity zones (CAL FIRE 2007).

Power lines are generally considered to be critical infrastructure and to be at risk from wildland fire when they occur in Wildland-Urban Interface settings. Power lines through areas that cross NFS land adjacent to Wildland-Urban Interface settings are also generally considered critical infrastructure. The *Nevada Community Wildfire Risk/Hazard Assessment Project for Washoe County* (Washoe County 2005) inventoried fire hazards in Wildland-Urban Interface communities, including utility corridors. In Verdi, a lack of vegetation maintenance and clearing in power line corridors was noted. In Mogul, the vegetation was maintained, but the report indicated a 15-foot clearing would be better.

3.11.1.3 Existing Accessibility

There are approximately 95 miles of designated NFS roads and motorized trails within the analysis area (USFS 2011b). Based on an analysis of aerial photography, there is an additional approximately 323 miles of existing roads within the analysis area that occur on either private land or within a ROW owned by the state or county. The analysis area is accessible for firefighting efforts through a combination of these roads and trails and from overland foot travel or aircraft.

3.11.2 Environmental Consequences

Methods of Analysis

Direct and indirect effects were analyzed by evaluating the potential for increased risk of wildfires from the proposed transmission line.

3.11.2.1 No Action Alternative

Under the No Action Alternative, construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur. Thus, there would be no new areas of wildfire hazard or increase in threat of wildfire.

3.11.2.2 Effects Common to All Action Alternatives

Construction activities including hot exhaust pipes on vehicles coming in contact with dry vegetation, sparks from equipment striking rocks, use of explosives for blasting, or workers smoking have the potential to cause a fire.

A Fire Prevention Plan would be included in the COM Plan and implemented during construction (design feature FP 1, **Appendix B**). A Fire Prevention Plan specifies the types of firefighting suppression equipment required during construction, such as shovels, fire extinguishers, and water trucks. Smoking, welding and grinding, and other potential sources of ignition would be allowed in designated areas only and restricted during elevated fire ratings and during red flag warnings.

Fire prevention measures would minimize the potential for construction activities to cause a fire and would include the appropriate response to minimize the amount of damage and keep the fire small.

The transmission line may be a potential source of wildfire ignition if vegetation comes into contact with the conductors. In forested communities, trees falling onto the transmission line or wind blowing a conductor into trees may create a flashover to ground and cause a fire. Vegetation clearing limits are required to be maintained during the operational life of the proposed transmission line (California Public Resources Code 4293 and NAC 704.450). This would reduce the potential for the conductors and any trees to come into contact. Further, if an energized conductor were to fall to the ground and create a line-ground fault, high-speed relay equipment is designed to sense that condition and actuate circuit breakers to de-energize the line in less than a tenth of a second. This safety measure reduces the risk of fire from high voltage transmission lines.

3.11.2.3 Cumulative Effects

Implementation of a Fire Prevention Plan, maintaining the required vegetation clearance within the ROW, and high-speed relay equipment to de-energize the proposed transmission line in a failure would reduce the risk of wildfire. Fuels reduction that has occurred from present resource management activities, particularly the Dog Valley Fuels Reduction and Ecosystem Enhancement Project (USFS 2009b) and continue to occur from reasonably foreseeable future management activities. Where the Mitchell and Peavine alternatives overlap the Dog Valley Fuels Reduction and Ecosystem Enhancement Project, design feature FP 2 would require vegetation clearing to be consistent with the methods and criteria used for the fuels reduction project. The cumulative effects from any of the action alternatives would be negligible.

3.12 AIR QUALITY

3.12.1 Affected Environment

The air quality analysis area has been defined as Sierra County, California and Washoe County, Nevada. Air quality in the analysis area is governed by the Washoe County Health District Air Quality Management Division and the Northern Sierra Air Quality Management District.

The Clean Air Act (CAA) established the National Ambient Air Quality Standards (NAAQS) for seven criteria pollutants. In addition to the NAAQS, the CAA designated authority to each state regulating agency (i.e., California Air Resources Board [CARB] and NDEP) to implement more stringent air quality standards in order to preserve state-specific ambient air quality. The federal and state-specific ambient air quality standards for criteria pollutants are listed in **Table 3.12-1**. The NAAQS and/or the state standards are concentration levels measured or predicted in the local climate. These levels can be measured using monitoring equipment or predicted with air dispersion modeling using the project-related emission rates, topography, local meteorological data, and other parameters. The USEPA has developed a definition for a level of significance, given in 40 CFR 52.21, which will be used to determine if air dispersion modeling is required for this project analysis.

Table 3.12-1 National and State Ambient Air Quality Standards

POLLUTANT	PRIMARY/ SECONDARY	AVERAGING TIME	CARB LEVEL	NDEP LEVEL	USEPA LEVEL¹	FORM
Carbon monoxide (CO)	Primary	8 hour	9 ppm	9 ppm	9 ppm	Not to be exceeded more than once per year
		1 hour	20 ppm	35 ppm	35 ppm	
Lead	Primary and secondary	Rolling 3 month average	-	-	0.15 µg/m ³	Not to be exceeded
		30-day average	1.5 µg/m ³	1.5 µg/m ³	-	Not to be exceeded
Nitrogen dioxide (NO ₂)	Primary	1 hour	180 ppb	100 ppb	100 ppb	98th percentile, averaged over 3 years
	Primary and secondary	Annual	30 ppb	53 ppb	53 ppb	Annual mean
Ozone (O ₃)	Primary and secondary	8 hour	0.070 ppm	0.075 ppm	0.075 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
		1 hour	0.09 ppm	0.10 ppm*	-	* Lake Tahoe Basin only
Particulate matter 2.5 microns or less diameter (PM _{2.5})	Primary	Annual	12 µg/m ³	-	12 µg/m ³	Annual mean, averaged over 3 years
	Secondary	Annual	-	15 µg/m ³	15 µg/m ³	
	Primary and secondary	24 hour	35 µg/m ³	35 µg/m ³	35 µg/m ³	98th percentile, averaged over 3 years
Particulate matter 10 microns or less diameter (PM ₁₀)	Primary and secondary	24 hour	50 µg/m ³	150 µg/m ³	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
		Annual	20 µg/m ³	50 µg/m ³	-	Annual arithmetic mean
Sulfur dioxide (SO ₂)	Primary	1-hour	250 ppb	75 ppb	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	-	1,300 µg/m ³	0.5 ppm	Not to be exceeded more than once per year
	Primary	24-hour	0.04 ppm	365 µg/m ³	-	Not to be exceeded
	Primary	Annual	-	80 µg/m ³	-	Not to be exceeded

Source: USEPA 2012, NAC 445B.22097, CCR Title 17, 70200

¹ Units of measurement:

ppm = parts per million

ppb = parts per billion

µg/m³ = micrograms per cubic meter

The closest ambient air quality monitoring site to the project area is located in Reno, Nevada. The monitoring site is located in both a residential neighborhood and a commercial growth area and monitors PM₁₀, PM_{2.5}, O₃, CO, SO₂, and NO₂ (Table 3.12-2). The levels from this monitoring site show relatively high concentrations of pollutants compared to the levels seen in rural areas characterizing the majority of the project area. The higher levels are due to urbanization and vehicular traffic near the monitoring station. The NDEP Bureau of Air Pollution Control typically considers rural areas to have negligible ambient concentrations of gaseous pollutants and a PM₁₀ concentration of 10.2 µg/m³.

Table 3.12-2 Reno, Nevada, Ambient Monitoring Data

MONITOR, POLLUTANT (DATA COVERING RANGE OF YEARS)	AMBIENT YEARLY CONCENTRATION	PERCENT OF LOWEST NAAQS
PM ₁₀ 24-hour (2010-2012)	18 µg/m ³	36.0%
PM _{2.5} 24-hour (2010-2012)	6.2 µg/m ³	17.7%
CO 1-hour (2010-2012)	0.3 ppm	1.5%
O ₃ 1-hour (2010-2012)	0.03 ppm	33.3%
NO ₂ 1-hour (2010-2012)	15.7 ppb	15.7%
SO ₂ 1-hour (2011-2012 ¹)	0.5 ppb	0.7%

Source: Schnieder 2014

¹ Monitoring began midway through December 2010

Pursuant to the CAA, USEPA developed a designation system to describe the air quality in a given area based on emission levels for each criteria pollutant. Areas classified as In Attainment are areas in which a monitored pollutant has not exceeded the NAAQS. A Non-Attainment classification represents an area in which a monitored pollutant has exceeded the NAAQS. An Unclassifiable designation is used when the area does not have sufficient data for classification.

Sierra County, California, is in Attainment or Unclassifiable for all criteria pollutants according to the USEPA (40 CFR 81.305). Although Sierra County meets USEPA's air quality standards for PM₁₀, the CARB classifies Sierra County as a Non-Attainment county for PM₁₀ based on the agency's more stringent ambient air quality standards that have been in place since 1992. Washoe County, Nevada, was designated as Non-Attainment for PM₁₀ by the USEPA in 1990 and reclassified as serious Non-Attainment in 2001 (USEPA 2013a). The Washoe County Air Quality Management Division has requested a reclassification of the county based on new monitoring data (Table 3.12-2) showing low levels of PM₁₀ in Reno, Nevada, but the USEPA has yet to respond.

3.12.2 Environmental Consequences

3.12.2.1 Methods of Analysis

The potential direct and indirect impacts on air quality were analyzed and quantified using the impact indicator listed below.

- Emissions of criteria pollutants (CO, lead, NO₂, O₃, PM₁₀, PM_{2.5}, and SO₂) anticipated from construction, operation, and maintenance of the proposed project.

Emissions were tabulated for fugitive and mobile emissions. These emissions were then used to determine the level of analysis needed to describe the impact to the ambient air quality.

Impact magnitude was separated into the following four possible levels:

- **Negligible** – no measurable change in existing ambient air quality. Emissions are below the USEPA-defined levels of significance as per 40 CFR 52.21;
- **Minor** – a small measurable change in existing ambient air quality. Emissions are above the USEPA-defined levels of significance as per 40 CFR 52.21, but an air dispersion modeling analysis predicts that project-related emissions are below the NAAQS for all criteria pollutants;
- **Moderate** – a moderate measurable change in existing ambient air quality. The air dispersion modeling analysis predicts that project-related emission are at or near the NAAQS for one or more criteria pollutant; and,
- **Major** – a large, easily measurable change in existing ambient air quality and project-related emissions exceed the NAAQS for one of more criteria pollutant.

Design features listed in **Appendix B** have been developed to reduce or avoid certain impacts, including impacts on air quality. The analysis considers impacts of the project after the incorporation of these project design features.

3.12.2.2 No Action Alternative

Under the No Action Alternative, construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur; therefore there would be no project-related dust or exhaust emissions to affect existing air quality within the analysis area.

3.12.2.3 Effects Common to All Action Alternatives

Construction

Engine exhaust from construction equipment and personal vehicles that the construction workforce would use to commute to the project area would directly generate emissions of all the criteria pollutants, with the exception of O₃. However, the NO₂ emissions from exhaust may naturally react with other pollutants in the atmosphere to form O₃ (California Office of Environmental Health Hazard Assessment 2007). Emissions of lead would be negligible, if measurable at all, because modern fuels are manufactured as unleaded. A list of the equipment that may be required for construction of the proposed project is provided in **Table 2.3-2**. The level of emissions of criteria pollutants would directly relate to the type of equipment, engine size, and the length of time the equipment is used. The length of time that equipment is used was considered to be directly correlated with the length of the action alternative. Construction equipment would be equipped with manufacturer recommended catalytic converters and/or other appropriate mufflers and emission controls. In addition to engine exhaust, equipment and vehicle brakes would also generate brake dust (i.e., PM₁₀ and PM_{2.5} emissions).

Surface disturbance required for construction activities would remove vegetation cover and loosen soils. Wind and the operation of equipment over loose, bare soils would generate fugitive dust (i.e., PM₁₀ and PM_{2.5} emissions). The level of PM₁₀ and PM_{2.5} emissions generated from construction surface disturbance would depend on the acreage of surface disturbance anticipated for each action alternative. A COM Plan would be developed prior to construction of the selected alternative and

would include a Dust Abatement Plan that describes construction measures and practices that would be implemented to control dust emissions. All action alternatives would require a surface area disturbance permit and a fugitive dust control plan from the local air quality agency, Rule 226 for Sierra County and Section 040.030 for Washoe County, in order to minimize fugitive dust from land disturbances.

Emissions of criteria pollutants generated from project equipment and vehicles would be temporary and last for the duration of the construction period. Construction of the proposed project is anticipated to occur over a period of 8 to 12 months, depending on weather. Construction surface disturbance would be restored following completion of project construction. Restoration of vegetation cover would prevent continued emissions of fugitive dust associated with exposed soils and wind erosion. Thus, construction of the proposed project would result in temporary impacts to ambient air quality.

Design feature AQ 1 (**Appendix B**) would limit project equipment and vehicles to speeds of 20 miles per hour or less when travelling on unpaved roads or on unpaved surfaces in the ROW/easement. Low travel speeds reduce fuel consumption and limit dispersal of fugitive dust. Design feature AQ 2 would require construction surface disturbance to be watered, as needed, to control fugitive dust emissions. Per design feature AQ 4, excavation and grading activities would be suspended when instantaneous gusts of wind in excess of 50 miles per hour and visible dust persist that create a health hazard to neighboring property owners or visibility hazard to vehicular traffic. Design feature AQ 5 includes five measures to reduce equipment emissions from construction vehicles. These measures include: 1) tuning engines to manufacturers specifications; 2) not allowing equipment to idle for more than five minutes; 3) not tampering with equipment to increase horsepower; 4) using control devices on equipment such as particulate traps and oxidation catalysts; and 5) using diesel fuel that has a sulfur content of 15 ppm or less.

With implementation of design features, temporary construction impacts on ambient air quality would be negligible for fugitive emissions for all action alternatives. Impacts from gaseous emissions would be negligible because of the relatively short construction period and manufacturer-installed control equipment, as well the reduced fuel consumption from design feature AQ 1.

Operation and Maintenance

Operation and maintenance of the proposed project would result in temporary direct impacts to ambient air quality. Direct impacts would be from the exhaust and fugitive dust emissions generated by equipment and vehicles used during annual inspections of the transmission line and from removal of trees within the transmission line clearance area, as needed. Annual inspections would be conducted via helicopter or from walking to the pole structures from existing roads. Unexpected repairs may also require equipment and ground disturbance resulting in gaseous exhaust and fugitive dust emissions. Maintenance-related construction activities may occur, but would not be extensive and would occur on an infrequent to rare basis. Any emissions from operation and maintenance activities would be much less than emissions generated from construction activities because much less ground disturbance and equipment would be needed for maintenance or repairs. Impacts on ambient air quality would be negligible for all action alternatives and would be temporary for the duration of the maintenance or repair activities.

3.12.2.4 Effects by Action Alternative

Table 3.12-3 lists the maximum predicted emission levels during construction from all project-related sources (from mobile sources and ground disturbance) for each of the action alternatives and the comparison to the USEPA-defined significant emission rates. The proposed project would not include any stationary emission sources, as all construction equipment would move off-site once construction is complete.

Table 3.12-3 Maximum Predicted Emission Levels By Alternative

ALTERNATIVE	PM TON/YR	PM ₁₀ TON/YR	PM _{2.5} TON/YR	SO ₂ TON/YR	NO ₂ TON/YR	CO TON/YR	GHG ¹ (CO ₂ E) ² TON/YR
TOTAL FUGITIVE EMISSIONS							
Mitchell	11.6	4.0	0.6	N/A	N/A	N/A	N/A
Peavine	10.2	3.5	0.5	N/A	N/A	N/A	N/A
Poeville	17.8	6.1	0.9	N/A	N/A	N/A	N/A
Peavine/Poeville	11.8	4.0	0.6	N/A	N/A	N/A	N/A
TOTAL GASEOUS EMISSIONS							
Mitchell	1.8	1.5	1.2	1.4	21.1	5.6	941.5
Peavine	1.6	1.3	1.1	1.2	18.6	5.0	828.8
Poeville	2.8	2.3	1.9	2.1	32.4	8.7	1,449.0
Peavine/Poeville	1.8	1.5	1.3	1.4	21.5	5.7	957.6
TOTAL PREDICTED EMISSION LEVELS							
Mitchell	13.4	5.5	1.8	1.4	21.1	5.6	941.5
Peavine	11.3	4.8	1.6	1.2	18.6	5.0	828.8
Poeville	20.6	8.4	2.8	2.1	32.4	8.7	1,448.5
Peavine/Poeville	13.6	5.6	1.8	1.4	21.5	5.7	957.6
USEPA THRESHOLDS CFR TITLE 40, PART 52.21: SIGNIFICANT EMISSION RATES							
	25	15	10	40	40	100	25,000
DE MINIMIS LEVELS CFR TITLE 40, PART 92.153: GENERAL CONFORMITY							
	N/A	70	N/A	N/A	N/A	N/A	N/A

¹See Section 13.3 for discussion of GHG emissions

²When quantifying GHG emissions, the different global warming potentials of GHG pollutants are usually taken into account by normalizing their rates to an equivalent CO₂ emission rate (CO₂e)

Project-related emissions are below the USEPA-defined significant emission rates in 40 CFR 52.21 and the *de minimis* levels described in 40 CFR 93.153 for pollutants in Non-Attainment areas. Under any action alternative, the proposed project would not exceed the significant emission rates. Therefore, a more in-depth air dispersion analysis is not required to demonstrate compliance with the NAAQS for any of the criteria pollutants. In addition, the project is not subject to a general conformity determination due to predicted project emissions falling below the *de minimis* levels described in 40 CFR 93.153. Under any action alternative, the proposed project would not exceed NAAQS.

3.12.2.5 Cumulative Effects

As stated in **Section 3.12.1**, Sierra County is in Attainment for all criteria pollutants and Washoe County is in Attainment for all but PM₁₀ according to the USEPA (2013a). California has designated Sierra County in Non-Attainment for PM₁₀ based on more stringent ambient air quality standards. Major sources of PM₁₀ emissions in Sierra County and Washoe County include motor vehicles, residential wood stoves, industrial processes, construction dust, windblown dust, street sand, prescribed burns, and open burning (Washoe County 2012b). Wildfires are also noted to be a major source of PM₁₀ emissions in the county when they occur.

The present actions which correlate with one or more of the aforementioned major sources of PM₁₀ emissions in Sierra County and Washoe County include OHV recreation, maintenance and use of the existing transportation network, urban development, and mining. Prescribed burns which have occurred within the CIAA as part of present resource management actions no longer contribute to PM₁₀ emissions because the burns have been completed and the fires extinguished. The prescribed burns which would occur as part of reasonably foreseeable future resource management activities would incrementally increase PM₁₀ emissions in the CIAA. Potential future wildfires would also have incremental increases in PM₁₀ emissions. Increased PM₁₀ emissions from reasonably foreseeable future actions and from potential future wildfires would be short-term for the duration of the action or the wildfires. The loss of vegetation from wildfire may increase the amount of loose soil, and PM₁₀ emissions may increase for months to several years after the fire from windblown dust.

The effects to air quality from construction of any of the action alternatives would be limited to fugitive dust emissions and equipment exhaust emissions. These emissions would occur primarily during construction of the proposed project, but also to a much lesser degree during maintenance activities. The COM Plan would include a Dust Abatement Plan to reduce fugitive dust emissions. Design features AQ 1 through AQ 5 would be implemented during construction to further reduce fugitive dust emissions and equipment exhaust emissions. Construction, operation, and maintenance of the proposed project would not result in emissions of criteria pollutants at levels that exceed the federal or county thresholds for attainment when combined with existing and anticipated emissions from present and reasonably foreseeable future actions.

3.13 CLIMATE CHANGE

When sunlight reaches the Earth's surface, it can either be reflected back into space or absorbed by the Earth. Once absorbed, the planet releases some of the energy back into the atmosphere as heat (USEPA 2014c). Gases that trap heat in the atmosphere are called GHGs (USEPA 2014b). The GHGs that may contribute to global climate change include carbon dioxide (CO₂), methane, carbon monoxide, nitrogen dioxide, and several other trace gases and aerosols (USEPA 2014c).

CO₂, produced largely from combustion of fossil fuels, is the primary GHG emitted through human activities (USEPA 2014b). The uptake of CO₂ by vegetation, especially forest communities, plays an important role in moderating the CO₂ concentration in the atmosphere. In forest communities, carbon is continuously cycled between the forest ecosystem and the atmosphere. As plants photosynthesize and grow, CO₂ is removed from the atmosphere and carbon is stored in living biomass. Woody tissue in trees contains a lot of stored carbon. This storage of carbon in plants is

called sequestration. Generally, through burning of stored carbon in vegetation and wood products, carbon can be released back to the atmosphere.

3.13.1 Regulatory Framework

In January 2009, the USFS Washington Office released a document titled “Climate Change Considerations in Project Level NEPA Analysis” (USFS 2009a). This document provides initial USFS guidance on how to consider climate change in a project-level NEPA analysis, and it was therefore considered in this EIS. Also considered in this EIS is CEQ’s draft guidance memorandum on the ways in which Federal agencies can improve their consideration of the effects of GHG emissions and climate change in their NEPA evaluations.

The 2009 Washington Office document (USFS 2009a), acknowledges that “some proposals will not have cause-effect relationships to GHG or the carbon cycle, or are at such minor scale that direct effects would be meaningless to a reasoned choice among alternatives.” Similarly, the 2010 CEQ draft guidance memo notes that “in many cases, the GHG emissions of the project action may be so small as to be a negligible consideration.” As with any environmental impact, GHG emissions and carbon cycling should be considered in proportion to the nature and scope of the federal action in question and its potential to either affect emissions or be affected by climate change impacts.

On August 2016, final guidance was released by the CEQ to standardize how agencies should consider the effects of GHG emissions and climate change on NEPA reviews. That is, the guidance is intended to ensure the analysis of potential effects is commensurate with the extent of the effects of the Proposed Action. Unlike the previous draft guidance, the final guidance does not provide a threshold quantity of GHG emission to decide whether or what extent to consider climate change impacts. Rather, CEQ now recognizes that single actions will have an incremental contribution to global concentrations and climate change results from the incremental addition of GHG emissions from millions of individual sources which collectively have a large impact on a global scale (CEQ 2016).

3.13.2 Affected Environment

Earth's average temperature has risen by 1.4 degrees Fahrenheit (°F) over the past century, and is projected to rise another 2 to 11.5°F over the next hundred years (USEPA 2014a). According to the USEPA (2013b), the climate of the southwest, including Nevada and California, is changing. Over the last century, the average annual temperature has increased about 1.5°F. The average annual temperature is projected to rise an additional 2.5 to 8°F by the end of the century. Warming in the southwest is projected to be greatest in the summer (USEPA 2013b). According to the University of California at Davis (2015), maximum summer temperatures in the Lake Tahoe Region may rise by 8°F by the end of the century.

Future warming is projected to produce more severe droughts in the region, with further reductions in water supplies. Climate change is projected to result in later seasonal snow, less snow coverage, earlier wet snow avalanches, and generally shorter snow seasons. Projected increases in drought, wildfire, invasive species, and pests, as well as changes in the geographic ranges of species, will likely threaten native forests and other ecosystems in the Southwest (United States Global Climate Change Research Program 2009).

3.13.3 Environmental Consequences

3.13.3.1 Methods of Analysis

The potential direct and indirect impacts on climate change were analyzed and quantified using the impact indicator list below:

- Tons of GHG emissions from construction and maintenance of the proposed transmission line.

3.13.3.2 No Action Alternative

Under the No Action Alternative, construction of the proposed project and subsequent operation and maintenance of the proposed transmission line would not occur; therefore, there would be no GHG emissions from the project's construction equipment. Trees and other vegetation within the proposed ROW would not be cut and loss of associated carbon sequestration would also not occur from the No Action Alternative. The No Action Alternative would have no impact to climate change.

3.13.3.3 Effects Common to All Action Alternatives

Engine exhaust from construction equipment and personal vehicles that the construction workforce would use to commute to the project area would directly generate emissions of GHG. The amount of GHG emissions would directly relate to the types of equipment and the length of time the equipment is used. A list of the equipment that may be required for construction of the proposed project is provided in **Table 2.3-2**. The length of time that equipment is used was considered to be directly correlated with the length of the action alternative.

Construction equipment would be equipped with manufacturer-installed emission controls and the use of construction vehicles would need to comply with design feature AQ 5 which list practices that would be implemented to reduce emissions. Emissions of GHG generated from project equipment and vehicles would be temporary for the duration of construction. maintenance activities such as patrolling the line and vegetation removal from the line would use fossil fuels.

Surface disturbance required for construction activities would remove vegetation cover. The cutting of vegetation would cause the temporary loss of carbon sequestering until vegetation is restored. Under the transmission line wires, the loss of carbon sequestration from cutting of trees would be long-term and permanent.

Under any action alternative, the proposed project would release low levels of GHG and would contribute to some loss of carbon cycling. The specific detectable effect on climate change on a global scale is unknown, but is expected to be insignificant.

Climate change would not be anticipated to have any effects on the proposed project. Construction of the project would take 8 to 12 months. Measurable changes to the climate would not be expected over a period of 8 to 12 months. The proposed transmission line would be operated regardless of current and potentially changing weather and climate conditions. No changes to operational and maintenance procedures would be anticipated due to climatic conditions.

3.13.3.4 Effects by Action Alternative

Table 3.13-1 lists the maximum predicted GHG emissions during construction for each of the action alternatives. In addition to generated GHG emissions, reduction in carbon sequestering is also anticipated. The acreage of forested community anticipated to be cut from implementation of each action alternative, which represents the long term loss of carbon sequestering, is also presented.

Table 3.13-1 GHG Emissions and Loss of Carbon Sequestering From Construction

ALTERNATIVE	GHG CH ₄ EMISSIONS TONS/YEAR	GHG N ₂ O EMISSIONS TONS/YEAR	GHG CO ₂ EMISSIONS TONS/YEAR	GHG CO ₂ E EMISSIONS TONS/YEAR	FOREST COMMUNITY LOST ¹
Mitchell	0.04	0.006	938.1	941.5	42 acres
Peavine	0.03	0.005	826.1	828.9	21 acres
Poeville	0.06	0.01	1,443.5	1,448.5	3 acres
Peavine/Poeville	0.04	0.006	946.3	949.6	12 acres

¹ Includes eastside pine, Jeffrey pine, mixed conifer-fir, plantation, and aspen vegetation communities (USFS 2014d)

² Transmission line clearance area was assumed to be the width of the ROW/easement, although trees outside the ROW/easement with the potential to fall on conductor wires would also be removed

The Mitchell, Peavine, and Peavine/Poeville alternatives have fewer GHG emissions than the Poeville Alternative because these alternatives are much shorter than the Poeville Alternative. However, due to the lack of forested community, the Poeville Alternative has the fewest losses to carbon sequestering. GHG emissions would be occur during construction and would be temporary. Loss of carbon sequestering would occur during construction, but effects would be longer term because trees would not be allowed to grow back under the transmission line conductors for the life of the project. Despite differences presented in **Table 3.13-1**, impacts are so small that an action alternative would have a negligible incremental contribution to global climate change.

3.13.3.5 Cumulative Effects

Present actions that generate GHG emissions and contribute to climate change include the transportation network, OHV recreation, fuels reduction projects, and energy consumption at residences and commercial establishments. The actions are anticipated to continue into the reasonably foreseeable future. Fuels reduction projects are intended to improve forest health and reduce catastrophic wildfire, which would ultimately lead to greater carbon sequestration. The reasonably foreseeable future Stonegate Master Plan Development would require construction equipment that generates GHG emissions. This project would also remove existing vegetation cover, but may replace it with landscape trees that provide slightly greater carbon sequestration. The Stonegate Master Plan Development would also increase population density in the area, which would increase vehicle traffic. The increased vehicle traffic would have an incremental increase of GHG emissions.

The cumulative effects to climate change from construction of any of the action alternatives would be limited to an incremental amount of GHG emissions from equipment exhaust emissions and an incremental loss of carbon sequestration from tree removal. Project-related GHG emissions would

occur primarily during construction of the proposed project, but also to a much lesser degree during maintenance activities.

3.14 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY OF THE ENVIRONMENT

This section discusses the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity. Specifically, this section compares the degree to which the action alternatives would sacrifice the productivity of a resource value that might benefit the environment in the long term, for the value of increased transmission reliability from the short-term use of NFS land and BLM-administered public land for the proposed transmission line. Short-term uses refer to the resource effects that occur from use of the ROW for operational life of the proposed transmission line. Long-term productivity refers to the productivity of environmental resources after the operational life of the proposed transmission line.

Construction of the proposed project, under any action alternative, would cause adverse impacts that would either cease upon completion of the construction phase or would attenuate over time. Impacts that would be cease when construction is completed include soil disturbance, fugitive dust emissions, vehicle and equipment emissions, noise, and wildlife displacement. Vegetation and wildlife habitat would take years to recover after construction is completed. Forest communities within the transmission line clearance area would have tall trees removed for the operational life of the project.

No significant decreases in the productivity of the project area due to project construction activities would be expected, as the majority of surface disturbance would be restored. Major repairs associated with project maintenance activities would be expected to result in similar impacts as construction activities, but would be infrequent, shorter in duration, and generally lesser in intensity. Thus, no significant decreases in the productivity of the project area due to project maintenance activities would be expected.

The proposed transmission line and associated modifications at the substations may exist for decades and longer. Over the long term, several decades to approximately one-hundred years, natural environmental balances are expected to be restored. Many of the effects discussed in this chapter are considered to be temporary (occurring only during construction activities), and many of the other impacts are considered short-term.

Over the operational lifetime of the proposed project, under any action alternative, long-term adverse impacts associated with land use (including private property value and uses), and visual resources would occur. These long-term impacts are analyzed in each resource issue area in **Sections 3.2** through **3.13**.

3.15 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Section 1502.16 of NEPA requires the environmental document to include a discussion of “any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented.” An irreversible commitment of resources occurs when resources are used, consumed, destroyed, or degraded during project construction and operation

and cannot be reused or recovered. An irreversible commitment effectively removes the option of future resource use. Irretrievable commitments of resources occur when there are long-term losses of resource production or use. These losses are not permanent and can be reversed in the long term if project facilities or land uses change.

The irreversible and irretrievable commitments of resources resulting from the proposed project would be similar among the action alternatives. These commitments are presented in **Table 3.15-1**.

Table 3.15-1 Irreversible and Irretrievable Commitments of Resources

RESOURCE	IRREVERSIBLE COMMITMENTS	IRRETRIVABLE COMMITMENTS	EXPLANATION
Visual Resources	No	Yes	Impacts on visual resources would occur through the operational life of the project. After operations, the pole structures and conductors could be removed and forest communities would be permitted to grow within the ROW/easement clearance area. Thus, the action alternatives would have irretrievable commitments, but no commitments that would be irreversible.
Land Use and Private Property	No	Yes	Loss of some land uses within the ROW/easement would occur in areas, particularly on private land where the proposed transmission line would not be located within an existing utility corridor. These land uses may be restored after the operational life of the project. Thus, the action alternatives would have irretrievable commitments of land uses for the operational life of the project. There would not be any irreversible commitments of land uses.
Public Health and Safety	No	No	There would be no irreversible or irretrievable commitments of public health and safety from the action alternatives.
Cultural Resources	Yes	Yes	The goal of the project is to avoid and/or minimize irreversible and irretrievable effects to historic properties that are eligible or potentially eligible for listing on the NRHP. Historic properties located along the power line corridor and access routes will be avoided wherever possible and/or treated through implementation of a HPTP. Should avoidance prove infeasible there may be irreversible effects to the integrity of a historic property. When irreversible effects are unavoidable the USFS will consult with the tribes and California and Nevada SHPOs along with NV Energy to mitigate the loss of the historic property. Cultural resources are finite and if destroyed are irretrievable.

RESOURCE	IRREVERSIBLE COMMITMENTS	IRRETRIVABLE COMMITMENTS	EXPLANATION
Water Resources and Soils	No	Yes	No irreversible or irretrievable commitments to water resources would be anticipated. Irretrievable commitments of soils would occur in areas where pole structures are installed.
Vegetation	No	Yes	Forest communities cleared from within the transmission line clearance area for the operational life of the project would be an irretrievable commitment of forest vegetation.
Special Status Plants	No	No	No irreversible or irretrievable commitments of special status plant populations or individuals would be anticipated.
Wildlife	No	Yes	Wildlife displacement from loss of forested habitat within the transmission line clearance area would persist through operation of the project. Following the operational life of the project, forest communities would be permitted to grow within the clearance area. Thus, wildlife displacement would be an irretrievable commitment.
Special Status Wildlife	No	Yes	Special status wildlife displacement from loss of forested habitat within the transmission line clearance area would persist through operation of the project. Following the operational life of the project, forest communities would be permitted to grow within the clearance area. Thus, special status wildlife displacement would be an irretrievable commitment.
Wildfire	No	No	The action alternatives would not have any irreversible or irretrievable commitments related to wildfire.
Air Quality	No	No	Emissions from project construction and maintenance activities would be temporary and not exceed federal or state air quality standards. Air quality would return to existing conditions after completion of activities.
Climate Change	No	Yes	Under the transmission line wires, the loss of carbon sequestration from cutting of trees would be for the operational life of the project.

In addition to the resource commitments identified in **Table 3.15-1**, construction and maintenance of the proposed project would require an irreversible commitment of energy as it relates to the fossil fuels needed for construction and maintenance equipment and vehicles. An irreversible commitment of construction materials would also be required from any of the action alternatives. However, energy consumption to manufacture the construction materials would not be anticipated because these materials would continue to be produced regardless of implementation of any of the action alternatives.

3.16 CONFORMANCE WITH APPLICABLE LAWS, REGULATIONS, POLICIES AND EXECUTIVE ORDERS

This EIS has been prepared in accordance with the applicable laws, regulations, policies, and executive orders listed in **Table 3.16-1**. A brief explanation or statement of conformance is provided in the table.

Table 3.16-1 Applicable Laws, Regulations, Policies, and Executive Orders

LAW, REGULATION, POLICY, OR EXECUTIVE ORDER	STATEMENT OF CONFORMANCE
2014 California BLM and State Historic Officers Protocol Agreement (BLM 2014b)	Section 106 of the NHPA, as it pertains to the BLM-administered public land in the project area, was implemented in accordance with the California BLM and State Historic Officers Protocol Agreement (BLM 2014b).
American Antiquities Act of 1906 (as amended)	Design features (Appendix B) have been developed to prohibit the collection or disturbance of archeological sites encountered during construction. All prior cultural resource surveys and any potential future cultural resource surveys for the proposed project would be conducted by qualified archaeologists under a permit issued by the USFS.
American Indian Religious Freedom Act of 1978	Native American Tribes were consulted to determine the presence of American Indian religious sites. See tribal consultation summary (Section 4.2.2).
Archeological Resource Protection Act of 1979	Design features (Appendix B) have been developed to prohibit the unauthorized collection or disturbance of previously unidentified archeological sites encountered during construction or maintenance of the project.
Bald and Golden Eagle Protection Act of 1940 (as amended)	The proposed project would not result in the “take” of bald eagles or golden eagles. All of the action alternatives would be in conformance with the Bald and Golden Eagle Protection Act of 1940, as amended.
BLM Manual 6500: Wildlife and Fisheries Management (1988)	Design features (Appendix B) have been incorporated into the proposed project to avoid or minimize impacts to wildlife and fisheries as much as feasible.
BLM Manual 6840: Special Status Species Management (2008a)	Design features (Appendix B) have been incorporated into the proposed project to avoid or minimize impacts on BLM special status species.
Clean Air Act of 1979 (as amended)	The proposed project would be compliant with the CAA of 1979, as amended, because emissions of criteria pollutants would be below the NAAQS (see Section 3.12). Other air pollution problems addressed in the CAA, such as acid rain or depletion of the ozone layer are not relevant to the proposed project.
Clean Water Act of 1977 (as amended)	The discharge of pollutants from a point source would not occur under any of the action alternatives. All impacts to waters of the United States would be permitted under Section 404 of the CWA.

LAW, REGULATION, POLICY, OR EXECUTIVE ORDER	STATEMENT OF CONFORMANCE
Endangered Species Act of 1973 (as amended)	The proposed project would not jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The proposed project would not result in the “take” of any listed species or species proposed for listing. See agency consultation summary (Section 4.2.1).
Executive Order 11988 (floodplains)	The proposed project would not require occupancy within the 100-year floodplain. The proposed project would not modify the flood flow retention capability of the 100-year floodplain (see Section 3.6.2.2).
Executive Order 11990 (wetlands)	Compliant with Executive Order 11990, design features (Appendix B) have been developed to minimize impacts to wetlands on NFS land and BLM-administered public land.
Executive Order 12898 (environmental justice)	Compliant with Executive Order 12898, the USFS has completed an environmental justice analysis. A summary of the analysis conclusions is provided in Section 3.1.1.2 .
Executive Order 13007 (American Indian sacred sites)	Native American Tribes were consulted to determine the presence of American Indian sacred sites. See tribal consultation summary (Section 4.2.2).
Executive Order 13175 (consultation and coordination with Indian Tribal Governments)	Consultation with Native American Tribes was conducted in accordance with Executive Order 13175. See tribal consultation summary (Section 4.2.2).
Executive Order 13186 (Migratory Bird Treaty)	Pursuant to Executive Order 13186, the potential effects of the proposed project on migratory birds are evaluated in Section 3.9 . Design features (Appendix B) have been developed to avoid impacting nesting migratory birds during construction.
Federal Land Policy Management Act of 1976	In accordance with the Federal Land Policy Management Act of 1976, this EIS evaluates the proposed project in terms of its conformity with the Eagle Lake RMP (BLM 2008b) and its potential effects on the various resources contributing to the multiple uses for which the BLM-administered public land in the project area is managed.
Historic Sites Act of 1935	The potential effects of the proposed project on historic properties listed on the NRHP or eligible for such listing have been evaluated. See SHPO consultation summary (Section 4.2.3).
Memorandum of Understanding to Promote the Conservation of Migratory Birds (BLM and USFWS 2010)	Pursuant to the Memorandum of Understanding to Promote the Conservation of Migratory Birds (BLM and USFWS 2010), the potential effects of the proposed project on migratory birds are evaluated in Section 3.9 . Design features (Appendix B) have been developed to avoid impacting nesting migratory birds during construction.
Migratory Bird Treaty Act of 1918 (as amended)	Design features (Appendix B) have been incorporated into the proposed project requiring pre-disturbance migratory bird nesting surveys if surface disturbance is unavoidable during the migratory bird nesting season. The proposed project would not result in the “take” of migratory birds, their eggs, or their nests.

LAW, REGULATION, POLICY, OR EXECUTIVE ORDER	STATEMENT OF CONFORMANCE
National Bald Eagle Management Guidelines (USFWS 2007)	The proposed project would not result in the “take” of bald eagles or impact bald eagles. All of the action alternatives would be in conformance with the guidelines.
National Forest Management Act of 1976	In accordance with the National Forest Management Act of 1976, this EIS evaluates the proposed project in terms of its conformity with the Forest Plan (USFS 1986) and its potential effects on the various resources contributing to the multiple uses for which the NFS land in the project area is managed.
National Historic Preservation Act of 1966 (as amended)	In accordance with Section 106 of the NHPA, the potential effects of the proposed project on historic properties listed on the NRHP or eligible for such listing were evaluated prior to signing the ROD. See agency consultation summary (Section 4.2.3). The Forest Service is currently in the process of preparing an MOA and an HPTP pursuant to the NHPA.
Native American Graves Protection and Repatriation Act of 1990	Design features (Appendix B) require the procedures of the Native American Graves Protection and Repatriation Act of 1990 be implemented in the event that Native American human remains are encountered during construction. Native American Tribes would be consulted in the event that Native American human remains are encountered.

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CHAPTER 4 CONSULTATION AND COORDINATION

This section presents a summary of public participation in the scoping process and development of the EIS; a list of the persons, groups, agencies, or tribes consulted in the preparation of the EIS; a list of preparers; and the distribution list.

4.1 PUBLIC PARTICIPATION SUMMARY

4.1.1 Public Scoping and Meetings

The NOI was published in the *Federal Register* (Volume 76, Number 224) on November 21, 2011, thus initiating the public scoping period at the beginning of the EIS process to identify potential issues and concerns associated with the Proposed Action (i.e., Stateline Alternative) (see **Section 2.11.1**). The NOI provided dates, times, and locations of public scoping meetings and where to send scoping comments. A copy of the NOI is included in the EIS Scoping Summary Report dated May 15, 2012 (USFS 2012c).

Concurrent with the release of the NOI, the USFS issued a press release notifying local newspaper, television and radio media of the intent to develop an EIS and hold scoping meetings. Newspapers included the *Reno Gazette-Journal*, *Sierra Sun* and *Sierra County Prospect*. A one-page fact sheet was developed and made available at the front counter of the Humboldt-Toiyabe National Forest Supervisor's office in Sparks, Nevada.

The USFS developed a Scoping Notice as a means to inform the public through the mail about the project and encourage attendance at public scoping meetings. The notice provided dates and times of public scoping meetings and contacts for information and submittal of scoping comments. The Scoping Notice was mailed to individuals and organizations consisting of property owners in the project area, government agencies, and interested parties on November 14, 2011, and February 2, 2012. The second mailing was needed to inform residents near the California Substation that were inadvertently missed during the November mailing.

Public scoping meetings were held on December 6, 2011, December 8, 2011, and February 23, 2012. The first meeting was in Cold Springs, Nevada, and the other two meetings were held in Verdi, Nevada. Each meeting was held using an open house format where attendees were encouraged to walk around, meet representatives from the USFS, JBR (third-party contractor who would assist in developing the EIS), and NV Energy, view poster boards, and review aerial imagery of the alternatives. Although some attendees did not record their name on the scoping meeting sign-in sheets, sign-in sheets recorded 13 participants during the December 6, 2011, meeting, 21 participants during the December 8, 2011, meeting, and 26 participants during the February 26, 2012, meeting.

To inform the community of the project and encourage participation in the EIS process and public scoping meetings, the USFS also gave a short presentation to the Sierra County Board of Supervisors, Washoe County Commission, Reno City Council, and several neighborhood advisory boards. Presentations that were made after the December 2011 scoping meetings included a short summary of comments heard during scoping meetings.

4.1.2 Scoping Response

The USFS accepted written scoping comments by mail, e-mail, hand-delivery, and at public scoping meetings throughout the scoping period November 21, 2011, through March 5, 2012. Over 450 separate comments were compiled from 75 comment documents (e.g., letters, cards, e-mail). The majority of comments received were from individuals; however, comments were also received from government agencies, non-governmental organizations, and tribes. Scoping comments are summarized in the EIS Scoping Summary Report dated May 15, 2012 (USFS 2012c).

4.1.3 Draft EIS Public Meetings

A Notice of Availability of the Draft EIS was published in the *Federal Register* on December 12, 2014 (Federal Register Volume 79, Number 239) beginning the 45-day public comment period. Concurrently, a notice identifying the availability of the Draft EIS and the commencement of the public comment period was mailed to agencies that were cooperators on the project; as well as interested organizations, businesses, and individuals. The USFS hosted one public meeting on January 13, 2015, in Reno, Nevada. Twenty-six attendees signed in at the meeting. In addition, the USFS made a presentation to the North Valleys Citizen Advisory Board summarizing conclusions of the Draft EIS on February 9, 2015.

4.1.4 Draft EIS Responses

The USFS accepted written comments throughout the comment period from December 12, 2014, through January 26, 2015. Over 178 comments were compiled from 38 comment letters (e.g., letters, cards, and e-mails). The majority of comments received were from individuals; however, comments were also received from government agencies, non-governmental organizations, and tribes. Additions and revisions are reflected in this Final EIS in response to comments received on the Draft EIS. The responses to all comments are found in **Appendix D**. Public comment letters are available for viewing through the USFS website:

<https://cara.ecosystem-management.org/Public//ReadingRoom?Project=36656>

4.1.5 Public Participation Opportunities

Notification of the proposed project was originally published on the USFS Schedule of Proposed Actions (SOPA) on November 21, 2011. The SOPA is a list of proposals that will begin or are undergoing environmental analysis and documentation by the USFS. The SOPA listing for the proposed project included a link to a project website, which the USFS created to make project information more accessible to the public:

<http://www.fs.usda.gov/goto/htnf/bordertownline>

The project website includes links to project maps, the Scoping Notice, the Preliminary Plan of Development, technical reports, as well as links to instructions on how to file a formal objection in accordance with the USFS objection regulations.

4.2 CONSULTATION SUMMARY

4.2.1 Endangered Species Act Section 7 Consultation

Consultation with the USFWS is required under Section 7 of the ESA. Section 7 directs all federal agencies to use their existing authorities to conserve threatened and endangered species and, in consultation with the USFWS, to ensure that their actions do not jeopardize listed species or destroy or adversely modify critical habitat. Section 7 applies to management of federal lands as well as other federal actions that may affect listed species, such as federal approval of private activities through the issuance of federal permits, licenses, or other actions.

Informal consultation included a written request to the USFWS, as required in 50 CFR 402.12(c), for a list of threatened, endangered, and proposed species known or likely to occur in the analysis area (File No. 2012-SL-0230; Consultation Tracking Number: 08ENV00-2013-SLI-0355; and Event Code: 08ENV00-2015-E-00421, July 23, 2015). Three species were included on the list: Cui-ui (*Chasmistes cujus*), Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*), and Webber ivesia (*Ivesia webberi*). Additionally, conversations among the USFS staff, consultants, and USFWS staff occurred throughout the analysis process. Prior to the listing and designation of critical habitat for Webber ivesia, the USFS botanist coordinated and consulted with the USFWS botanist, sharing survey results and conducting field visits to populations and unoccupied potential habitat found in the project area. Design features to protect Webber ivesia (Section 1.2.2) were developed in coordination with the USFWS. The USFS determined that the Agency Selected Alternative would not affect Lahontan cutthroat trout, cui-ui, and Webber ivesia, and would not affect critical habitat for Webber ivesia.

4.2.2 Tribal Consultation

Consultation between the USFS and Native American Tribes is in accordance with the NHPA, the American Indian Religious Freedom Act, the Native American Graves Protection and Repatriation Act, Executive Order 13007 (American Indian sacred sites), and Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments). Executive Order 13175 states, “Each agency shall have a process to ensure meaningful and timely input by Tribal officials in the development of regulatory policies that have Tribal implications.”

In letters dated November 10, 2011, the USFS sent a draft NOI and Scoping Notice to the Reno-Sparks Indian Colony, the Washoe Tribe of Nevada and California, and the Pyramid Lake Paiute Tribe. The USFS met with the Washoe Tribe of Nevada and California on February 22, 2011, and the Reno-Sparks Indian Colony on August 8, 2011, to discuss the project during face-to-face consultation meetings. At the request of the Reno-Sparks Indian Colony, the USFS hosted a field trip to the project site on July 10, 2012. On January 16, 2015, at the request of the Washoe Tribe of Nevada and California, a field trip was made to the project site. In 2015, USFS provided a project updates by mail, phone, and/or e-mail to the Tribes and requested continued consultation.

In a letter dated February 27, 2015, the Reno-Sparks Indian Colony disclosed the presence of a potential TCP within the project area. Designation of a TCP is a federal agency action, and no agency has completed a TCP listing in the project area. With input from the Reno-Sparks Indian Colony, the Washoe Tribe of Nevada and California, and the Pyramid Lake Paiute Tribe, the USFS conducted an ethnographic study, identifying potential sites and evaluating potential effects of the Peavine/Poeville Alternative. From March 2016 through October 2017, the USFS requested input

from the Tribes, requesting reviews of the draft report and concurrence on a determination of no adverse effects to TCP-eligible sites.

By October 2017, the Tribes reached concurrence with USFS's determination of effects of the Peavine/Poeville Alternative. USFS will seek tribal input on the development of the HPTP. The USFS will continue tribal consultation through the completion of the NEPA process.

4.2.3 National Historic Preservation Act Section 106 Consultation

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties. Historic properties are properties that are included in the NRHP or that meet the criteria to be eligible for inclusion in the NRHP. A Cultural Report for the transmission line corridors and an addendum addressing road widening corridors were submitted to the Nevada and California SHPOs for consultation and concurrence. Concurrently, an ethnographic report evaluating potential effects of the Agency-Preferred Selected Alternative to TCP-eligible sites was submitted. The California and Nevada SHPOs concurred with the determination of eligibility and effects on October 20, 2017, and November 17, 2017, respectively. A copy of the letters from the California and Nevada SHPO are available in the project record.

4.3 DISTRIBUTION OF THE FINAL EIS AND DRAFT RECORD OF DECISION

This Final EIS and a draft ROD are being made available to the public and agencies for a 45-day objection period, initiated by publication of a legal notice in the Reno Gazette Journal, newspaper of record. This Final EIS and the draft ROD are also available online at:

<http://www.fs.usda.gov/goto/htnf/bordertownline>

Hard copies of the Final EIS and the draft ROD are available for review at the following locations:

Northwest Reno Library

2325 Robb Drive
Reno, Nevada 89523

Verdi Library

270 Bridge Street
Verdi, Nevada 89439

North Valleys Library

1075 North Hills Boulevard, #340
Reno, Nevada 89506

4.4 LIST OF REVIEWERS, CONTRIBUTORS, AND PREPARERS

The USFS Interdisciplinary Team members and other representatives from cooperating agencies were responsible for reviewing the EIS and are listed in **Table 4.4-1**.

Table 4.4-1 USFS and Cooperating Agency Interdisciplinary Team

NAME	LOCATION/OFFICE	ROLE
Lead Agency – USFS Humboldt-Toiyabe National Forest		
Marnie Bonesteel	HTNF Supervisor's Office	USFS Project/Interdisciplinary Team Lead
Jim Winfrey	HTNF Supervisor's Office	NEPA Specialist
Maureen Easton	Carson Ranger District	Wildlife, Special Status Wildlife, Noxious Weeds
Amanda Brinnand	Carson Ranger District	Vegetation, Forest Product Resources
Troy Jorgenson	Carson Ranger District	Roads and Transportation
Dave Reis	HTNF Supervisor's Office	Visual Resources
Nancy Brunswick	Forest Service	Visual Resources
Sally Champion	Carson Ranger District	Water Resources and Soils
Elizabeth Bergstrom	Carson Ranger District	Special Status Plants (2011 to 2015)
Timothy Kellison	Carson Ranger District	Special Status Plants
Daniel Morris	Carson Ranger District	Recreation
Michael Wilde	Carson Ranger District	Wildfire and Fuels Management
Joseph Garrotto	Carson Ranger District	Cultural Resources (2011 to 2015)
Kalie Crews	Carson Ranger District	Cultural Resources
Cooperating Agency – Bureau of Land Management		
Jill Poulsen	Eagle Lake Field Office	BLM Project Lead (2011 to 2016)
Daniel Ryan	Eagle Lake Field Office	BLM Project Lead
Cooperating Agency – Nevada Department of Wildlife		
Mark Freese	Reno, Nevada	Wildlife, Special Status Wildlife
Cooperating Agency – Truckee Meadows Planning Agency		
Sienna Reid	Reno, Nevada	Alternatives, Land Use
Cooperating Agency – Sierra County		
Brandon Pangman	Downieville, California	Alternatives, Land Use
Cooperating Agency – Washoe County		
Bill Whitney	Reno, Nevada	Alternatives, Land Use
Cooperating Agency – City of Reno		
Vern Kloos	Reno, Nevada	Alternatives, Land Use

Stantec Consulting Services Inc., formerly JBR Environmental Consultants, Inc., is a third-party contractor for this EIS. Stantec and its subcontractors (**Table 4.4-2**) prepared resource specialist reports detailing the affected environment, analyzing impacts to these resources from the No Action Alternative and action alternatives.

Table 4.4-2 Third-Party Contractor Preparers

NAME	LOCATION	ROLE/RESOURCE	EDUCATION	YEARS' EXPERIENCE
Stantec Consulting Services Inc.				
Nancy Kang	Reno, Nevada	Project Manager, Water Resources and Soils, Vegetation, Special Status Plants	B.S., Botany	27
Greg Brown	Sandy, Utah	Assistant Project Manager	B.S., Natural Resource Management	25
George Dix	Reno, Nevada	Visual Resources, Recreation, Vegetation, Wildfire and Fuels Management, Cumulative Effects, GIS analysis, (2011 to 2016)	B.S., Environmental Resource Management	12
Wendy Broadhead	Reno, Nevada	Wildlife, Special Status Wildlife	B.S., Plant Science; B.A., Anthropology; B.A., Art	29
Steven Morton, AICP	Reno, Nevada	Land Use and Private Property, Roads and Transportation	B.A., General Studies	14
Catherine Schnurrenberger	Reno, Nevada	Vegetation, Special Status Plants	M.S., Hydrology; B.S., Range and Wildlands Science	28
Aaron Hoberg, EIT	Reno, Nevada	Air Quality (2011 to 2015)	B.S., Chemical Engineering	8
Tracy Shane	Elko, Nevada	Vegetation (2014)	M.S., Environmental and Natural Resource Sciences; B.S., Animal Science	16
Jenni Prince- Mahoney	Mount Aukum, California	Cultural Resources	NEPA Specialist Certification; B.A., Anthropology	25
Jason Trook	Reno, Nevada	GIS analysis, mapping, data management	M.S., Geography; B.A., Anthropology; GIS Certification	14
Christine Johnson	Reno, Nevada	GIS analysis, mapping, data management	B.S., Geology	33

NAME	LOCATION	ROLE/RESOURCE	EDUCATION	YEARS' EXPERIENCE
Nick Faust	Sandy, Utah	GIS analysis, mapping, data management	B.S., Geography	5
Allison Araya	Reno, Nevada	GIS analysis, mapping	Bachelors of Environmental Design, Architecture	8
Far Western Anthropological Research Group, Inc.				
D. Craig Young, PhD	Carson City, Nevada	Cultural Resources	Ph.D., Anthropology M.A., Anthropology	29
Vickie Clay	Carson City, Nevada	Cultural Resources	M.S., Quaternary Studies (Archaeology, Quaternary Geology) B.S. Geology (Anthropology Minor)	40
Albert Garner	Carson City, Nevada	Cultural Resources	B.S., Anthropology	12
Enertech Consultants				
Christopher Hooper	Campbell, California	Electric and Magnetic Fields	B.A., Computer Mathematics	31
Asher Sheppard Consulting				
Asher Sheppard, PhD	Santa Rosa, California	Electric and Magnetic Fields	Ph.D., Physics M.S., Physics	41
Electrical Consultants, Inc.				
Crystal Kuntz, PE, MBA	Billings, Montana	Purpose and Need	Master of Business Administration B.S., Civil Engineering	19
Dave Leary, PE	Billings, Montana	Purpose and Need	M.S., Electrical Engineering B.S., Electrical Engineering	22

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CHAPTER 5 REFERENCES, ACRONYMS, GLOSSARY, AND INDEX

5.1 REFERENCES

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5.2 ACRONYMS AND ABBREVIATIONS

°F	Fahrenheit
µg/m ³	Micrograms Per Cubic Meter
ACGIH	American Conference of Governmental Industrial Hygienists
AMSL	Above Mean Sea Level
APE	Area of Potential Effect
BLM	Bureau of Land Management
BMP	Best Management Practice
BP	Before Present
CAA	Clean Air Act
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIAA	Cumulative Impact Analysis Area
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO₂	Carbon Dioxide
CO_{2e}	Carbon-Dioxide Equivalent
COM	Construction, Operation, and Maintenance
CPUC	California Public Utilities Commission
CWA	Clean Water Act of 1977, as amended
EIS	Environmental Impact Statement
EMF	Electric and Magnetic Fields
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
Forest Plan	Toiyabe Forest Plan, as amended
FSH	Forest Service Handbook
GHG	Greenhouse Gases
GIS	Geographic Information System
HPTP	Historic Properties Treatment Plan
Hz	Hertz
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEEE	Institute of Electrical and Electronics Engineers
JBR	JBR Environmental Consultants, Inc.
KOP	Key Observation Point
kV	Kilovolt
LCT	Lahontan Cutthroat Trout
LRWQCB	Lahontan Regional Water Quality Control Board
MBTA	Migratory Bird Treaty Act of 1918
MIS	Management Indicator Species
MOA	Memorandum of Agreement
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code

NDEP	Nevada Division of Environmental Protection
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NESC	National Electrical Safety Code
NFMA	National Forest Management Act
NFS	National Forest System
NHPA	National Historic Preservation Act of 1966, as amended
NNHP	Nevada Natural Heritage Program
NO₂	Nitrogen Dioxide
NOA	Notice of Availability
NOI	Notice of Intent
NPDES	National Pollution Discharge Eliminating System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
O₃	Ozone
OHV	Off-Highway Vehicle
PAC	Protected Activity Center
PM_{2.5}	Particulate Matter 2.5 Microns
PM₁₀	Particulate Matter 10 Microns
ppb	Parts Per Billion
ppm	Parts Per Million
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-Way
SHPO	State Historic Preservation Office
SPPC	Spill Prevention, Control, and Countermeasure
SNFPA	Sierra Nevada Forest Plan Amendment
SNYLF	Sierra Nevada Yellow-Legged Frog
SO₂	Sulfur Dioxide
SOI	Sphere of Influence
SOPA	Schedule of Proposed Actions
SUP	Special Use Permit
SWPPP	Storm Water Pollution Prevention Plan
TCP	Traditional Cultural Property
TMRPA	Truckee Meadows Regional Planning Agency
USC	United States Code
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VLC	Verdi Lumber Company
VQO	Visual Quality Objective
VRM	Visual Resources Management

5.3 GLOSSARY

Ambient air. Any unconfined portion of the atmosphere; the outside air.

Analysis Area. The geographical context used for the analysis of direct and indirect effects on an environmental resource.

Best Management Practices (BMPs). Term used to describe a type or types of water pollution control. The term is often used with reference to the techniques, measures, or structural controls used to manage the quantity and improve the quality of stormwater runoff from construction sites.

Centerline travel road. Construction travel route between pole sites, which ideally will be located along the center of the ROW. To avoid steep terrain, the centerline travel road may be sited anywhere within the variable-width corridor.

Construction, Operation, and Maintenance (COM) Plan. Comprehensive guide used during construction, as well as for operation and maintenance of a transmission line that includes key contacts; maps of the transmission line alignment and ancillary facilities; access maps, copies of permits and associated permit conditions; and specific implementation plans for restoration, fire prevention, emergency response, protection of cultural resources, protection of sensitive species, protection of wetlands and streams, stormwater pollution prevention, fencing, and weed management.

Designated road. An NFS road that is designated for motor vehicle use pursuant to 36 CFR 212.51 on a motor vehicle use map.

Designated trail. An NFS trail that is designated for motor vehicle use pursuant to 36 CFR 212.51 on a motor vehicle use map; also referred to as a motorized trail in this EIS.

Diameter at Breast Height (DBH). The diameter of a standing tree trunk as measured approximately 4.5 feet above ground surface.

Easement. The right to use the real property of another, public or private, for a specific interest or purpose, such as for power lines, water pipelines, and other utilities.

Ephemeral stream. Stream channel that contains water only during and immediately after precipitation events.

Forested habitat. Type of wildlife habitat dominated by trees consisting of aspen, mixed conifer-fir, plantation, eastside pine, and/or Jeffery pine.

Forest product resources. Commodities of economic or other value that are obtained from harvesting trees, such as sawtimber, firewood, and Christmas trees.

Forest road or trail. A road or trail wholly or partly within or adjacent to and serving NFS land that the USFS determines is necessary for the protection, administration, and utilization of the NFS land and the use and development of its resources.

Getaway. The segment of a power line between a substation facility and the first pole structure from the substation. A getaway is essentially the segment of a power line that enter/exits a substation facility.

Habitat. The area, place, or natural environment in which an organism or biological population normally lives or occurs. A habitat is made up of physical factors such as soil, moisture, range of temperature, and availability of light as well as biotic factors such as the availability of food and the presence of predators.

Historic Properties Treatment Plan (HPTP). A treatment is a physical intervention carried out to achieve a historic preservation goal. Methods include preservation, rehabilitation, reconstruction, and restoration. A Historic Properties Treatment Plan is a document that outlines the specific treatments that will be implemented for a particular historic property or properties.

Insulator. A material with negligible electrical or thermal conductivity, such as glass or porcelain.

Interdisciplinary Team. Group of USFS resource or subject matter specialists from various disciplines that are assembled to address effects of proposed land-management actions or decisions.

Intermittent stream. Stream that contains water seasonally during wet portions of the year.

Memorandum of Agreement (MOA). A document that outlines agreed-upon measures that the agency will take to avoid, minimize, or mitigate the adverse effects to historic properties. After a Memorandum of Agreement is executed, the agency proceeds with its undertaking under the terms of the agreement. The Memorandum of Agreement plays a critical role in documenting a federal agency's commitment to carry out and conclude their responsibilities under Section 106 of the National Historic Preservation Act.

Motorized trail. See "Designated trail".

NFS road. A forest road other than a road which has been authorized by a legally documented ROW held by a state, county, or other local public road authority.

NFS trail. A forest trail other than a trail which has been authorized by a legally documented ROW held by a state, county, or other local public road authority.

Occupied habitat (in reference to Dog Valley ivesia or Webber ivesia). For population occurrences on NFS land, the area where the species is present and a 500-meter buffer from the edge of the occurrence. The 500-meter buffer would accommodate pollinators associated with the occurrence.

Perennial stream. Stream that typically contains water continuously, throughout the year.

Potential habitat (in reference to Webber ivesia). Low sage plant communities with specific habitat attributes including the presence of a rocky pavement surface; presence of an argillic soil horizon; plant community composition and presence of associated plants; topographic position of the site; and, known elevation range of the species.

Project Area. General geographical location where the proposed project would occur.

Restoration. The process of returning or bringing back the original, former, or normal state or conditions of a site.

Right-of-way (ROW). An easement, lease, permit, or license that grants the right of access or a designated use, such as power line or water pipeline, to cross over, under, or through the land of another, including public or private lands.

Ruderal species. A plant that is adapted to disturbance, such as fire.

Storm Water Pollution Prevention Plan (SWPPP). A site-specific document that identifies the potential sources of stormwater pollution, describes stormwater control measures, such as best management practices (BMPs), to reduce or eliminate the identified pollutants, and that also identifies procedures operators will implement to comply with specific permit conditions. A SWPPP can be provided for a number of circumstances, but the most common is to address stormwater pollutants and runoff during construction activities.

Transmission line clearance area. The area beneath and to either side of overhead conductors and power poles from which trees and other obstructions must be removed to provide the clearance required by federal and state regulations.

Unauthorized road or trail. A road or trail that is not a forest road or trail or an authorized temporary road or trail and that is not included in a forest transportation atlas.

Under-build. Construction method in which a transmission line and a lower voltage distribution power line are strung on the same pole structures, with the distribution line being placed below the transmission line, lower on the pole structures.

Variable-Width Corridor. Area centered on the proposed transmission line in which all new access roads, pole sites, wire setup sites, staging areas, skid trails and landings, and all other construction-related surface disturbance would occur other than disturbance for widening existing roads. The corridor would measure 300 feet wide where slopes are 10 percent or less, and 600 feet wide where slopes are greater than 10 percent.

Watershed. Area of land that contains a common set of streams and rivers and topography that all drain surface water into a single larger body of water, such as a larger river.

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APPENDIX A

PROPOSED TRANSMISSION LINE AND SUBSTATION MODIFICATIONS

Proposed Transmission Line

Single pole structures would be approximately 65 to 90 feet tall, dependent on terrain and obstructions (**Figure A1**). The two-pole H-frame structures would consist of two poles connected by an "X-brace". A horizontal cross-arm member would be mounted above the "X-brace" and would support the electrical transmission conductors (**Figure A2**). The three-pole dead end/angle structures would consist of three inline poles. The electrical transmission conductors would be connect to insulators attached directly to the pole structure and the conductor jumper around the poles on a horizontal cross-arm member mounted to the three poles (**Figure A3**). The two-pole H-frame structures and the three-pole dead end/angle structures would be approximately 50 to 90 feet tall, depending on terrain or obstructions. Support structures taller than 90 feet may be required at isolated locations to accommodate road crossings, unique geographical features, or other existing overhead utilities. Weathered steel, characterized by a stable, rust-like finish that closely resembles the color of wood poles, would be used for all pole structures.

The pole structures would carry double bundled aluminum conductor steel-reinforced cables that are approximately 1.1 inches (954 thousand circular mils) in diameter. All conductor wires would be at least 22 feet above the ground surface. A shield wire approximately 0.375 to 0.75 inch in diameter would be placed along the top of each pole to protect the transmission line from lightning. Copper ground wires would be affixed to each pole and connected to ground rods that would be buried in the excavation for each pole. The ground wires and rods would enable all of the poles to be electrically grounded. The transmission line would be designed and constructed to meet or exceed the requirements of the National Electric Safety Code; Nevada Administrative Code 704.450: Regulation of Public Utilities, which adopts National Electric Safety Code by reference; and California Public Utilities Commission General Order Number 95: Rules for Overhead Electric Line Construction (State of California, 1998)¹.

Proposed Substation Modifications

The Bordertown Substation would be partially rebuilt and modified with the addition of new components in order to accommodate the transmission line, resulting in approximately 3.7 acres of expansion on BLM-administered public land. **Figure A4** illustrates the changes that would occur at the Bordertown Substation.

To accommodate the new transmission line, parts of the California Substation would be rebuilt and new components would be added. A new 120 kV bus would be constructed at the substation and a new 120 kV transmission line terminal, including all associated switches, telecommunications and protections would be installed. All needed modifications would be accommodated within the existing fenced area of the substation, and the footprint of the existing substation would not be expanded. **Figure A5** illustrates the changes that would occur at the California Substation; however, the exact layout would depend on the selected alternative.

¹ State of California. (1998). *Rules for Overhead Electric Line Construction*. Prescribed by the Public Utilities Commission of the State of California.

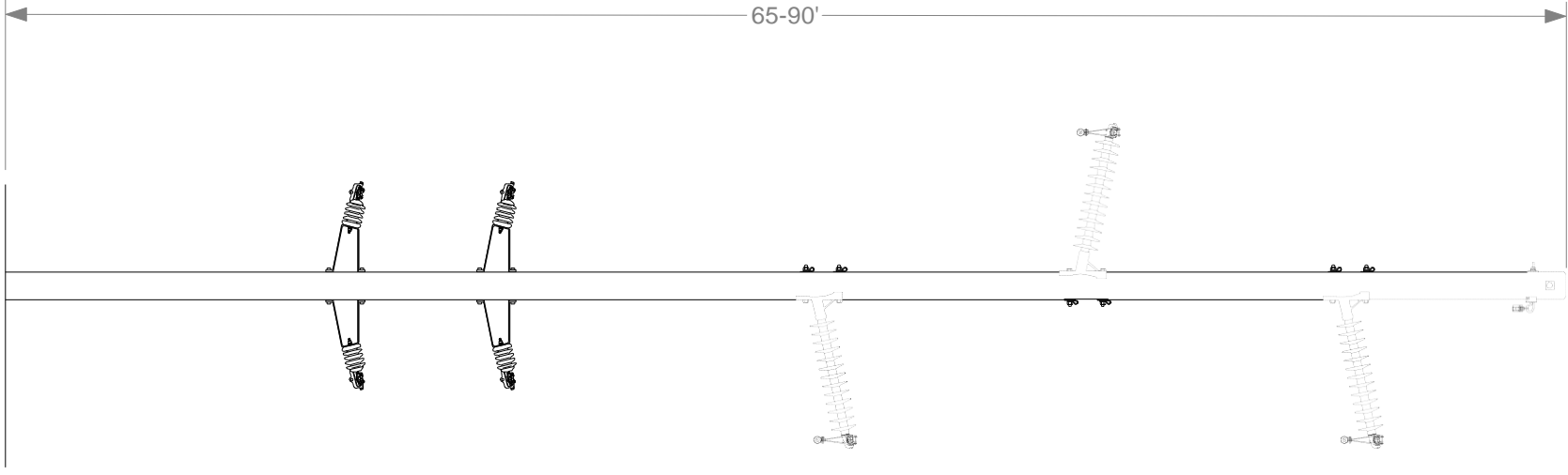


Figure A1
Single Pole Structure Illustration
Bordertown to California
120 kV Transmission Line EIS

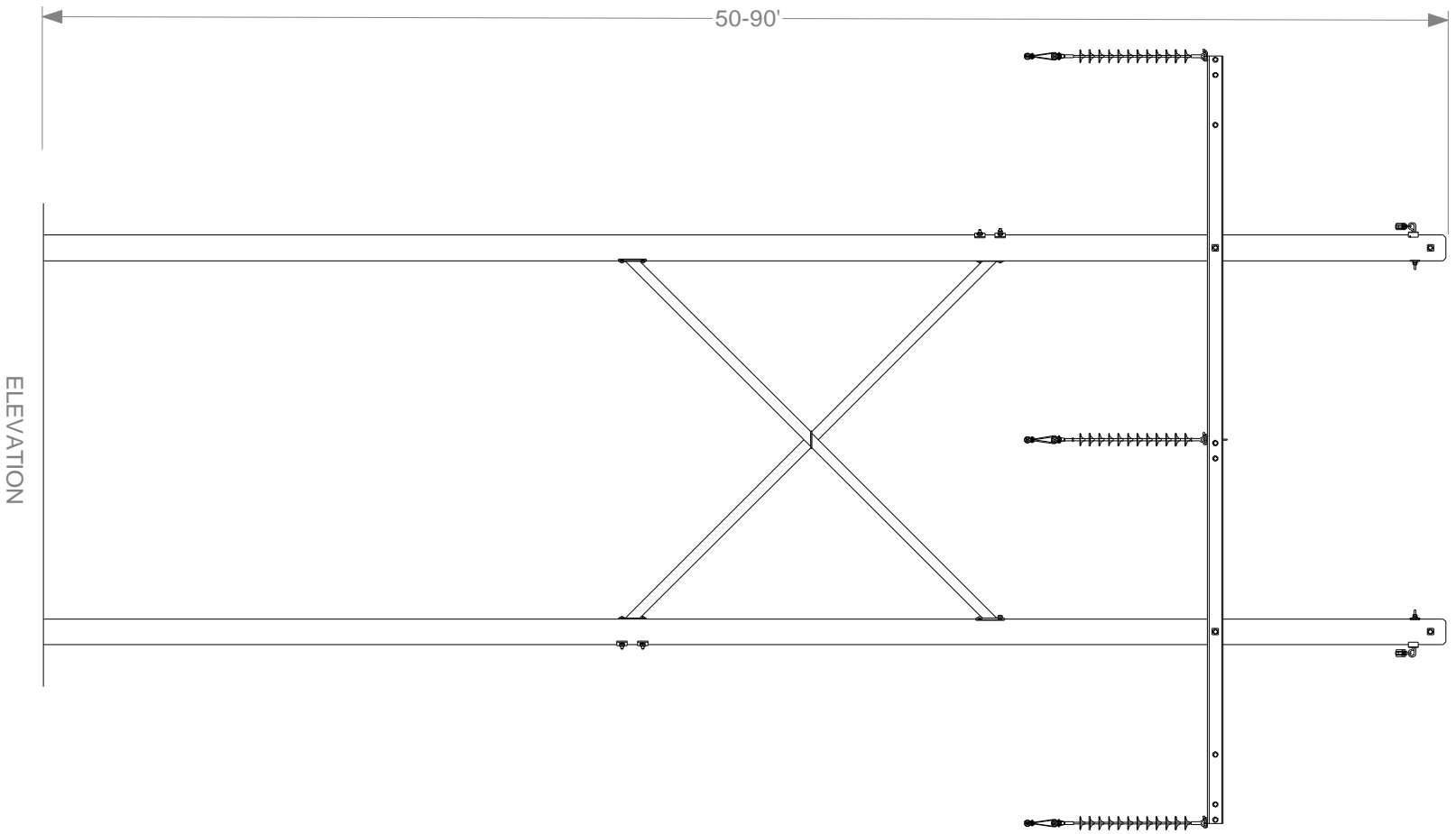


Figure A2
H-Frame Structure Illustration
Bordertown to California
120 kV Transmission Line EIS

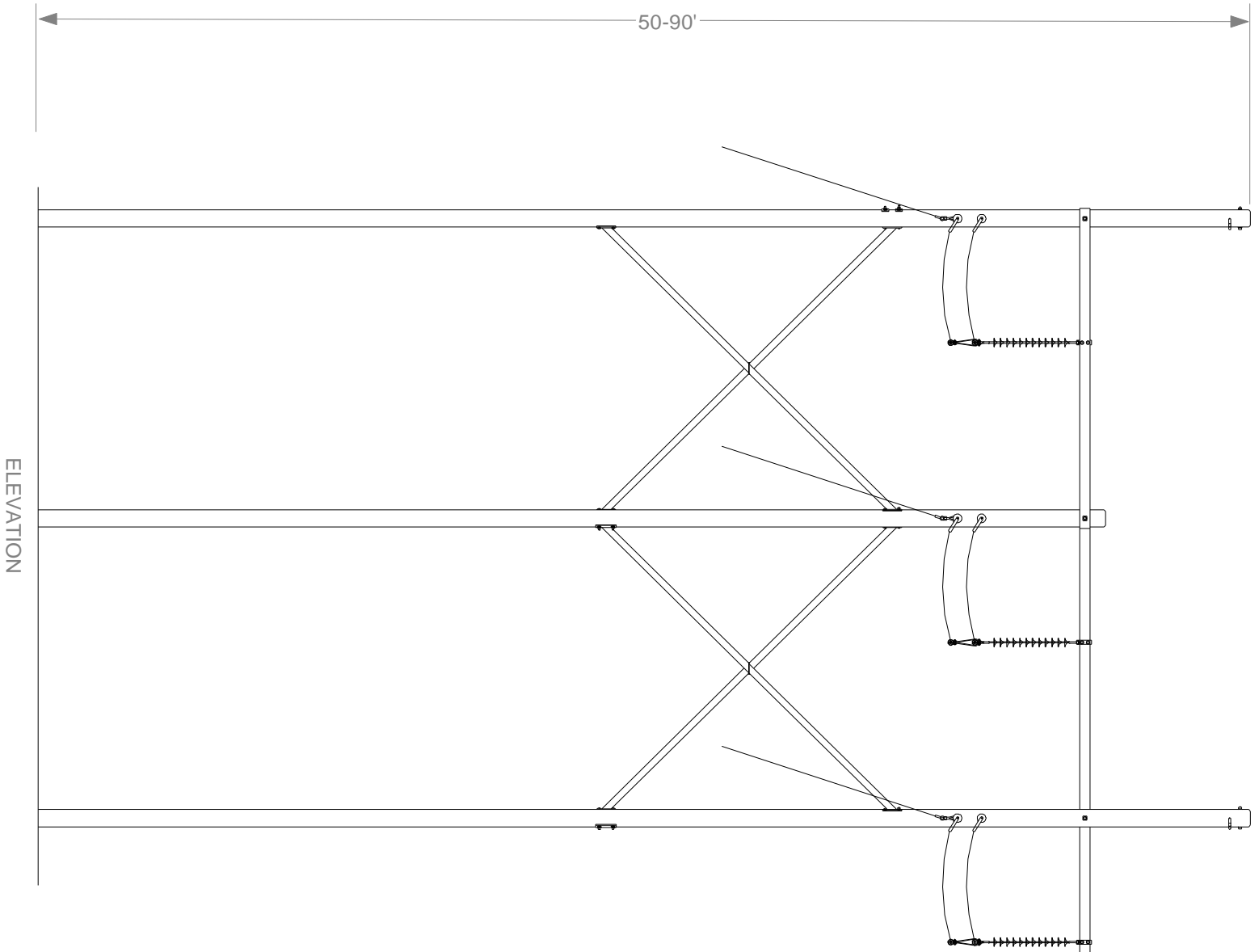


Figure A3
3-Pole Dead-end/Angle Structure Illustration
Bordertown to California
120 kV Transmission Line EIS

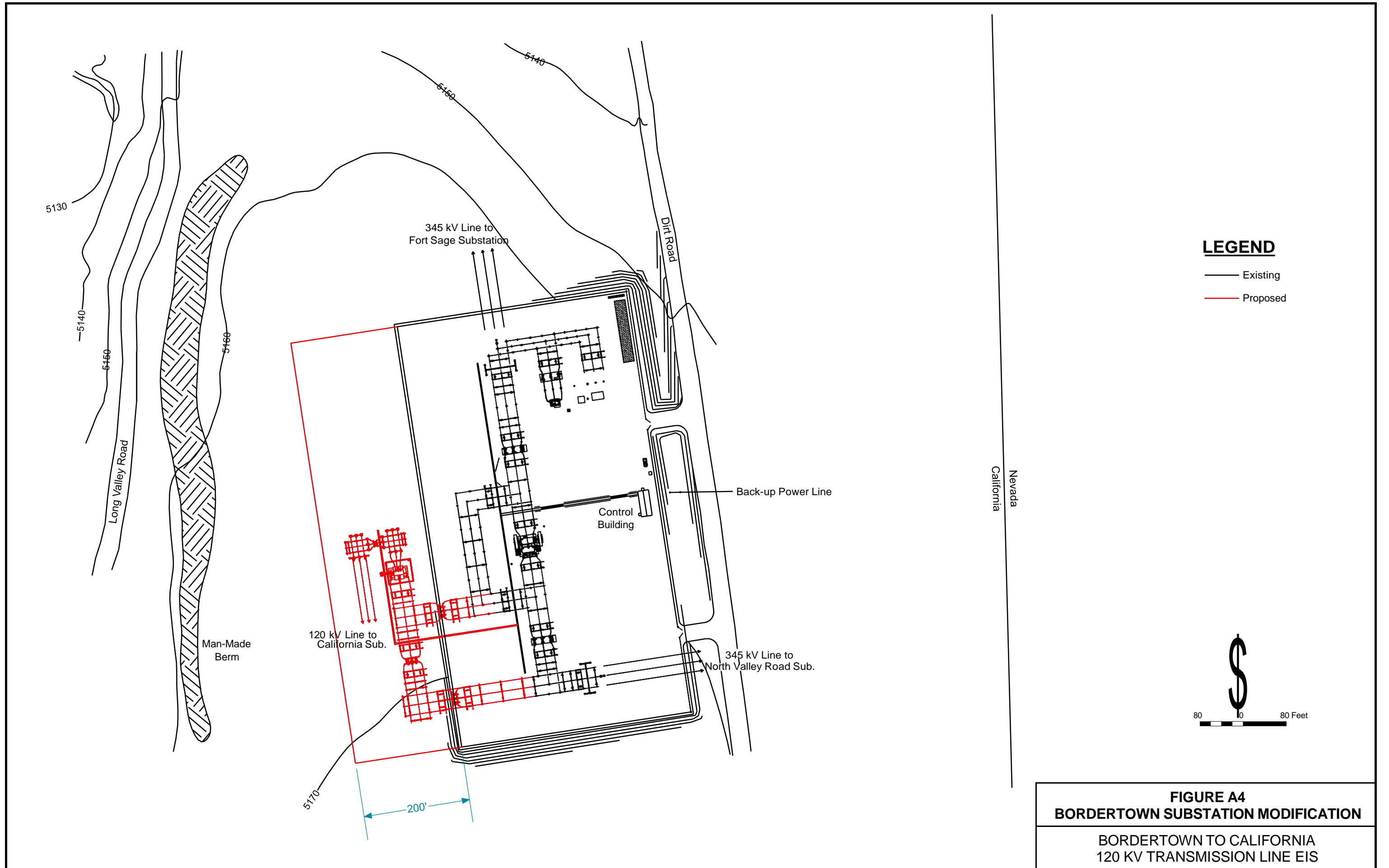


FIGURE A4
BORDERTOWN SUBSTATION MODIFICATION
 BORDERTOWN TO CALIFORNIA
 120 KV TRANSMISSION LINE EIS

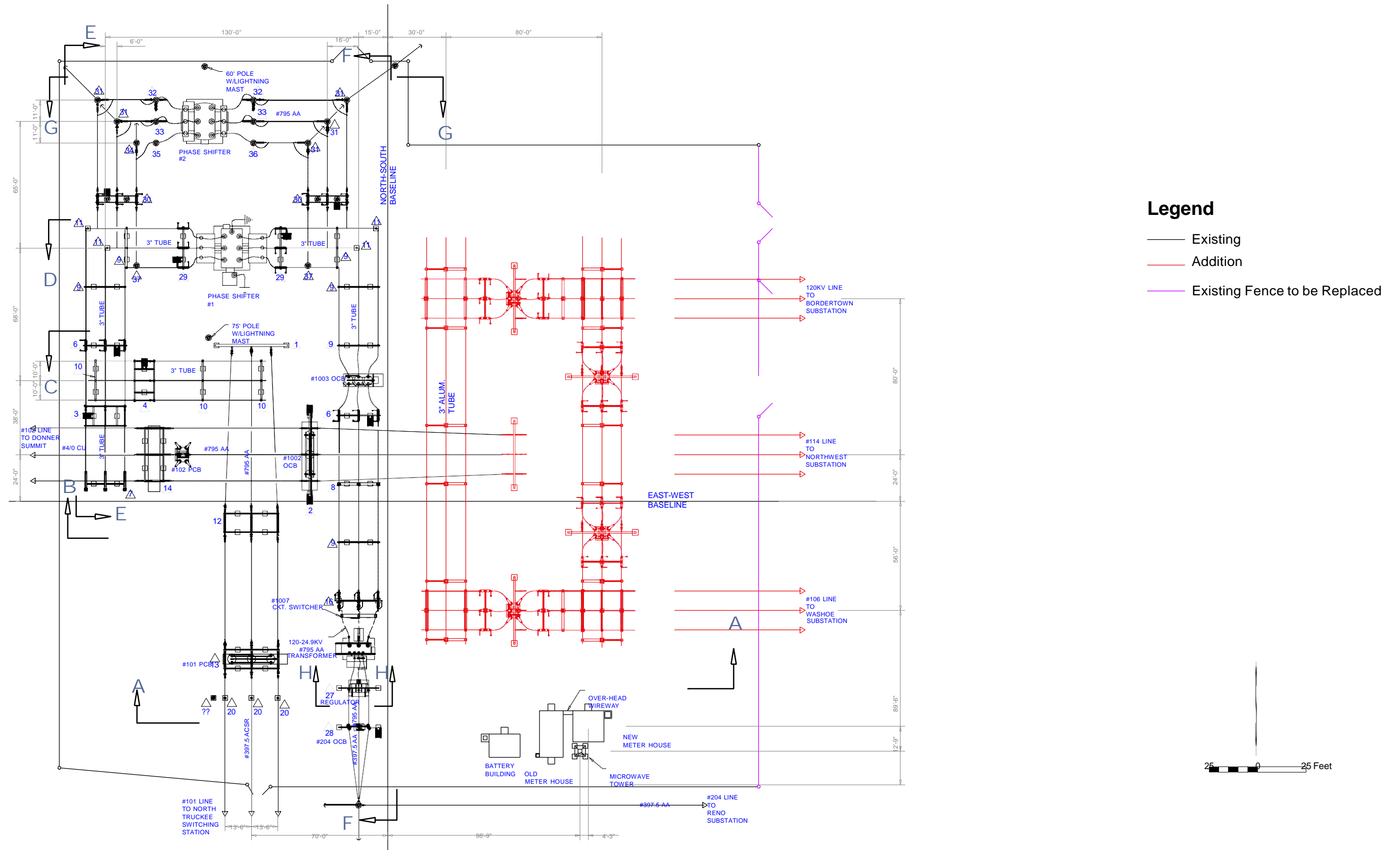


Figure A5
California Substation Modification
Bordertown to California
120 kV Transmission Line EIS

APPENDIX B

PROJECT DESIGN FEATURES

1.0 PROJECT DESIGN FEATURES

1.1 DESIGN FEATURES COMMON TO ALL ACTION ALTERNATIVES

Under any of the action alternatives, project design features will be implemented during construction and maintenance to reduce environmental impacts. Design features that will be implemented specific to an alternative are listed in **Section 1.2**.

General Practices (GP)

- GP 1. All environmentally sensitive areas (i.e., culturally sensitive areas, meadows, and special status plant populations) will be temporarily fenced during construction for avoidance.
- GP 2. Prior to construction, all construction personnel will be instructed on the protection of sensitive biological and cultural resources that have the potential to occur on-site by qualified personnel.
- GP 3. Construction activities may require temporary access through existing fences and gates on public and private land. Fencing will be replaced when construction activities are completed. Replacement fencing will be built to agency or landowner specifications, consistent with the fencing that was removed. During construction, fences with open gates will remain open and fences with closed gates will remain closed. Fences crossed during construction will be braced and secured prior to cutting the fence to prevent slackening of the wire.
- GP 4. If blasting is required within proximity to the Kinder Morgan buried gas pipeline located next to Dog Valley/Henness Pass Road between Verdi and “Summit One”, NV Energy will coordinate with Kinder Morgan and use a qualified licensed blaster.
- GP 5. Concrete wash out stations will be pre-approved and the water will be captured and disposed off National Forest System Lands and at an approved facility.
- GP 6. Long-term equipment staging and storage areas will not be located on NFS land.
- GP 7. Near sensitive receptors (i.e., occupied residences), noise-generating activities (e.g., blasting) will be limited to Monday through Friday from 7:00 a.m. to 7:00 p.m. Otherwise, work may occur 12 hours per day any day of the week.
- GP 8. Annual inspection will be made via helicopter or from the ground by walking to pole structures from existing roads.
- GP 9. Signs, flagging, or other readily visible markings will be used to indicate the presence of guy wires to reduce the potential for people and wildlife to run into the wires.

Noxious Weeds (NW)

- NW 1. Noxious weeds occurring on either the Nevada or California State list will be mapped and the full extent of the population will be treated prior to and following construction. Inventory and treatment areas will extend 100 feet from the ROW and all ground disturbed by project activities. Project disturbances include roads proposed for widening, construction access roads, equipment and material staging areas, and vegetation removal, including skid trails and landings.
- NW 2. Monitoring and continued treatment in areas that were treated prior to construction will commence the first full growing season after project implementation. Weed treatment will continue until disturbed areas are successfully restored (see restoration criteria). Weed treatment will continue during maintenance activities and within the ROW.
- NW 3. All equipment utilized off of existing roads and motorized trails will be cleaned with a high-pressure power washer of all mud, dirt, and plant parts. Following cleaning, equipment will be inspected for plant parts (e.g., leaves, stems, seeds). Equipment will be cleaned and inspected again prior to re-entry if it leaves the project site. Equipment will be inspected and cleaned again before moving from an area within the project area with known noxious weed species. Inspections will be completed and documented by qualified personnel such as a USFS noxious weed specialist or USFS botanist.
- NW 4. When cut and fill is required to create log landings, topsoil will be stockpiled and covered to prevent weeds from establishing in the soil. This topsoil will be re-spread during restoration of the landings.
- NW 5. Staging areas will not be located in weed infested areas. Staging areas will be inspected by qualified personnel for pre-approved use to reduce the risk of introducing noxious weeds into the project area.
- NW 6. Construction of access roads will not occur in areas heavily infested with noxious or invasive weeds.
- NW 7. Restoration seed mixes will be certified as weed-free.
- NW 8. All gravel and/or fill material will be certified as weed-free.
- NW 9. NV Energy will coordinate with other county, state and federal agencies to address and treat landscape level infestations of invasive plant species.
- NW 10. For invasive plants that can be effectively controlled through grubbing or manual removal, methods that prevent seed spread or re-sprouting will be used. If flowers or seeds are present, the weed will be pulled carefully to prevent seeds from falling and will be placed in an appropriate container for disposal. If flowers and seedheads are not present or are removed and disposed of as described above, the invasive plant may be pulled and placed on the ground to dry out.
- NW 11. The appropriate method of control specific to the type of noxious weed will be used. Specific methods will be identified in the COM Plan.

Vegetation (VG)

- VG 1. Placement of the ROW will avoid wherever possible, isolated groups of trees and/or groups of trees with an average diameter of dominant and co-dominant trees greater than 24 inches at breast height (dbh) as directed/approved by the USFS Silviculturist.
- VG 2. All trees measuring 8 inches or greater in dbh that need to be removed shall be identified and marked for removal by a USFS Forester or Silviculturist prior to felling on NFS land.
- VG 3. For trees measuring 8 inches or greater in dbh, stump height shall not exceed 12 inches above ground level on the uphill side or 12 inches above natural obstacles. Trees less than 8 inches in dbh, stump heights shall not exceed 6 inches above ground level on the uphill side or 6 inches above natural obstacles.
- VG 4. Trees identified for removal will be whole tree yarded to log landings for disposal. Permits and/or contracts shall be issued prior to felling any trees greater than 8 inches dbh. All logs and slash will be removed from NFS land within 6 weeks to reduce insect and disease infestations. Woodchips not needed for restoration will also be removed from NFS land within 6 weeks.
- VG 5. Where removal of vegetation other than trees is unavoidable, the vegetation will be cut at ground level to preserve the root structure and allow for potential sprouting.
- VG 6. All areas of temporary ground disturbance that result from the construction or maintenance of the project will be restored as required by the land management agency and per any applicable permits. Restoration will include restoring contours to their approximate pre-construction condition, stabilizing the area through seeding, mulching, placement of erosion control fabric, and installing erosion control features. Revegetation may include incorporation of chips into the soil, as needed. Erosion control includes installing cross drains and placing water bars in the road, as needed.
- VG 7. Successfully restored areas will be defined as:
Reference sites will be pre-established and approved by the USFS. Reference sites will include plant communities that are representative of the ecological site and must include plant communities that are in a late-seral and ecologically functioning condition. Appropriate reference sites will be determined by collecting baseline cover data to indicate plant succession and community structure.
- VG 8. Project implementation will comply with conditions in Lahontan Water Quality Control Board timber harvest waiver.

Herbicide Use (HE)

- HE 1. Herbicides will be used in accordance with label instructions, except where project design features describe more restrictive measures. An herbicide use plan will be developed and included in the COM Plan.

- HE 2. Prior to the start of application, all spray equipment will be calibrated to insure accuracy of the delivered amounts of herbicide. Equipment used during herbicide application will be regularly inspected to insure it is in proper working order.
- HE 3. Herbicide spray applications will not occur when wind velocity is 5 miles per hour or greater to further minimize the potential for drift.
- HE 4. Herbicide applications will not be conducted during rain or immediately following rain when soil is saturated or runoff or standing water is present. Application will occur only under favorable weather conditions, defined as:
- a) 30% or less chance of precipitation on the day of application based upon National Weather Service weather forecasting for the Reno area;
 - b) If rain, showers or light rains are predicted within 48 hours, the amount of rain predicted shall be no more than ¼ inch of rain; and
 - c) Rain does not appear likely at the time of application.
- HE 5. Preparation of herbicides for application, including mixing, filling of wands and rinsing of spray equipment, will take place outside of wetlands, meadows, riparian zones, wells and springs, and other sensitive sites, and more than 300 feet from surface water. Herbicide preparation will occur only on level, disturbed sites such as the interior of landings.
- HE 6. A spill cleanup kit will be readily available whenever herbicides are transported or stored. A spill kit will be carried by the applicator at all times when using the wicking application method.
- HE 7. Low nozzle pressure (<25 pounds per square inch), and a coarse spray (producing a median droplet diameter of >500 microns) will be used in order to minimize drift during herbicide applications.
- HE 8. Prior to treatments in areas of concentrated public use, the public will be notified about upcoming herbicide treatments via posting signs.
- HE 9. The herbicide spray nozzle will be kept as close to target plants as possible (within 20 inches) while achieving uniform coverage in order to limit overspray and drift to non-target vegetation.
- HE 10. Where riparian vegetation communities occur, herbicide application will be limited to directed foliar spray or wiping methods and spray will be directed away from native vegetation.
- HE 11. Herbicide treatments will not occur within 500 feet of sensitive plant occurrences.
- HE 12. Herbicide application within wet meadows will be limited to treating invasive plant infestations that occupy less than 100 square feet. Herbicide applications will be limited to wiping techniques with aminopyralid, chlorsulfuron, and glyphosate and treatment of the following high priority species: Canada thistle (*Cirsium arvense*), yellow star thistle (*Centaurea solstitialis*), Russian knapweed (*Acroptilon repens*) or tall whitetop (*Lepidium latifolium*) which are difficult to eradicate with non-chemical means. Meadows will be surveyed for special status plant species prior to

any chemical treatments and will be monitored post-treatment to determine effects to non-targeted vegetation.

- HE 13. Herbicide application will not occur within the established buffers for aquatic features shown in **Table B-1**.

Table B-1 Minimum Buffers (ft) for Herbicide Application Near Aquatic Features

Herbicide	Application Method	Dry Aquatic Features	Streams ¹ or Ditches with Water ²	Wetland or Meadow
Aminopyralid	Spot & directed foliar spray	25	25	100
	Wiping	15	150	15
Chlorsulfuron	Directed foliar spray	25	100	100
	Wiping	15	15	15
Glyphosate	Directed foliar spray or drizzle	0	25	25
	Cut stump or wiping	0	15	15
Imazapic	Directed foliar spray	25	75	75
Triclopyr (TEA)	Directed foliar spray	25	75	75
	Wiping or cut stump	15	15	15
Clopyralid	Spot & directed foliar spray	25	50	50
	Wiping	15	15	15

¹As measured from the edge of the stream channel. If a defined channel is not present (draws do not have defined channels), measurement is from the bottom of the feature.

²As measured from the edge of the wet area or the meadow vegetation, whichever is greater. Limited conditions allowing for herbicide application within meadows are described in HE 17.

- HE 14. Herbicide application is limited to targeted treatments directed at the plant (spot treatments of the immediate area surrounding the plant are allowed with aminopyralid and clopyralid, only) using a backpack sprayer; broadcast spray methods that dispense chemical over a non-localized area will not be used.
- HE 15. Avoid application of Aminopyralid and Clopyralid sprayed mulch materials on revegetation sites.

Forest Health (FH) - Insects and Disease

- FH 1. To reduce the build-up or residual tree mortality by pine engraver beetles (*Ips pini*), and reduce fuel loading the following measures shall occur:
- a) e Trees greater than 3 inches diameter at breast height (dbh) (whether in accessible or inaccessible areas) shall be removed (after proper permitting) to established log landings. Slash shall be chipped and hauled off of NFS land for disposal. All logs and slash shall be removed from NFS lands within 6 weeks of cutting. Any incidental breakage during whole-tree yarding that is 3 inches in diameter or greater shall be lopped and scattered to within 18 inches of the ground in open areas.

- b) Timing: In areas where material 3 inches or greater in diameter is left on site, cutting shall only occur from August 1 through December 31. Material must be lopped and scattered to within 18 inches of the ground in open areas. There are no timing restrictions for dead trees or species other than pine.

Water Resources and Soil (WA)

- WA 1. As a part of the COM Plan, SWPPP will be prepared to minimize erosion from the project construction worksites and to contain sediment. The SWPPP will be prepared in accordance with the National Pollutant Discharge Elimination System (NPDES) General Construction Stormwater Permit. At a minimum, it will identify the existing drainage patterns of the construction work sites and ROW/easement, nearby drainages and washes, potential pollutant sources other than sediment, and erosion and sediment control measures and BMPs that will be implemented to protect stormwater runoff. The SWPPP will include maps with locations for erosion and sediment control measures, and BMPs. The SWPPP will be kept on site throughout the duration of construction.
- WA 2. Erosion and stormwater controls will be inspected on the ground at least once every seven days and within 24 hours of a storm event of 0.5 inch or greater. Weather forecasts and data available from the National Weather Service in Reno will be used to determine total precipitation associated with a storm event. Qualified personnel of NV Energy or its contractors with specific training in erosion and sediment control will perform the inspections.
- WA 3. Construction equipment staging areas, and storage of equipment fuels will not be located within 300 feet of perennial streams or within 150 feet of intermittent and ephemeral streams. Staging areas and fuel storage will also not be located within 150 feet of wetlands or other water feature.
- WA 4. Pole sites and staging areas will not be constructed within the 100-year floodplain of any stream or within wetlands.
- WA 5. Construction equipment will not be operated on unstable soils or on soils too wet to adequately support equipment in order to prevent rutting, puddles on soil surface, or runoff of sediments directly into water bodies.
- WA 6. Topsoil removed from foundation holes will be separated and stockpiled at the edge of active work areas to salvage the seed bank.
- WA 7. Water drafting (i.e. water withdrawal) from streams will not be permitted. Water shall be provided by truck for dust abatement and other project needs.

Temporary Stream Crossings

- WA 8. Improvements to any existing road crossing will be designed to minimize surface disturbance.
- WA 9. Crossings will be located where the stream channel is narrow, straight, and uniform, and has stable soils and relatively flat terrain. Stream crossings will be oriented perpendicular to the stream channel. All stream crossings will be designed and

installed such that sufficient load-bearing strength for the expected equipment is provided.

- WA 10. Stream crossings will be designed for a normal range of flows for the site, and crossings that must remain in place during high runoff seasons will be stabilized. However, all crossings will be temporary and will be removed at the end of the construction season. The water body profile and substrate will be restored when the crossing is removed.
- WA 11. Stream crossings will be regularly monitored to evaluate the condition. Any repairs or improvements to the crossings identified during monitoring will be promptly addressed.
- WA 12. Surface drainage and roadway stabilization measures will be used to disconnect the access road from the stream in order to avoid or minimize water and sediment from being channeled into surface waters and to dissipate concentrated flows.
- WA 13. On perennial streams, existing crossings will be utilized and no new crossings will be constructed.

Plants and Sensitive Plant Communities (SV)

- SV 1. If any Forest Service or BLM sensitive plant or federal- or state-listed species are identified during construction activities, the USFS will be contacted within 24 hours. Depending on the plant species appropriate protective measures will be implemented.
- SV 2. Prior to construction, once access roads and pole locations are known, the following tasks will be completed for areas where surface disturbance is planned:
 - a. Pre-construction surveys for jaw-leaf lupine, andesite popcorn flower, and moonwort ferns;
 - b. Mapping and flagging of sensitive plant species, wetland areas, and noxious weeds; and
 - c. Noxious weed infestations will be treated according to design features NW1 and NW 2.
- SV 3. There will be no new access roads or widening of existing roads for construction access through meadows. This measure will also protect potential habitat for special status plant populations that are found in wetland and meadow habitats, such as Dog Valley ivesia.
- SV 4. Poles, staging areas, and line clearance areas, and any project-related ground disturbance will avoid all special status plant populations.
- SV 5. Where existing roads are used for travel to the project site (but not widened), any road maintenance within 100 feet from special status plant populations will focus on avoiding impacts. A permanent physical barrier, such as lining the roads with rock or fencing the road corridor, will be constructed to prohibit vehicle access to sensitive plant populations and contain travel within the existing road corridor.

Webber Ivesia and Dog Valley Ivesia

- SV 6. Construction of new access roads (i.e., spur roads and centerline travel roads) and widening of existing roads and motorized trails will not occur within 500 meters (1,640 feet) of populations of Dog Valley ivesia (*Ivesia aperta* var. *canina*) and Webber ivesia (*Ivesia webberi*) occurring on NFS land. Allowable maintenance of roads within these habitat areas that do not require widening include blading and installation of erosion control measures. Construction of new temporary access roads and widening of existing roads and motorized trails will not occur within 200 feet of other special status plant populations that occur on NFS land. Within these buffer distances, travel and road maintenance on existing roads and motorized trails may be permitted but road improvements including widening of the existing travelled way are prohibited.
- SV 7. The transmission line will be excluded from the occupied habitat unit for Webber ivesia populations occurring on NFS land. (Occupied habitat includes the low sage habitat where the plants are present and a 500-meter buffer from the edge of the occurrence. The 500-meter buffer would include low sage and adjacent shrub steppe habitats to accommodate pollinators associated with the rare plant community).
- SV 8. Techniques to span over Webber ivesia potential habitat (i.e., unoccupied suitable habitat) will be evaluated with a USFS botanist. Unavoidable pole placement within habitat will require use of a helicopter. Access roads will not be constructed within potential habitat. Potential habitat includes low sage plant communities with specific habitat attributes: presence of a rocky pavement surface, presence of an argillic soil horizon, plant community composition and presence of associated plants, topographic position of the site, and, known elevation range. Areas defined as potential habitat will require the 500-meter buffer.

Wildlife and Sensitive Wildlife Species (WL)

- WL 1. If any Forest Service or BLM sensitive wildlife or plant species are identified during pre-construction surveys or during construction activities, work in the general area of the identified species will be halted until a USFS biologist or other qualified biologist is consulted to determine an appropriate buffer and other protective measures. The USFS will be notified within 24 hours of the discovery of the species. Buffer distance will be established in consultation with the USFS on a case by case basis depending on species and type and magnitude of construction activity. If avoidance is infeasible, consultation with the USFS, and at its discretion, any cooperating agencies will be contacted prior to continuing work in the immediate area of the species. The same process will be implemented in the event that any federal- or state-listed species are discovered on public land, with the discovery being reported to the USFS or BLM, depending on the respective land administration.
- WL 2. If appropriate, additional surveys for Northern goshawk and flammulated owl or other Forest Service sensitive species will be conducted prior to construction by a qualified biologist approved by the USFS. Coordination with the USFS will be

conducted prior to commencing surveys to determine appropriate survey methodology, timing, and survey area. If nesting is detected the Forest Service will be contacted within 24 hours and Forest Plan standard and guidelines (USFS 2004) will be implemented. A designated Protected Activity Center (PAC) will be delineated around the nest site. Within the PAC no construction activities may occur during the “Limited Operating Period” April 15th- September 30th. Pole construction will need to be designed to span the PAC.

- WL 3. To reduce potential disturbance to migratory birds, construction will occur outside the typical avian breeding season (April 1 to July 31). If construction activities cannot be avoided during this time period, surveys will be conducted immediately prior to construction to locate active nesting areas.
- WL 4. If active avian nests are located on NFS land or BLM-administered public land, they will be flagged and avoided until after the breeding period. NV Energy will coordinate with the USFS or BLM biologist to determine appropriate time frames for resuming construction.
- WL 5. Excavations deep enough to potentially entrap wildlife species will be covered and fenced at night or when unattended to prevent livestock or wildlife from falling in. All covers will be secured in place and strong enough to prevent breakage by wildlife.
- WL 6. To avoid impacts to wintering mule deer, construction will not occur from November 25 through May 25 within areas mapped as crucial winter or winter-spring high deer use, including the Mitchell Canyon Deer Management Area. Non-ground disturbing activities, such as surveying, staking, or resource driven activities (e.g., cultural surveys, biological surveys), may occur within this time frame.
- WL 7. To aid in providing browse for wintering mule deer, post construction revegetation in areas mapped as crucial winter and winter spring high use habitat will include seed mix of brush species preferred by mule deer (i.e., bitterbrush, mountain big sagebrush, mountain mahogany, serviceberry, snowberry, and Wyoming big sage) as well as appropriate forbs and grasses.
- WL 8. To ensure that impacts to wildlife habitat, particularly mule deer are no more than minor, vegetation that would be permanently lost or temporarily disturbed from the project, would require creation of or improvement of on or offsite wildlife habitat. To achieve this, NV Energy will fund a habitat restoration account that includes the cost of restoring three acres to every one acre of habitat that is permanently or temporarily disturbed. The account will be administered by NDOW or a Sierra Front Wildlife Working Group that would include NDOW, Washoe County, USFS, BLM, City of Reno and other interested participants.
- WL 9. To protect raptors such as hawks and eagles from electrocution, transmission line and pole structures will be constructed in conformance with the guidelines contained in Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006, prepared by the Avian Power Line Interaction Committee (2006).

- WL 10. To limit the potential for impacts to aquatic resources, particularly to Lahontan cutthroat trout, pole sites or roads will not be placed within the 100-year floodplain in Dog Creek, Bull Ranch Creek, and the Truckee River. During construction, no soil disturbing activities will occur within the 100-year floodplain of these streams.

Cultural Resources (CU)

- CU 1. If previously unidentified cultural resources are found, work will be halted immediately within a minimum distance of 300 feet from the discovery and a USFS archeologist will be notified to determine protective measures. Additional details will be outlined in the Inadvertent Discovery Plan as part of the Memorandum of Agreement between identified parties.
- CU 2. Per Section 106 of the National Historic Preservation Act, surveys for cultural resources will be conducted for any areas where surface disturbance is planned that were not included in the initial baseline studies.
- CU 3. Cultural sites identified as eligible and sites treated as eligible for inclusion on the National Register of Historic Places will be avoided. If avoidance of cultural resources is not possible, an appropriate Historic Properties Treatment Plan will be required for the selected alternative. The Plan will allow for mitigation of potential adverse effects to the Historic Properties.
- CU 4. An USFS approved archeologist will work with construction crews when crews are within 600 feet of the boundary of a known eligible historic cultural site. Tribal monitors may also be working with construction crews as cultural resource monitors.
- CU 5. Cultural resources monitors will assess avoidance measures and monitor disturbance activities in culturally sensitive areas.
- CU 6. Per the Inadvertent Discovery Plan, if human remains are encountered during construction activities, all work within 300 feet of the remains will halt and the USFS will be notified immediately.
- CU 7. Per the Inadvertent Discovery Plan, if the remains are Native American, USFS or BLM, whichever agency has jurisdiction, will follow the procedures set forth in 43 CFR 10, Native American Graves Protection and Repatriation Regulations and notify the appropriate Native American Tribe(s) immediately. If the Native American human remains are located on state or private land, the appropriate SHPO will be notified immediately. In Nevada, Native American human remains are protected under the provisions of the Protection of Indian Burial Sites section of the Nevada Revised Statutes (NRS) in Chapter 383. The Nevada SHPO will consult with the Nevada Indian Commission and notify the appropriate Native American Tribe. Procedures for inadvertent discovery are listed under NRS 383.170. If the discovery of Native American human remains is made on State or private land in California, the California SHPO and the Native American Heritage Commission will be contacted. The Native American Heritage Commission will provide the name of a Most Likely Descendent who will then make recommendations for treatment and disposition of the remains and associated items.

Hazardous Materials and Waste (HM)

- HM 1. A Spill Prevention, Control, and Countermeasure Plan (SPCC) will be implemented during construction to prevent any spills. The SPCC, which will include cleanup procedures, will become part of the COM plan.

Recreation/Roads/Transportation (RT)

- RT 1. The use of any roads or trails will require compliance with the Carson Ranger District Motor Vehicle Use Map (MVUM), including any restrictions for seasonal use.
- RT 2. All new temporary access roads and all improvements to existing roads will comply with: 1) The Forest Service National Supplements to the FP-03 (USFS, 2010); 2) the USFS Road Construction Handbooks (FSH 7709.56 and FSH 7709.57); and, 3) the Forest Plan.
- RT 3. All new access roads (i.e., spur roads and centerline travel roads) specifically constructed for this project will be re-contoured and reclaimed and will have a physical closure installed to prevent motorized access immediately following the completion of construction and restoration. The types of closure and design specification used will be approved by the USFS prior to installation.
- RT 4. Physical barriers such as boulders or natural features designed to harmonize with the natural environment of the surrounding area will be installed to prevent unauthorized vehicle use from occurring on restored roads. The use of gates or other such structures for this purpose will be avoided unless determined necessary by the USFS.
- RT 5. Maintenance activities which cause a road to be opened to unauthorized vehicles or damage to restoration improvements will need to be assessed and barriers reinstalled as needed at the expense of NV Energy.
- RT 6. Restored roads will require a signage and monitoring plan implemented by NV Energy for compliance with the closure which will include inspecting the barricade areas to determine the effectiveness of the blockades at preventing unauthorized motorized vehicle use of the restored access roads. Signs will notify the public that construction access roads are closed and are being restored. Signs will be replaced by NV Energy if vandalism occurs to the signs.
- RT 7. If unauthorized vehicle use occurs on restored roads, barricades and reclamation will be monitored for effectiveness and remedial measures taken. Monitoring will continue until disturbed areas are successfully restored.
- RT 8. Public access will be maintained with minimal delays during the construction and maintenance of the project. If there are traffic delays, NV Energy will post delay information at National Forest portals.
- RT 9. All construction vehicle movement will be restricted to the transmission line ROW/easement, pre-designated access roads, public roads, and private roads. All existing roads will be left in a condition equal to or better than their preconstruction condition.

Visual Resources (VI)

- VI 1. Non-specular conductors will be installed to reduce visual impacts.
- VI 2. The number of new poles will be minimized by increasing the pole span length on NFS land where the area is designated as Partial Retention for Visual Quality Objectives as terrain allows.

Fire Prevention and Response (FP)

- FP 1. Fire Prevention Plan will be implemented during construction activities to prevent and suppress fire. The Fire Prevention Plan will be included in the COM Plan.

Air Quality (AQ)

- AQ 1. Vehicle and equipment speeds will be limited to 20 miles per hour on unpaved roads and on the ROW/easement.
- AQ 2. All areas subject to ground disturbance will be watered as needed to control dust.
- AQ 3. Paved roads will be swept if visible soil material is tracked onto them by construction vehicles.
- AQ 4. Excavation and grading activities will be suspended when winds (instantaneous gusts) exceed 50 miles per hour and visible dust persists that creates a health hazard to neighboring property owners and/or visibility impacts to vehicular traffic.
- AQ 5. In order to reduce construction equipment emissions, engines on construction-related vehicles will:
 - a) Be tuned to the engine manufacturer's specification in accordance with an appropriate time frame;
 - b) Not be idle for more than five minutes (unless it is necessary for the operating scope of the equipment and operation);
 - c) Not be tampered with in order to increase engine horsepower;
 - d) Include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the project site; and
 - e) Use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area.

1.2 DESIGN FEATURES SPECIFIC TO ALTERNATIVES**1.2.1 MITCHELL ALTERNATIVE****Water Resources**

- WA 14. In order to minimize impacts to Dog Creek, existing crossings will be improved and no new road crossings will be constructed.

Recreation

- RT 10. Concurrent with construction restoration, physical barriers will be installed within the ROW area where Henness Pass/Dog Valley Road will be crossed. The barriers will be installed on the east side of the road to prevent the ROW area from being utilized for motorized travel after construction is completed. Signs will be installed to notify the public that the area is closed and under restoration. The type and design of the barriers will be approved by USFS prior to installation.

Fire Prevention and Response

- FP 2. To protect forest resources and the transmission line from wildland fire, fuels reduction activities will take place along the transmission line where the Mitchell Alternative overlaps the USFS' Dog Valley Fuels Reduction and Ecosystem Enhancement Project. Fuels reduction activities will reduce canopy bulk density and interlocking crowns; remove ladder fuels; and increase the height to live crown on residual crowns. Treatment areas will occur within the 300 to 600 foot "variable-width corridor" where botanical and cultural baseline surveys have been conducted.
- Trees will be thinned from below and any trees with evidence of disease or insect-infestation will be removed. Ladder fuels are described as any live or dead tree or shrub that would allow a fire to climb up from the landscape or forest floor into the tree canopy. Shrubs will also be removed from underneath the drip line of residual trees. In areas where the shrub canopy cover is greater than 60 percent outside the drip line of trees, 10 percent to 50 percent of the shrubs will be removed or mowed, leaving a mosaic pattern (e.g., 10 percent of the shrubs will be removed within a site with 60 percent shrub cover; 40 percent of the shrubs will be removed within a site with 90 percent shrub cover).

1.2.2 PEAVINE ALTERNATIVE

Plants and Sensitive Plant Communities

- SV 9. Placement of a pole structure within the 500-meter buffer for Dog Valley ivesia may be unavoidable with the selection of the Peavine Alternative. The pole placement will be contained to the edge of the buffer to reduce potential impacts to the plant. In addition, an existing unauthorized road that currently traverses through occupied Dog Valley ivesia habitat will be closed to motorized use. Closing this road will help offset potential impacts to the Dog Valley ivesia population from the pole placement activity.

Recreation

- RT 10. Concurrent with construction restoration, physical barriers will be installed within the ROW area where Henness Pass/Dog Valley Road will be crossed. The barriers will be installed on the east side of the road to prevent the ROW area from being utilized for motorized travel after construction is completed. Signs will be installed to notify the public that the area is closed and under restoration. The type and design of the barriers will be approved by USFS prior to installation.

Fire Prevention and Response

- FP 2. To protect forest resources and the transmission line from wildland fire, fuels reduction activities will take place along the transmission line where the Peavine Alternative overlaps the USFS' Dog Valley Fuels Reduction and Ecosystem Enhancement Project. Fuels reduction activities will reduce canopy bulk density and interlocking crowns; remove ladder fuels; and increase the height to live crown on residual crowns. Treatment areas will occur within the 300 to 600 foot "variable-width corridor" where botanical and cultural baseline surveys have been conducted.

Trees will be thinned from below and any trees with evidence of disease or insect-infestation will be removed. Ladder fuels are described as any live or dead tree or shrub that would allow a fire to climb up from the landscape or forest floor into the tree canopy. Shrubs will also be removed from underneath the drip line of residual trees. In areas where the shrub canopy cover is greater than 60 percent outside the drip line of trees, 10 percent to 50 percent of the shrubs will be removed or mowed, leaving a mosaic pattern (e.g., 10 percent of the shrubs will be removed within a site with 60 percent shrub cover; 40 percent of the shrubs will be removed within in a site with 90 percent shrub cover).

1.2.3 PEAVINE/POEVILLE ALTERNATIVE

Plants and Sensitive Plant Communities

- SV 9. Placement of a pole structure within the 500-meter buffer for Dog Valley ivesia may be unavoidable with the selection of the Peavine/Poeville Alternative. The pole placement will be contained to the edge of the buffer to reduce potential impacts to the plant. In addition, barriers will be placed to prevent use of an existing unauthorized road that currently traverses through occupied Dog Valley ivesia habitat. Barricading this road will help offset potential impacts to the Dog Valley ivesia population from the pole placement activity.

APPENDIX C

VISUAL SIMULATIONS

**KOP 1 (California Substation – South)
Existing Conditions**



KOP 1 (California Substation – South)
Visual Simulation



**KOP 2 (California Substation – West)
Existing Conditions**



**KOP 2 (California Substation – West)
Visual Simulation**



**KOP 3 (Hennes Pass/Dog Valley Road)
Existing Conditions**



**KOP 3 (Hennes Pass/Dog Valley Road)
Visual Simulation – Mitchell Alternative**



**KOP 3 (Hennes Pass/Dog Valley Road)
Visual Simulation – Peavine Alternative**



KOP 4 (Forest Boundary - West)
Existing Conditions



KOP 4 (Forest Boundary - West)
Visual Simulation



**KOP 5 (Forest Boundary)
Existing Conditions**



**KOP 5 (Forest Boundary)
Visual Simulation**



KOP 7 (Forest Route 41192 – North)
Existing Conditions



KOP 7 (Forest Route 41192 – North)
Visual Simulation



KOP 9 (Peavine Ranch)
Existing Conditions



KOP 9 (Peavine Ranch)
Visual Simulation



**KOP 10 (Peavine Ranch – Southwest)
Existing Conditions**



**KOP 10 (Peavine Ranch – Southwest)
Visual Simulation**



KOP 11 (Peavine Road)
Existing Conditions



**KOP 11 (Peavine Road)
Visual Simulation**



**KOP 12 (Stead Trailhead)
Existing Conditions**



KOP 12 (Stead Trailhead)
Visual Simulation



KOP 13 (Trail Drive – East)
Existing Conditions



KOP 13 (Trail Drive – East)
Visual Simulation



**KOP 14 (Trail Drive – West)
Existing Conditions**



KOP 14 (Trail Drive – West)
Visual Simulation



KOP 15 (Truckee River Bridge)
Existing Conditions



KOP 15 (Truckee River Bridge)
Visual Simulation



**KOP 16 (Verdi Library Parking Lot – West)
Existing Conditions**



**KOP 16 (Verdi Library Parking Lot – West)
Visual Simulation**



**KOP 17 (Verdi Library Parking Lot – East)
Existing Conditions**



**KOP 17 (Verdi Library Parking Lot – East)
Visual Simulation**



APPENDIX D

RESPONSE TO COMMENTS ON THE DRAFT EIS

Last Name	First Name	Letter #	Comment #	Comment Text	Response Text
Averett	Linda	1	7	The south face of Peavine Mountain is visible from the entire valley. Obviously, informed citizens do not wish to live near them, nor do they wish to view them.	The visual effects analysis for the Poeville Alternative is in Section 3.2.4.4. The Poeville Alternative would follow or replace an existing utility corridor for approximately 12.6 miles (70 percent of its length) where repetition of common form, line, color, and texture elements minimize the degree of visual contrast introduced by the project. In its immediate vicinity, the proposed line is readily visible, but it would not be visible from the entire valley. As distance increases from the transmission line, the line becomes less noticeable. Visual simulations demonstrate this. See KOP 15 from the Truckee River bridge where there Poeville Alternative would be placed within an existing utility corridor and KOP 7 and KOP 12 where the alternative would not follow a utility corridor. A number of similar transmission lines that serve Reno including the Alturas 345 kV line; and those located above Caughlin Ranch, along the Truckee River Corridor and on the Mt. Rose fan that are not visible from the entire valley because distance makes the transmission line too small to be seen.
Averett	Linda	1	8	So too, should any future lines in the area be underground.	An undergrounding alternative is infeasible for long distances, especially in steep terrain that occurs over most of the project area, and may have greater impacts to other natural resources. This alternative was considered but eliminated from detailed study (see Section 2.11.15). Undergrounding for short distances may be feasible if it is required as mitigation.
Averett	Linda	1	9	The Poeville Alternative seems to be the least favorable alternative. An alignment near the California/Nevada border or near the existing lines to the east would seem to be far superior choices, even if not the cheapest.	Comment noted. The Mitchell, Peavine, and Peavine/Poeville Alternatives are near the California/Nevada border and are analyzed as viable alternatives in the EIS.

Last Name	First Name	Letter #	Comment #	Comment Text	Response Text
Averett	Linda	1	10	I am a property owner and northern Nevada resident who will be impacted by the final decision as to the Bordertown 120 KV transmission line. As a Nevada Realtor, I am very aware of the negative effect on property values that exposed power lines, such as those proposed, have on a property, as well as surrounding properties.	Impacts to private property value are addressed in Section 3.3.4.2. Included in the analysis is the study conducted by Warren & Schiffmacher (2007) which evaluated property values in south suburban Reno to determine the impacts to private land from the construction of a 120 kV transmission line.
Averett	Trent	2	3	The Scoping Notice dated November, 2011, stated "the project would consist of the construction and operation of approximately 10 miles of new 120 kV overhead transmission line." Yet by choosing the Poeville Alternative as the preferred alternative the scope of this project has nearly doubled in size from the originally stated scope.	The Scoping Notice identified the Stateline Alternative as the Proposed Action and the Mitchell, Peavine, and Poeville Alternatives as other action alternatives. The Stateline Alternative was submitted to the USFS as part of NV Energy's application as a possible route that appeared to have the least constraints (see Constraint Study available through the project website). Plant surveys conducted along the Stateline Alternative during the preparation of the DEIS found Webber ivesia, a plant in the rose family that is listed by the US Fish and Wildlife Service as Threatened. This made the Stateline Alternative infeasible as the transmission line could not be constructed to span the occupied or critical habitat. The Proposed Action has not changed, it just became technically infeasible to construct along the Stateline Alternative. The Scoping Notice described the Poeville Alternative as the longest route.
Averett	Trent	2	4	By building twice as much overhead transmission line than is required this will ensure that this power line is visible from virtually the entire Truckee Meadows Valley.	The Poeville Alternative maybe visible from a variety of locations in west Reno, however as distance increases from the line, it becomes less visible within the Truckee Meadows Valley. There are many transmission lines around the Truckee Meadows that are not visible from everywhere in the Valley. Also see response to comment 27-11.
Averett	Trent	2	8	Please reconsider the stated preferred alternative of the Poeville Alternative and choose the much cheaper, less disturbing, and viewshed preserving alternatives such as the Mitchell Alternative, Peavine Alternative, or the All Private Land Alternative.	Comment noted.

Last Name	First Name	Letter #	Comment #	Comment Text	Response Text
Averett	Trent	2	11	<p>Your letter dated December 2, 2014 states that per the Humboldt-Toiyabe Forest Plan the Poeville alignment was identified as the agency preferred alternative. The letter states, "to manage all utility, road and transmission corridors and when utility right of way applications are received, the first priority will be to utilize existing corridors." However, this statement seems to be in conflict with the logic provided for denying the All Private Land Alternative of Section 2.10.5 of the DEIS. This section states that the All Private Land Alternative was eliminated from consideration because "This alternative would unavoidably use the same corridor..."</p>	<p>While the All Private Land Alternative would utilize existing corridors, which would be in accordance with direction provided in the Humboldt-Toiyabe Forest Plan, it would not meet the project purpose and need. Additionally, undeveloped land is not available along its entire length. The Poeville Alternative would meet the project purpose and need, because it avoids the #141 and #142 transmission line corridors exiting the North Valley Road Substation. In the West Reno area, these lines cannot be reasonably avoided. The #141 line turns into the #114 line and #142 turns into the #106 line. The Poeville Alternative parallels both the #106 and #114 lines for 2.2 miles. Powerlines are constrained to a corridor to avoid existing development. This is the only reasonable way to approach/exit the California Substation to the east. However, this is a small percentage of the total length of the alternative and makes use of an existing utility corridor easement.</p>
Averett	Trent	2	12	<p>It is stated that the Poeville Alternative would utilize existing utility corridors more than any of the other action alternatives. But this is achieved by building substantially more miles of new transmission lines than the other proposed alternatives. Per Table 2.11-1 of the DEIS the Poeville alignment will accomplish the goal by building 75%, or 7.7 additional miles of new transmission line compared to the Peavine Alternative. 190 new transmission line poles would be built compared to just 109 for the Peavine Alternative. Short term disturbance is 628 acres for the Poeville Alternative compared to 302 acres for the Peavine Alternative. The brunt of the disturbance is on privately held landowners. 69% of the total disturbed acreage for the Poeville Alternative will be on private land compared to only 29% of the total disturbed acreage for the Peavine Alternative.</p>	<p>Comment noted.</p>

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Averett	Trent	2	13	In addition to the Visual Resource Issue, I further agree with the items of the issue summary on pages ES-ii and ES-iii of the DEIS. All private properties proximate to this transmission line will undoubtedly experience a loss in value. Additionally, public health and safety will be negatively affected as a result from electric field and magnetic field from the transmission line.	Impacts to private property value are addressed in Section 3.3.4.2. Impacts from electric and magnetic fields are addressed in Section 3.4.3. The measured and calculated electric and magnetic fields associated for all alternatives are below recommended exposure levels for the general public within, at the edges of, and beyond the transmission line ROW.
Averett	Trent	2	14	I agree with all of the issues identified on page 1-8 of the DEIS. Specifically, I am concerned with the potential of unauthorized off-highway vehicle (OHV) use and noxious and invasive weed infestations that will certainly result from disturbing so much property.	Most ground disturbance would be temporary and restored following construction (see Section 2.3.2.1). All construction access roads will be re-contoured and reclaimed (see Section 2.3.2.2). To prevent unauthorized access immediately following restoration, project design features RT 3 and RT 4 require blockades on roads. Additionally, on NFS land, code of federal regulation 36 CFR 212.51 prohibits unauthorized motorized travel on roads not designated for such use on the Carson District Motor Vehicle Use map. Restoration, design features, and enforcement of the Motor Vehicle Use map are anticipated to prevent unauthorized OHV use. Numerous project design features (Appendix B) have been developed to prevent the introduction or spread of weeds. Design features require treatment of noxious weeds prior to construction, and continued monitoring and treatment following construction. Additionally, construction equipment must be washed to remove any noxious weed sources prior to entering the work site.

Last Name	First Name	Letter #	Comment #	Comment Text	Response Text
Rosenauer	Michael	3	1	The current lines use wood standards which blend into the area as much as one can expect from a power line. Larger standards will simply stick out more and make a bad situation worse.	Section 3.2 addresses visual impacts of the proposed transmission line, and visual simulations showing realistic interpretations of the pole structures are provided in Appendix C. New steel poles would be a dark brown color to mimic wood. Where existing H-frames are replaced, replacement steel poles would be similar in design and height. Where a distribution line is replaced, new poles would be taller in order to safely accommodate the underbuild.
Rosenauer	Michael	3	4	Finally, from the very beginning, this line has been pitched to provide additional reliability to the Somersett and Northwest areas of Reno. However, neither of these areas is burdened at all with the line. Both are over the ridge to the east and will have neither their views impacted nor their home values.	The purpose and need for the proposed transmission line is described in Section 1.3, which is to provide reliable bulk transmission capacity to the west Reno and Verdi areas by providing backup of the #141 and #142 transmission lines. A routing alternative through the Somersett and Northwest areas of Reno were considered (see Section 2.11 6).
Rosenauer	Michael	3	8	The USFS is still following the mandate to use existing rights of way where possible so the underlying policy objectives are met.	Per the Toiyabe Forest Plan, when applications for utility ROW are received, the first priority will be to utilize existing corridors. Within the project area, this includes federally designated portions of the West-Wide Energy Corridor and regionally designated utility corridors. Per Section 368 of the Energy Policy Act of 2005, West-wide Energy Corridors on federal land are locations preferred by federal land management agencies for energy transport projects. Another internal directive that the USFS must follow is USFS Manual (FSM) 2703 which does not allow the approval of any special use applications that can be reasonably met on non-Federal or other Federal lands unless it is clearly in the public interest (FSM 2703).
Rosenauer	Michael	3	15	If this line were deemed to be imperative, I would bring it into the Verdi substation from the north in the existing alignments across the western and northern shoulders of Peavine Peak. These disrupt fewer people do not impact home values as much, and place the electromagnetic impacts away from residential areas.	The impacts of the Mitchell, Peavine, Poeville, and Peavine/Poeville Alternatives on property value and EMF are disclosed in the EIS. The length of each alternative that would be located within existing utility corridors is also identified in Section 3.3.4.2.

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Rosenauer	Michael	3	16	I am directly impacted by the proposed plan. While my first desire would be that the line not be built, that possibility may not be tenable for a variety of reasons.	Comment noted.
Rosenauer	Michael	3	17	If the line must be constructed, I must object to the selection of the Poeville alignment. While I understand that it is best to use existing alignments, the selected one is pretty full as it runs through the residential area of Verdi near Hanson and Prickly Pear.	Through the residential area of Verdi, the Poeville and the Peavine/Poeville Alternatives would replace the existing, inactive 60 kV #632 distribution line in its exact location, and parallel the existing #114 and #106 lines to the California Substation. The existing #632-line H-frame pole structures would be replaced with new H-frame pole structures, and there would be little change between existing and proposed condition. See visual simulations for the Verdi Library (KOP 16).
Rosenauer	Michael	3	18	Moreover, it is unfair to those who purchased and established their homes in the area to subject them more to the effects of electro-magnetic influences, not to mention additional fire hazard, construction inconvenience, dust, dirt, trucks, etc. While I am sensitive to the fact that easements exist for the existing alignment, it does not mean that it is right to maximize them.	Effects from electro-magnetic fields, fire hazard, accessibility, and dust have been considered. Section 3.4.3 describes that increases in EMF would be below exposure limits established for the general public. The Roads and Transportation Specialist Report, available on the project website, evaluated traffic delays and accessibility issues due to construction and concluded that impacts would be short-term and negligible. Design features were developed to minimize fire hazard and fugitive dust emissions (Appendix B).
Rosenauer	Michael	3	19	They are not subject to the electro-magnetic influences of high energy lines or any residual noise from them such as buzzing and wind deflection. They carry no increased fire danger, risk of trucks needing access for repair, etc. As such, the burden is not being shared by those who benefit. Those who benefit should have to weigh if they want their values decreased, their views impacted, etc. They should have to decide whether the benefit of having more reliable electrical service outweighs the burdens of these enumerated impacts	Comment noted.
Russell	James	4	2	I am for the building of the power line as we and future generations will need the power. Just wanted to give my support.	Comment noted.

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Jensen	Richard	5	6	We feel that the existing Poeville alignment be used. This existing alignment provides minimum environmental impact on the area and minimal financial impact on the value of properties, both USDA, BLM and private.	Comment noted.
Selcer	John	6	1	I oppose the transmission line over my 3 pieces of property on Peavine Mountain (Poeville). This is patented mining property and being denied the use of my own property will prohibit me from recovering the gold and silver under the proposed site.	Impacts to private property value are addressed in Section 3.3.4.2. To minimize the loss of property value, NV Energy would purchase easements based on the appraised value of the land.
Averett	Stan	7	2	To suggest that the referred alignment outlined in the draft document could be altered to utilize the existing Poeville Alternative alignment from the Bordertown Substation to the Northern border of parcel 081-150-01 where it meets Peavine Peak Road 41641. Then the alignment might follow the alignment of the Peavine Peak Road to the west to the south-west corner of parcel 081-060-28. Then the alignment may continue in a south-west bearing and connect to the alignment of the 41132 NFS designated road until the northern border of parcel 081-170-09. The alignment could follow the northern border of 081-170-09 and then turn south and follow the western boundary of parcel 038-010-05.	The Toiyabe Forest Plan's established standards and guides include avoiding NFS land for uses that can be accommodated on private land. The Poeville Alternative was developed to use existing utility corridors as much as possible. The suggested alternative would not be substantially different than the Poeville Alternative except that it would cross more NFS land and other private lands. Accordingly, the suggested alternative was considered and eliminated from detailed consideration in Section 2.11.20.
Averett	Stan	7	3	This project is suggested as a benefit for the public and yet the majority of the burden is being placed on me and neighboring property owners.	Comment noted.
Averett	Stan	7	4	First and foremost, it is stated, and should be clear and understood that, I do not agree, approve, or in any other way suggest that the Poeville alignment is a viable, recommended, suggested, inferred, or otherwise accepted alternative for the currently considered connection of the Cold Springs substation to the Verdi substation. This project is not in the interest of neighboring property owners, be they any property owner ranging from individual residential property owner to undeveloped property owner.	Comment noted.

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Maloney	Teresa	8	1	To invite public comment at this point in the process is frustrating to the affected property owners. If our opinion really mattered, I believe we would have been invited to be part of the process before the decision was made rather than being asked to react to a decision that has already been made	Public comment was first invited when the Notice of Intent to prepare and EIS was published in the Federal Register. This occurred on November 21, 2011. The USFS held public scoping meetings in December 2011 and February 2012, and mailed scoping notices to property owners in the project area, government agencies, and interested parties. A summary of the public comment opportunities for this project is provided in Section 4.1. A decision for this project has not been made yet. The USFS identified the Poeville Alternative as the agency preferred alternative and asked for public comment on the Draft EIS. An agency selected alternative will be disclosed in the Draft Record of Decision.
Maloney	Teresa	8	2	I am opposed to the Poeville route.	Comment noted.
Gustafson	Danielle	10	1	I totally support the most recent proposal to use the Poeville line to provide reliable bulk transmission capacity to the west Reno area. This is the most environmentally friendly manner and makes the most sense, being that there are already existing lines along this route. It will not destroy land in the Long Valley area, near Bordertown and will not cut the valley in half; destroying National Forests, wildlife, plant species and causing erosion.	Comment noted.
Gustafson	Danielle	10	2	It's always been my understanding that the policy of corridor sharing favors the placement of new transmission lines within or next to existing infrastructure.	Comment noted.
Gustafson	Danielle	10	3	The Poeville alignment is the only option. It takes advantage of the routing within the existing transmission lines and reduces the miles across the National Forest System.	Comment noted.
Averett	Trevor	11	1	Poeville alignment will disturb 800% more acreage than the Mitchell (10.3 total acres) and Peavine (10.6 total acres) alternatives.	Comment noted.

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Averett	Trevor	11	2	Table 3.10-2 also indicates that the Poeville alignment will have a much larger impact on mountain quail, golden eagle, American badger, loggerhead shrike, and sagebrush lizard.	Section 3.10.2 concludes that the Poeville Alternative is not expected contribute to a loss of population viability or a trend toward federal listing for Forest Service Sensitive wildlife.
Averett	Trevor	11	3	The Poeville alignment will disturb a total of 96.6 acres while the Mitchell alternative will disturb a total of 72.1 acres (75% of Poeville), the Peavine alternative will disturb a total of 77.8 acres (81% of Poeville) and the Peavine/Poeville alternative will disturb a total of 68.8 acres (71% of Poeville).	Comment noted.
Averett	Trevor	11	4	"...other special status species such as avian, terrestrial mammals, or bat species, could be affected by construction of the project". Furthermore, Section 3.10.2.5 states that the Poeville alternative is the only alternative that has potential bat habitat.	Regardless of the alternative action alternatives, negligible to minor direct and indirect impacts are expected to special status species. See response to comment 11-2.
Averett	Trevor	11	5	Even though the Mitchell alternative has the most acres of forested habitat, Section 3.10.2.3 states "the amount of habitat removed for the project is minor in relation to existing available habitat" and "impacts are not anticipated to result in a contribution to a current or predicted downward trend in habitat capability".	Regardless of the alternative, construction and maintenance of any alternative are expected to have negligible to minor direct and indirect impacts to wildlife. See Wildlife Section 3.9.2.2.
Nykaza	Larry	12	2	As a property owner in the Bordertown area, I agree with using the Poeville Alternative. What makes more sense, using an existing corridor where power lines are already present or constructing a new corridor through National Forest land, where the terrain is more difficult?	Comment noted.
Cardenas	Marisa	15	2	I am opposed to the Poeville Alternative as it is currently proposed. This route disrupts the most acreage of any of the routes, affects the largest number of property owners, and is the longest of all of the choices.	Comment noted.

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Whitney	Bill	17	1	A reliable supply of bulk transmission capacity to the west Reno area is important and the connection is needed but the USFS should be careful to not be so focused on its policy of placing new transmission lines within existing corridors and keeping them off land managed by the USFS that it overlooks superior alternatives.	Comment noted.
Whitney	Bill	17	3	The south side of Peavine Peak is visible from much of the developed portion of the Truckee Meadows and a 120Kv transmission line will be more visually intrusive in that regard.	See response to comment 27-11.
Whitney	Bill	17	6	From where the Poeville Alternative connects with the existing #114 line then turns west it crosses some undeveloped lands that will be developed within the jurisdiction of the City of Reno. This residential development will be at a much higher density than what exists in the vicinity presently thus compounding the potential negative impacts from the transmission line.	Key Observation Point 15 provided a visual analysis within close proximity to the West Meadows Estates Development that recently broke ground and is under construction. In addition, The Poeville and Peavine/Poeville Alternatives would cross the northwestern portion of the development and replace the existing, but inactive #632 line within an existing utility corridor that also contains other existing transmission lines.
Whitney	Bill	17	10	The Poeville Alternative will be more disruptive during construction and during future maintenance/repair activities to the all existing residents along the route. These same residents will not have the concern over the potential impact to their home values from an additional transmission line.	Impacts to private property value are addressed in Section 3.3.4.2.

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Whitney	Bill	17	11	<p>Washoe County wishes to thank the Humboldt-Toiyabe National Forest and its staff for the opportunity to have the County participate as a Cooperating Agency in this process. The County Commission signed the MOU with the USFS in December of 2011. We understand that EIS analysis take a long time but it's also important for the USFS to understand that within that 3-year time frame that things have also changed at Washoe County. The majority of the County Commission that signed the MOU has been replaced with other elected officials to include the District Five Commissioner that represents the majority of the Bordertown to Verdi area. The County Manager has changed as well as other key staff. This information is being included here so the USFS will understand that these comments have not been officially reviewed or approved by the Washoe County Commission. So as to not confuse USFS staff the present "Planning and Development Division" was formerly called "Community Development" back in 2011. What has not changed is the county staff person that is named as the "Cooperator Administrative Contact" in the MOU.</p>	Comment noted.
Whitney	Bill	17	12	<p>The Poeville Alternative raised "red flags" with Commissioners and Management from the start and was seen as problematic for many reasons. The Peavine/Poeville alternative, while a more direct route, is still undesirable compared to the other three alternatives that run generally along the CA/NV border. The USFS should use the information gathered through the EIS process to determine which alignment is superior between the Mitchell; Stateline and Peavine Alternatives.</p>	<p>Comment noted. Table 2.12-2 summarizes the results of the EIS analysis and compares alternatives by key issue and environmental effects. Just to clarify, the Stateline Alternative is no longer a viable action alternative and has been dismissed from further consideration as described in Section 2.11.1.</p>

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Whitney	Bill	17	13	The Poeville Alternative should not be considered the preferred alternative because it suffers from multiple negative drawbacks/impacts: It is approximately twice as long as the other alternatives and at an approximate cost of one-million dollars a mile to construct will be that much more of a burden to rate-payers.	Comment noted.
Anderson	Vernon	18	1	Of the four proposed alternatives, the one furthest east is the least objectionable to me.	Comment noted.
Anderson	Vernon	18	2	While the power company's reason to build is to increase reliability, it is clear to most that "potential future growth" is the main reason. And, if future growth is West Reno is desired, let the developers pay for it and try to sell it the residents of West Reno. And of course, since the annexation, West Reno now goes to the California State line.	Section 1.3 describes the purpose and need of the proposed transmission line. Compliance with North American Electric Reliability Corporation (NERC) standards are mandatory, and the Federal Energy Regulatory Commission) may assess substantial civil penalties for violations of NERC standards.
Saicheck	Arthene	19	2	I have a concern of the gusts of 60 mph plus winds coming down off of Peavine Mountain toward the freeway that the power lines and/or poles are not blown down the hill onto My house, and start a fire and/or destroying my fencing +/- property.	The line would be designed to meet or exceed the National Electric Safety Code, which includes loading and strength requirements for overhead lines due to weather related events such as wind and ice loadings. The Public Utilities Commission of Nevada has adopted this code for the State of Nevada (NAC 704.450).
Saicheck	Arthene	19	3	I am concerned about how they the poles will look; the Alturas line along 395 at Lemmon Valley and Golden Valley green paint is chipping off and ugly.	Detailed illustrations of the pole structures are provided in Appendix A. Visual simulations showing realistic interpretations of the pole structures are provided in Appendix C. The poles would not be painted; steel poles come as a patina brown or wood color.
Saicheck	Arthene	19	4	I am concerned about the endangered species and tree removal especially the flammulated owl and conifers and Aspen.	See response to comment 11-2.
Saicheck	Arthene	19	5	The high pitched sound from the Alturas Line causes ringing in my ears, after I have turned off the TV, radio to go to bed, I hear ringing in my ears overnight, making sleeping difficult, ever since the Alturas line went in.	The Alturas line is an existing transmission line and is outside the scope of analysis for this project. However, the EIS has been revised to discuss noise (Section 3.1.1.2). The addition of the proposed 120 kV line would add noise levels of 30 decibels, which is very quiet and comparable to a whisper.

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Saichack	Arthene	19	6	Will lines detach from poles in winds and gusts? Lightning strike failure, structural failure, start fire! Are the lines going to be far enough apart to not slap together?	Wherever possible, transmission lines are placed to prevent a transmission line falling onto a second transmission line. The distance between the Alturas line and the Poeville Alternative is a minimum of 90 feet to prevent contact with each other. For a short segment along North Virginia Street, the Poeville Alternative is constrained by existing development and is within toppling distance of the Alturas line. However, on both transmission lines, if an energized conductor were to fall to the ground, high speed relay equipment is designed to de-energize the lines in less than 0.1 second to prevent fire potential.
Saichack	Arthene	19	7	HEALTH risks with electromagnetic lines causing cancer EMC can wash out radio emergency broadcasts warning weather or fire; the white noise drowns out radio frequency/frequencies.	See Specialist Report: Electric and Magnetic Field Evaluation for Proposed Bordertown to California 120 kV Transmission Line (Enertech 2013) for an assessment of scientific research on EMF health risks. EMF at higher voltage than the proposed project can cause white noise (radio static). However, with the 120 kV line, interference with broadcasts from AM and FM stations is not expected.
Saichack	Arthene	19	8	Concern (include) 60 mph winds off Peavine, health concerns & ringing in ears. Are the metal poles conductive?	See response to comment 19-2 regarding wind. The EIS now includes Section 3.1.1.2 that discusses corona noise (i.e., noise produced by power lines). Pole structures would be constructed of steel, which is a conductive material. However, the conductor cables would be mounted on insulators that prevent electric current from being conveyed to the pole structures. If an energized conductor were to fall to the ground and create a line-ground fault, high speed relay equipment is designed to de-energize the line in less than 0.1 second. This should prevent any stray arcing to ground objects.

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McGathey	Louis	20	9	I own property at 8900 Peavine Peak Road. My concerns are: Securing active mining property; and the existing right of way is 10 feet for the pole line road and they want to extend that to 300 feet; and the easement in which AT&T not the power company, how is this allowable with the consent of the private land owners;	Construction activities may require temporary access through existing fences and gates on public and private land. Security issues would be minimized through the implementation of design feature GP 3 (Appendix B). Design feature GP 3 requires that fencing will be replaced when construction activities are completed. Replacement fencing will be built to agency or landowner specifications, consistent with the fencing that was removed. During construction, fences with open gates will remain open and fences with closed gates will remain closed. A variable-width study corridor, 300 to 600 feet-wide was used for analysis purposes only. However, the easement needed for construction, maintenance, and operation of the proposed line would be up to 90 feet in most cases, except where an underbuild of an existing line would occur and the easement could be as narrow as 40 feet. NV Energy would enter into negotiations with the private landowner prior to the purchase of an easement.
McGathey	Louis	20	10	...and how will this affect the people who work there and vegetation; who will this impact the mine tunnels under the existing pole line road; and who is responsible for theft and damage to the property crossed to access the pole line road; and what about liability for fire as well?	Along Peavine Peak Road, the Poeville Alternative would be constructed as a single pole underbuild (Figure A1). Table 3.4-8 shows that EMF levels would be below recommended thresholds inside and beyond the transmission line ROW. Therefore, risks to health and safety of the public, including those who work at the mine, are not expected. Impacts to vegetation are described in Section 3.7.2.2. Except where the vegetation is displaced by a pole, or permanently lost at the Bordertown Substation expansion area, all disturbances to vegetation would be restored. The implementation of design features developed for recreation resources and transportation (Appendix B, RT 3 through RT 7) require that temporary construction access roads be restored immediately following construction. Restored roads on NFS land would have a physical closure (i.e., barricade) installed immediately to prevent unauthorized vehicle use from occurring on reclaimed roads. This would reduce the potential for unauthorized travel on restored roads which,

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					in turn, would reduce the potential for trespass onto private property where theft and damage may occur.
Churchill	David	21	1	I object to the proposed Poeville Alternative. It would affect my property and why I purchased it.	Comment noted.
Flanagan	Janice	22	1	I feel the Forest Service should use ONLY existing corridors for overhead transmission lines	Comment noted.
Flanagan	Janice	22	6	All transmission lines should be undergrounded. This cuts down on forest fires from broken lines; stops the unsightly poles and lines from intruding on our forests; and stops fallen poles and lines in storms. I know the undergrounding is more expensive, but over the life expectancy of the project, this would be minimal	An undergrounding alternative was considered but eliminated from further analysis (see Section 2.11.15).
Morris III	George	23	5	If this project will occur on private land, the project will require a Timberland Conversion and Timber Harvest Plan as per the following: California Code of Regulations, per section 1103, and Public Resources Code 4581 requires a Timberland Conversion Permit and/or Timber Harvest Plan be filed with the California Department of Forestry and Fire Protection if the project involves the removal of a crop of trees of commercial species (regardless of size of trees or if trees are commercially harvested). The Timberland Conversion Permit shall address the following: a. The decrease in timber base in the county as a result of the project. b. The cover type, including commercial species, density, age, and size composition affected by the project. c. The ground slopes and aspects of the area affected by the project. d. The soil types affected by the project. e. Any significant problems that may affect the conversion.	California Code of Regulations, 14 CCR § 1104.1(c) exempts public and private utilities from the Timberland Conversion Permit and the Timberland Harvest Plan requirements for construction and maintenance of gas, water, sewer, oil, electric and communications rights of way. California Public Resources Code 4584 provides an exemption for the cutting or removal of trees for the purpose of constructing or maintaining a right-of-way for utility lines. Table 1.9-1 identifies an exemption under these regulations that will be necessary for the proposed transmission line.

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Carolan PG, CHG	Jim	24	1	Construction Permitting: 1) If Project construction activities involve more than 10,000 sq. ft., but less than one acre of land disturbance, General Waste Discharge Requirements for Small Construction Projects, Including Utility, Public Works, and Minor Streambed/Lakebed Alteration Projects in the Lahontan Region, Excluding the Lake Tahoe Hydrologic Unit, Board Order No. R6T-2003-0004 is required. These Waste Discharge Requirements (WDRs) may be downloaded from the following webpage: http://www.waterboards.ca.gov/lahontan/board/decisions/adopted_orders/2003/docs/r6t-2003-0004_small_const_wdr.pdf .	Project construction activities are expected to result in more than 10,000 square feet of disturbance. See Table 1.9-1, which identifies applicable permits that would be obtained before a special use permit from the USFS would be considered valid.
Carolan PG, CHG	Jim	24	3	Please include maps that clearly show areas of floodplains, wetlands, and the ordinary high water mark of any waterbodies where work will occur, if any. For example, if describing improving a watercourse crossing at a re-designated motorized route, clearly show the existing structure in relation to the creek, floodplain, or any associated wetlands. Floodplains and other such features should be delineated by a qualified hydrologist, and the map should be of a scale so that they can be identified in the context of the project area (e.g., 1 inch equals 40 feet). Include a legend or key on all maps so that features can be readily identified.	Design features HE 5, HE 12, SV 2, SV 3, WA 3, WA 4, and WA 14 are included in the EIS to avoid 100-year floodplains, wetlands, and meadows. Construction of road crossings may occur within the ordinary high water mark of ephemeral stream channels. The analysis of impacts to ephemeral streams was conducted without a map with the recommended level of detail (Section 3.6.2.2). After pole locations are known, access roads can be planned. A Construction, Operation, and Maintenance (COM) Plan would be prepared for the selected alternative that would this level of detail prior to construction.
Canfield	Skip	25	1	As part of the DEIS - Bordertown 120 kV Transmission Line, please consider the cumulative visual impacts from development activities (temporary and permanent).	Section 3.2.4.6 analyzes the cumulative effects of the proposed transmission line when combined with the present and reasonably foreseeable future actions, including development.

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Canfield	Skip	25	2	Utilize appropriate lighting: Utilize consistent lighting mitigation measures that follow "Dark Sky" lighting practices. Effective lighting should have screens that do not allow the bulb to shine up or out. All proposed lighting shall be located to avoid light pollution onto any adjacent lands as viewed from a distance. All lighting fixtures shall be hooded and shielded, face downward, located within soffits and directed on to the pertinent site only, and away from adjacent parcels or areas. A lighting plan should be submitted indicating the types of lighting and fixtures, the locations of fixtures, lumens of lighting, and the areas illuminated by the lighting plan. Any required FAA lighting should be consolidated and minimized wherever possible.	There are no new light sources proposed with this project.
Canfield	Skip	25	3	<p>The project may be subject to BWPC permitting. Permits are required for discharges to surface waters and groundwater's of the State (Nevada Administrative Code NAC 445A.228). BWPC permits include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Stormwater Industrial General Permit • <i>De Minimis</i> Discharge General Permit • Pesticide General Permit • Drainage Well General Permit • Temporary Permit for Discharges to Groundwater's of the State • Working in Waters Permit • Wastewater Discharge Permits • Underground Injection Control Permits • Onsite Sewage Disposal System Permits • Holding Tank Permits <p>Please note that discharge permits must be issued from this Division before construction of any treatment works (Nevada Revised Statute 445A.585).</p>	Table 1.9-1 in the EIS has been revised to specifically identify applicable permits. There are no wells, underground injection, sewage, or holding tanks proposed with this project.

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Canfield	Skip	25	4	<p>Additionally, the applicant is responsible for all other permits that may be required, which may include, but not be limited to:</p> <ul style="list-style-type: none"> • Dam Safety Permits- Division of Water Resources • Well Permits- Division of Water Resources • 401 Water Quality Certification – NDEP • 404 Permits- U.S. Army Corps of Engineers • Air Permits- NDEP • Health Permits- Local Health or State Health Division • Local Permits- Local Government 	Applicable permits are listed in Table 1.9-1. There are no dams or wells proposed with this project.
Canfield	Skip	25	5	One of the proposed routes crosses the Truckee River in two locations in the Verdi Area. NV Energy will be required to obtain an easement for the new line, should they select that alternative. Additionally, NV Energy has several other lines crossing the Truckee in that same area without benefit of any authorizations or easements. NDSL will require, as part of the granting any easements for the new line, NV Energy applying for and securing easements for their existing lines.	Table 1.9-1 has been revised to include Nevada Division of State Lands easement for aerial crossing over the low water mark of the Truckee River.
Loverin	Jan and Jim	26	4	The residents of Long Valley are concerned about the expansion of the Bordertown substation and the impact it will have on our area.	The EIS analyzes the expansion of the Bordertown Substation.

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Loverin	Jan and Jim	26	5	<p>With the proposed expansion now, we are asking for expanded landscaping to mitigate any further visual impacts to Sierra County road 570 and Long Valley. We are proposing the following:</p> <ol style="list-style-type: none"> 1. Extend the north side of existing berm approximately 500-700 feet. In the first paragraph of the attached Agreement, 20 cottonwood trees were planted in the ravine north of the substation. These trees were not irrigated and died, leaving the substation exposed. 2. Plant 30 IRRIGATED evergreen # 1 quality, 15 gallon trees on the newly extended berm. 3. We would like to amend the current agreement to include a 5 year guarantee for the newly planted trees; after the 5 year period, if 15% of the trees die from either manmade or natural circumstances, NV Energy will replace them with original # 1 quality stock. 4. Use a dull anti-glare finish on all tower structures. 	<p>The proposed expansion of the Bordertown Substation is on BLM-administered public land designated as Visual Resource Management (VRM) Class III. The analysis of visual effects concluded that the proposed expansion would conform to the objectives of VRM Class III. The materials used in the expansion would be similar to those currently in use and new components would not be taller than existing structures, making the visual contrast negligible. Inside the substation, the existing 345 kV termination structures are the tallest components (80 feet tall to the top of the lightning mast). The termination structures for the proposed 120 kV line would be no taller than 60 feet tall to the top of the lightning mast. New 345 kV and 120 kV bus work would be 16 to 33 feet tall, and would be generally out of view because the expansion would be constructed on the east side of the existing man-made berm. The steel poles that will be used for the proposed transmission line will weather to a dark brown, matte color that will appear the same color as the pole structures used for the Alturas 345 kV transmission line, which are also anti-glare. Thus, for the transmission line, the visual contrast will also be negligible.</p> <p>Because visual contrast will be negligible, additional mitigation was deemed unnecessary.</p>

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von Seggern	David	27	1	The preferred alternative (Poeville Alternative) has 18.0 new miles of transmission line, a fact which is clear on the accompanying maps. Of the 18.0 miles, 12.6 will be shared with an existing corridor, leaving 5.4 miles to be constructed in the new corridor across Peavine Mountain. The Mitchell Alternative leaves 7.1 new miles of corridor while the Peavine Alternative leaves 7.5 miles of new corridor. We agree that the preferred alternative has the least new corridor, thus satisfying the policy that the USFS should choose a path which utilizes existing corridors best. Yet this only saves 1.7 and 2.1 miles when compared to the Mitchell and Peavine Alternatives. What tradeoffs are made to minimize the number of miles to become new utility corridor?	Table 2.12-2 provides a summary and comparison of the impacts (i.e., tradeoffs) that will be made from implementation of any of the action alternatives, including the Poeville Alternative.
von Seggern	David	27	2	The preferred alternative puts a power line on the part of Peavine Mountain facing the built-up portions of Reno and surrounding areas.	Visual impacts of the Poeville Alternative are assessed in Section 3.2.4.4. Photo simulations KOP 9 through 17 in Appendix C show expected post-construction conditions along the Poeville Alternative. See response to comments 2-4 and 27-11.
von Seggern	David	27	3	We also point out that much of the route across Peavine for the preferred alternative will require temporary roads	All alternatives will require construction of temporary roads. Table 2.12-1 compares miles of temporary roads needed for each alternative.
von Seggern	David	27	4	Will require construction on often fairly high slopes	Section 3.6.1.5 and Figure 3.6-3 identify that steep slopes occur throughout the analysis area. Section 3.6.2.2 describes that implementation of design features (Appendix B) would reduce the potential for water quality degradation from erosion and sedimentation.

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von Seggern	David	27	5	Will disturb many intermittent stream channels	Although the Poeville Alternative has more impacts to intermittent channels, the impacts to intermittent channels would be minor under any of the action alternatives (Section 3.6.2.2). Although the impacts would not be long-term, impacts are addressed primarily through BMPs, restoration of project disturbances, and implementation of design features specific to water resources and soils (Appendix B). Any improved crossing would be monitored such that repairs or remedial measures are promptly implemented.
von Seggern	David	27	6	To gain a small decrease in number of miles of new corridor, the impacts of the preferred alternative need to weighed more carefully against per-mile impacts of the other alternative routes.	Using per-mile impacts is not appropriate for all resource issues as it would make certain resource impacts on the Poeville Alternative appear smaller. However, a comparison of impacts across all alternatives is presented in Table 2.12-2.
von Seggern	David	27	7	The preferred alternative has more stream crossings than the other alternatives according to Table 2.11-1, and this needs to be weighed.	See response to comments 27-5 and 27-6.
von Seggern	David	27	8	It is not clear that NV Energy will actually be able to clear the hurdles of all the private land permitting, the issuance of new Special Use Permits by the City of Reno, Regional Plan Amendment, and the required NDEP permits.	Once a Final Record of Decision is issued, NV Energy would be responsible for obtaining all of the necessary private land easements and other required permits. All necessary permits and authorizations will be required as conditions of approval for the permit issued by the USFS.
von Seggern	David	27	9	Visual impacts are of prime concern to us. Development on the higher slopes and higher elevations around the Truckee Meadows has always brought our scrutiny. We feel that the VQO (Visual Quality Objectives) analysis is flawed.	See response to comments 27-10 and 27-11.

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von Seggern	David	27	10	The KOP (Key Observation Points) on map 3.2-1 are not adequately distributed. For the Mitchell or Peavine Alternatives, none of the KOP's are really within the scenic areas along the routes.	KOPs, the specific points with critical views of the proposed project, were identified based upon areas of high visual sensitivity, angle of observation, number of viewers, public access, length of time the project is in view, relative project size, season of use, and light conditions. KOPs were established at the southern and northern ends of the Mitchell and Peavine Alternatives because these areas have the most number of viewers, most public access, and are generally used during all seasons. Other, more interior sections of the Mitchell and Peavine Alternatives are located in less developed areas, and generally do not have the above listed criteria that KOPs are based upon.
von Seggern	David	27	11	For the preferred alternative (Poeville) the KOP's are along the route, but this does not adequately capture the full visual impact of a power line on the side of Peavine which can be seen from wide portions of the valley below and other key observation points off the route. Moreover, due to the lack of vegetation on the south and east sides of Peavine Mountain, the visual impact is especially great.	<p>Typically, any given project or action will be visible from many locations in the landscape. KOPs are not established at every possible location from which a project or action may be visible. KOPs are established as sensitive receptor sites based upon areas of high visual sensitivity, angle of observation, number of viewers, public access, length of time the project is in view, relative project size, season of use, and light conditions. KOP 15 was selected as an ideal location to analyze the potential visual impacts of the Poeville Alternative as it traverses the south side of Peavine Peak because: 1) it is among the closest locations that the public can get to this portion of the Poeville Alternative without trespassing on private land; and, 2) it is next to the Truckee River, a major recreational attraction in the region.</p> <p>While the Poeville Alternative would be visible from many other locations in the Truckee Meadows south of Peavine Peak, the angle of view would generally be very similar to that of KOP 15. In February 2015, the USFS visited additional locations in the valley, such as the trailhead for Hunter Creek Trail, the Cabela's retail store, and the Somersett community. Photos from these locations show that the visual contrast of the Poeville</p>

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					Alternative within the characteristic landscape would not be different than what was determined from KOP 15. Photographs from each location visited in February 2015 are available in the Project Record.
von Seggern	David	27	13	Impacts on forest habitat are also a big concern of ours. Although the preferred alternative would disturb or remove the most actual acreage of vegetation (Section 3.9.2), this vegetation is mostly of the low shrub and tree species when compared to the coniferous forests in the other routes on the west side of Peavine Mountain. Here, again, a weighting factor needs to be put on the acreage amounts of disturbance or removal. This weighting factor needs to account for the drier climate on the east and south sides of Peavine Mountain which makes recovery of vegetative communities difficult and definitely very long-term, with a high probability of invasive weeds and grasses.	As explained in Section 2.1.1, each alternative was developed to address a resource concern or maximize an opportunity, such as utilizing existing utility corridors or use of burned land. Recognizing the value of forested communities, the Peavine Alternative was developed specifically to minimize crossing of pine forest communities. Impacts to vegetation communities are further described in Section 3.7.2.2. The USFS recognizes that less ecologically resilient sites such as south facing slopes and steep slopes on Peavine Mountain may not be successful. As mitigation, for every acre of habitat that is not successfully restored in 5 years, 2 acres of habitat will be restored to benefit wildlife. With regard to weed infestation, risks are minimized through the implementation design features (Appendix B) which requires that a weed treatment plan be developed and that treatment measures are taken during and after construction.
von Seggern	David	27	14	Basically, we do not support any of the proposed alternatives. In particular, the preferred alternative has a number of issues that we believe should be reexamined before preparing a final EIS. We realize that the USFS draws on regulations and policies to support the preferred alternative, but some of these instances may involve interpretations.	Comment noted. See response to comment3-8.
Sanderson Port	Patricia	28	1	The Department of the Interior has received and reviewed the subject document and has no comments to offer. Thank you for the opportunity to review this project.	Comment noted.

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Martin	P. P.	29	1	<p>Enclosed is a copy of drawing 485012WCRD (LS-12/13), sheets 1 through 34; drawing 485012CFWC (LS-12), sheets 18 through 132; drawing 485055REFA (LS-55), sheets 1 through 8; which respectively depict the general alignment of Kinder Morgan's (KM) active 10-inch, 8-inch, and 6-inch high pressure refined petroleum products pipelines. Also shown within the above drawings is Line Section 13, (LS-13), KM's 6-inch out of service pipeline. In the interest of public safety and for pipeline protection, the following provisions must be considered in the design and subsequent construction of improvement near KM's pipelines:</p> <ol style="list-style-type: none"> 1. Adherence to applicable provisions enumerated in the enclosed copy of (a) L-OM200- 29 "Guidelines for Design and Construction" relating to proposed projects affecting Kinder Morgan pipelines and (b) copy of Information Bulletin #03-001, issued from the Office of the (California) State Fire Marshal concerning encroachments within and adjacent to pipeline easements. 2. Exact pipeline location can only be determined by pothole at maximum 50 feet intervals (or as required by the on-site KM representative). The pothole work must be performed by hand excavation and in the presence of a pipeline representative. 3. Notify KM Area Manager, Gary Kulaszewski (775) 358-6971), at least two weeks prior to commencement of work. Mr. Kulaszewski will arrange for a pipeline representative to be present during work near the pipelines. <p>To avoid delays in response to future correspondence, please refer to File Reference #11030.</p>	<p>NV Energy is aware of Kinder Morgan's (KM) concerns regarding potential damage to the pipeline. A copy of the KM comments has been forwarded to NV Energy and would be included in a COM Plan. Design feature GP 4 was developed specific to blasting in the vicinity of KM's pipeline.</p>

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Mabe	Rene	31	13	The Final EIS should either include a project design feature that places the power line underground for a distance of approximately 1450 feet, located within the strip of NDOT/NV Energy property between the frontage road and US 395.	Although undergrounding alternative was considered but eliminated from detailed study (Section 2.11.15), undergrounding short segments of the line as mitigation in front of the Peavine Ranch have not been dismissed.
Mabe	Rene	31	17	Additional direct/indirect impacts to the Peavine Ranch that have not been disclosed. Construction activities and associated vibrations at such a close proximity to fragile historic structures could result in foundation or other structural failure. The 85-foot disturbance radius for two of the eight power poles will remove my septic tank, leach field, and propane tank. There are no provisions to prevent staging areas, transmission wire setup sites, or widening of the road from occurring on the Peavine Ranch. Wire setup sites are approximately 600 feet radius in size (DEIS, Table 2.3-1, page 2-9).	Design feature CU 3 requires that a Historic Properties Treatment Plan (HPTP) be developed in consultation with the California and/or Nevada State Historic Preservation Offices (SHPOs), tribes, and NV Energy for the selected alternative if avoidance of a cultural site identified as eligible or treated as eligible cannot be avoided. A Memorandum of Agreement and HPTP would be prepared and signed prior to the record of decision and implemented according to the agreement and would become part of the Construction, Operations, and Maintenance Plan.
Mabe	Rene	31	18	The Poeville Alternative does not consider avoidance of the Peavine Ranch, excavation and other ground disturbing activities will result in the destruction and degradation of NRHP listed historical resources. There are no provisions in place to protect the historic buildings from becoming permanently damaged or destroyed from direct or indirect construction activities i.e. associated vibrations that may result in foundation or other structural failures.	See response to comment 31-17.
Mabe	Rene	31	19	3) Irreversible and irretrievable loss of cultural resources: Page 3-141, Table 3.14-1 states "The action alternatives would not have any irreversible or irretrievable commitments of cultural resources". This is a false statement as it relates to my historic property and the implementation of the Poeville Alternative, identified by the line officer as the Preferred Alternative	Table 3.15-1 has been revised to state that there may be irreversible effects to the integrity of a historic property. There may be short-term effects to setting, but those would be retrievable if the power line was removed. When irreversible effects are unavoidable the USFS will consult with the tribes and California and Nevada SHPOs along with NV Energy to mitigate the loss of the historic property.

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Mabe	Rene	31	20	The old growth trees that provide shade and screening were noted as a component of the character of the property's physical features within the property's setting that contributed to its historic significance and listing in the NRHP. The long-term loss of these trees would constitute an irretrievable commitment that is not disclosed within the DEIS.	The loss of the cottonwood trees would be an irretrievable commitment of vegetation resources, not a loss of the historic Peavine Ranch. Any effect to an element of the historic setting would be addressed in the Memorandum of Agreement and HPTP if needed to comply with Section 106 of the National Historic Preservation Act.
Mabe	Rene	31	25	The FEIS should produce an unbiased, third party study that evaluates the loss of property value and how it impacts private property owners, state and local government's tax revenue, and how it will affect the fair market value of the affected 130 parcels of private land.	The Warren & Schiffmacher LLC (2007) study was conducted in the Reno area and based on a 120 kV transmission line. Site specific valuation of private property will be done by qualified appraisers along and for the approved alternative.
Mabe	Rene	31	26	The document did not disclose how the Poeville Alternative affects the visual context as it relates to the NVRCA. The discussion of foreground of the landscape at KOP 9 and KOP 10 on pages 3-13 and 3-14 was inadequate to assess the impact on the historic and open space values of the Peavine ranch.	Potential adverse effects to all historic properties were documented and disclosed during the Section 106 process for the Bordertown Project. There may be adverse effects to the site if the Poeville Alternative is selected. If the Poeville Alternative is selected, an MOA and HPTP will be developed to mitigate adverse effects to the site. One of the major points to be considered will be the visual impacts of the nearby pole placement/installation as well as the lines supported by the pole. Furthermore, placement, height, and landscape compatibility of the pole(s) will need to be considered as well. In fact, the installation of taller poles may itself mitigate new and past impacts by concentrating the lines at a single height. Detailed visual simulations specifying all possible visual obstructions will be necessary to help refine any mitigation measures pursued on behalf of this resource. In addition to the measures for the specific visual impacts of any physical poles, additional "landscape" work could be pursued to improve the condition of the area around Peavine Ranch. Public outreach and an additional emphasis on regional historical research, possibly focusing on the ranching/agricultural theme, could also be coupled with any mitigation measures to bolster the historical significance of Peavine Ranch and

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					the early ranching and agricultural history of the Truckee Meadows.
Mabe	Rene	31	27	To be consistent, the undergrounding option should be pursued to avoid impacts on the private property	See response to comment 31-26.
Mabe	Rene	31	29	The resulting report states, "electric fields ranged from 0.007 kV/m to 1.007 kV/m near the 345 kV transmission line. Trees and bushes were present along the residential driveway which provided shielding of the electric field" (EMF Evaluation for Proposed Bordertown to California 120kV Transmission Line, page 41, 2013). In the fall of 2014, NV Energy insisted in removing the shrubs and trees along my fence line (beneath #257 distribution line) that were providing this shielding. In addition, they topped a fir tree that was the last of the three planted as mitigation for shielding and visual impacts from the construction of the 345kV Alturas line. I contend that the shielding that was present during your data collection has been removed and the existing measurements may be higher today.	Electric fields were modeled for single pole structures with an underbuild and the modeled results are below the exposure limits recommended by the American Conference of Governmental Industrial Hygienists, Institute of Electrical and Electronics Engineers, and International Commission on Non-Ionizing Radiation Protection within the proposed ROW. EMF was measured in front of the shrubs and trees where there is no influence from shielding. Electric fields were below the recommended exposure limits.
Mabe	Rene	31	30	"Trees and buildings can significantly reduce ground level electric fields by shielding the nearby area" (page 3-31). In addition, specific design features for the Poeville Alternative mitigating impacts to the cultural and visual resources of the Peavine Ranch included additional landscaping and planting of trees. This proposal has merit; however, it is in direct conflict with the requirement of the proposed action that requires tree removal within the 90-foot ROW plus any tree outside the ROW that may have the potential to fall on the transmission line wire (Table2.3-1, page 2-9).	Design features or mitigation measures would need to be in compliance with power line safety regulation and code, but would not preclude planting trees or vegetation a safe distance outside of the right-of-way to improve visual screening, if feasible. Additional mitigation will be identified in a MOA, if a MOA is needed to comply with Section 106 of the National Historic Preservation Act.

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Mabe	Rene	31	31	I was unable to find any reference within the DEIS or EMF report that addressed the noise emitted by the power lines and how adding the 120kV will add to the noise pollution emitted by the Alturas 345kV line. The Alturas power line currently emits a constant buzzing sound. However, when fog, rain, or snow is present, a loud and constant popping noise occurs.	The EIS now includes Section 3.1.1.2 that discusses corona noise (i.e., noise produced by power lines).
Mabe	Rene	31	32	The disclosure of stray voltage/current impacts was not address in the DEIS and was given a one sentence statement in the EMF specialist report. As a landowner with three metal driveway gates directly beneath the proposed 120kV line, the distribution line, and within 60 feet of the 345kV Alturas pole, I would like to know what the proposed risk to my family is from stray voltage and currents. The DEIS did not disclose this information.	The EMF technical report discusses spark discharges and electric shocks. The proposed project would not create conditions where stray current or stray voltage would occur. If an energized conductor were to fall to the ground and create a line-ground fault, high speed relay equipment is designed to de-energize the line in less than 0.1 second. This safety feature would reduce potential for any stray arcing to ground objects.
Mabe	Rene	31	33	The DEIS discloses the width of the proposed Right of Ways (ROW) as 90-foot-wide. (DEIS, page 2-1 and Table 2.3-1, page 2-9). However, the Electric and Magnetic Field Evaluation report specifies the 90-foot ROW would only be necessary for the H-frame configuration and the single pole would require a 40-foot wide right-of-way (page 78). To avoid confusion when discussing mitigation and impacts associated with long-term ROWs, the FEIS should clarify and disclose the ROW width required on each private parcel so that landowners can better determine how this project affects them.	The EIS has been revised to clarify that the right-of-way would be reduced to 40 feet wide in constrained areas where single pole structures are used. Tables 3.4-4 through 3.4-10 have been revised to clarify the distance to the ROW edge used in the analysis.
Mabe	Rene	31	34	The Peavine Ranch consists of six private land parcels. The parcel located to the east of the historic buildings was purchased by my family after the NRHP listing and was not evaluated for eligibility at the time of the Alturas project. SHPO is currently evaluating the parcel to determine eligibility of the historic component for inclusion in an amendment to the NRHP listing for the Peavine Ranch. The change in the NRHP site boundary will affect your analysis within the FEIS.	Per Section 106 of the National Historic Preservation Act, the Cultural Resource Report for the Bordertown Project considers all potential adverse effects of the project on historic properties, including Peavine Ranch. See response to comment 31-26.

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Mabe	Rene	31	35	Provide at least one viable alternative that would result in avoidance of the Peavine Ranch historical resources.	See response to comment 31-48.
Mabe	Rene	31	36	Please include a project design feature that places the power line underground for the distance of approximately 1450 feet, located within the strip of NDOT/NV Energy property between the frontage road and US 395. This mitigation would not be cost prohibitive as it is for a limited distance, level in terrain, and within the existing NDOT ROW for Hwy 395.	See response to comment 31-13.
Mabe	Rene	31	38	The Poeville Alternative violates the terms of the existing Memorandum of Agreement (Memorandum of Agreement) issued for the Alturas Transmission Line 106 compliance: The DEIS proposes actions that would violate the terms of the (Memorandum of Agreement) that was issued in compliance with the programmatic agreement and Section 106 of the National Historic Preservation Act (NHPA) regulations (36 CFR 800) for the Alturas Transmission Line Project. The Poeville alternative proposes to utilize the existing utility corridor as the Alturas line. Cultural resources protected or mitigated under this existing Memorandum of Agreement cannot be negated by the addition of the new 120kV line within the same utility corridor. Site avoidance, data recovery, component evaluation, marker construction, recordation and landscaping were specific compliance items of the Memorandum of Agreement for the Peavine ranch property (SHPO, 1998). The Peavine Ranch was listed in the NRHP after this Memorandum of Agreement was completed. The construction of this proposed transmission line would constitute an adverse impact to this site and nullify the mitigation that the 1998 Memorandum of Agreement put in place.	The implementation of the Poeville Alternative is considered a separate undertaking from the Alturas project. A Memorandum of Agreement (MOA), if a MOA is needed to comply with Section 106 of the National Historic Preservation Act, will be developed specific to the proposed project that will include additional mitigation measures and a Historic Properties Treatment Plan (HPTP) to mitigate impacts to the historic property.

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Mabe	Rene	31	39	Adverse direct, indirect, and cumulative impacts to NRHP site are not mitigated with alternative route adjustment, design features, or proposed mitigation.	See response to comment 31-26.
Mabe	Rene	31	40	The DEIS stated that the "Peavine Ranch Northside of U.S. 395" Alternative was dropped from further consideration: "To address the concerns about effects to the historic setting of the Peavine Ranch, the USFS consulted with the SHPO to develop mitigation measures. Concerns would be addressed through implementation of design features for the Poeville Alternative. Consequently, this alternative was dismissed because it would not be economically practical to construct the proposed transmission line across U.S. Highway 395 if there are no mitigation benefits to gain from doing so."	The rationale for dismissal of the Peavine Ranch North Side of US 395 was re-considered in the EIS as not technically practical and Section 2.11.13 has been revised accordingly.
Mabe	Rene	31	41	According to the design features on page 2-21, "to avoid impacts to private property and historic setting of Peavine Ranch, the Poeville Alternative was moved to the perimeter of the Peavine Ranch property." Adjusting the line to the perimeter does not diminish the direct adverse impacts listed above. Page 2-21, 2.8.3 is entitled "Peavine Ranch Off Property Route Adjustment". However, the adjustment described in the paragraph and maps show that the line was moved to the perimeter of the Peavine Ranch. This wording is misleading to the public. This places the line directly on the property, in the path of the historic dump, and in close proximity of the historic buildings. The new ROW requirements would dictate the removal of brush and old growth trees that were described as part of the historic context when it was listed as an NRHP site.	The name of the alternative in Section 2.8.3 has been revised to Peavine Ranch Property Route Adjustment to clarify the modification of the route. The purpose of moving the line was to avoid splitting the parcel and to follow an existing distribution line.

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Mabe	Rene	31	42	The justification for dropping this alternative from further study is erroneous. I believe this is still a viable alternative to mitigate the impacts to the Peavine Ranch. If the Agency does not analyze the environmental effects of this route deviation, then it will not be considered as a viable solution for mitigation during the 106-consultation process.	See response to comment 31-40.
Mabe	Rene	31	43	The DEIS, on page 3-141 and Table 3.15-1, states that it is in conformance with the Archeological Resource Protection Act of 1979. "Design features (Appendix B) have been developed to prohibit the collection or disturbance of archeological sites encountered during construction or maintenance of the project." This statement is false as the construction of the transmission line on the Peavine ranch will not be able to avoid the destruction and disturbance of the historic resources on the property	Additional mitigation will be identified in a MOA, if a MOA is needed to comply with Section 106 of the National Historic Preservation Act. Table 3.16-1 (previously 3.15-1) has been revised to state, "Design features (Appendix B) have been developed to prohibit the unauthorized collection or disturbance of previously unidentified archeological sites encountered during construction or maintenance of the project."
Mabe	Rene	31	44	CU 8 - CU 11 attempt to mitigate the visual impacts of the alternative. These measures require the placement of power lines 25 feet higher on the pole, but do not indicate if a larger or taller pole would be necessary to provide this height. It is unknown if the impacts of this mitigation would actually cause a larger "foot print" on the ground.	Single pole structures proposed along Peavine Ranch would be between 65 to 90 feet tall and would not be taller or larger than the typical pole shown on Figure A1 in the EIS. Furthermore, specific mitigations for historic properties will be addressed in the MOA and HPTP. Interested and affected parties will be invited to participate in the process.
Mabe	Rene	31	45	CU 12 proposes mitigation measures that include an off-site historical marker discussing ranching in the general area. An interpretive marker was erected at the intersection of Red Rock Road and Virginia Street as mitigation for the Alturas Transmission Line. There is no further need for another marker.	Comment noted. Specific mitigations for historic properties will be addressed in the MOA and HPTP. Interested and affected parties will be invited to participate in the process.
Mabe	Rene	31	47	The Project Design Features specific to protecting cultural resources state that "cultural sites identified as eligible for inclusion on the NRHP would be avoided (Appendix. B, CU 3, page B-8).	Design feature CU 3 also includes the preparation of a HPTP if impacts to a listed or eligible site are unavoidable.

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Mabe	Rene	31	48	The Poeville Alternative does not offer an alternative to avoid direct impacts to the Peavine Ranch, which is the only NRHP listed site within the entire planning area.	Correct, however, there are three alternatives considered in the EIS (e.g., Mitchell, Peavine, Peavine/Poeville Alternatives) that avoid the Peavine Ranch.
Mabe	Rene	31	49	...or analyze the previously dropped alternative location on the Northside of U.S. 395.	See response to comment 31-40.
Mabe	Rene	31	50	The National Historic Preservation Act regulations defines adverse effects as those that can diminish the integrity of the property's location, setting, design, materials, workmanship, feeling, or association. The proposed ROW, which requires the removal and maintained absence of old growth trees and shrubs, impacts the NRHP listing by diminishing site integrity of setting, design, feeling and association. The DEIS does not evaluate the effects resulting from the physical destruction or damage to this historic property; the alteration of the property; the change of the character or physical features within the property's setting that contributes to its historic significance; or the audible elements (refer to issue 6c below) that diminish the integrity of the properties significant historic features. The DEIS did not disclose how the Poeville Alternative affects the visual context as it relates to the NRHP listing. The discussion of foreground of the landscape at KOP 9 and KOP 10 on pages 3-13 and 3-14 was inadequate to assess the impact on the historic and open space values of the Peavine Ranch	See response to comment 31-26.

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Mabe	Rene	31	51	The loss of property value and the resulting loss of state, county, and city tax revenues was not addressed within the DEIS: Land Use and Private Property Value was identified as one of the three key issues addressed within the DEIS. According to page 3-28, "The existence of a 120kV transmission line adjacent to vacant and undeveloped property may have negative impacts on property values between 10% and 15%". If the land values decrease, so does the total assessed tax value; resulting in a reduction of tax revenues. The DEIS does not assess the economic impacts this may present to the state and local governments nor the communities that they serve.	Section 3.3.4.2 has been revised to include a discussion of tax revenue impacts.
Mabe	Rene	31	52	The DEIS makes reference to the Warren and Schiffmacher LLC. Power Line Study stating, "Impacts on the property values of private properties developed with an existing house would be negligible." (page 3-29). This is a bold statement to make in the document without providing access to the Warren and Schiffmacher report for review.	The 2007 study conducted by Warren and Schiffmacher LLC was posted on the project website and has been provided to the commenter.
Mabe	Rene	31	53	Before the completion of the Final EIS, NV Energy should provide you with an engineering report, evaluating where the direct impacts would occur (pole placement, area of disturbance...)"	Once the agency selected alternative is identified in the Final EIS and Draft ROD, NV Energy will begin engineering, design, and the COM Plan. The COM Plan would include maps of the alignment and ancillary facilities; access maps, copies of permits and associated permit conditions; and specific implementation plans for restoration (including habitat restoration), fire prevention, emergency response, HPTP, protection of sensitive species, protection of wetlands and streams, stormwater pollution prevention; fencing, and weed management. Prior to its implementation, the COM Plan will be reviewed and approved by the USFS.
Mabe	Rene	31	54	Placement of the above ground lines on the north side of HWY 395 should be fully evaluated in the FEIS as the direct impacts to this NRHP site have not been mitigated with proposed project design criteria and the Agency has not justified the dropping of this Alternative.	See response to comment 31-40.

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Sysum	Scott	32	1	Following our review of the DEIS, we are concerned with the lack of sufficient information to determine the extent of direct, indirect and cumulative impacts to air and water resources. Due to these concerns, we have rated the DEIS as Environmental Concerns - Insufficient Information (EC-2).	EIS Section 3.6, Water Resources and Soils, and Section 3.12, Air Quality have been revised to include requested information.
Sysum	Scott	32	2	We recommend that the Final EIS include estimates of the proposed project's direct and indirect air emissions, and demonstrate how the project would comply with Clean Air Act General Conformity requirements and section 404 of the Clean Water Act.	Section 3.12 of the EIS has been revised to include estimates of the proposed project's direct and indirect air emissions. In addition, Sections 3.12 and 3.6 have been revised to describe how the project will comply with Clean Air Act General Conformity Requirements and Section 404 of the Clean Water Act, respectively.
Sysum	Scott	32	3	The Draft EIS does not provide any estimates of emissions of criteria pollutants or greenhouse gases for the construction or life of the project, nor does it demonstrate compliance with the General Conformity requirements of the Clean Air Act.	Section 3.12 and 3.13 has been revised to include estimates of the proposed project's direct and indirect air emissions, including emissions of criteria pollutants and greenhouse gases and how it will comply with the General Conformity requirements of the Clean Air Act.
Sysum	Scott	32	4	The Draft EIS states: "The potential direct and indirect impacts on air quality were analyzed and quantified using the impact indicator listed below: "Emissions of criteria pollutants (CO, lead, NO2, O3, PM10, PM2.5, and SO2) anticipated from construction, operation, and maintenance of the proposed project, and whether these emissions exceed the NAAQS." No mention is made of the need to comply with California Ambient Air Quality Standards established by the California Air Resources Board. California has set standards for certain pollutants, such as particulate matter and ozone that are more protective of public health than are the NAAQS. California has also set standards for some pollutants that are not addressed by federal standards.	Section 3.12 of the EIS has been revised to include compliance with the California Ambient Air Quality Standards.

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Sysum	Scott	32	5	As noted on page 3-22 of the Draft EIS, the proposed project may traverse sections of the community of Verdi area, which is developed with residential properties, and would be located an unspecified distance from an elementary school and library. Sensitive receptors, especially children are more sensitive to health impacts from PM10, PM2.5 and toxic air emissions.	Section 3.12.2 has been revised to describe new design features to address impacts to air quality, and how implementation of design features would reduce temporary construction impacts on ambient air quality to negligible for all action alternatives.
Sysum	Scott	32	6	Quantify; Emissions - In the Final EIS, provide estimates of criteria pollutant emissions from potential construction activities and operation of the proposed project and discuss the timeframe for release of these emissions over the lifespan of the project. Consider the direct, indirect, and cumulative impacts of the proposed project's air emissions, and describe mitigation measures that would minimize these emissions and impacts.	Section 3.12 of the EIS has been revised to include estimates of the proposed project's emissions of criteria pollutants from construction activities and operation activities. These estimates are used in the evaluation of the projects potential direct, indirect, and cumulative impact on air quality.
Sysum	Scott	32	7	General Conformity -Using the emissions estimates, determine whether the emissions would be below or above <i>de minimis</i> levels established pursuant to the Clean Air Act. If emissions would be above <i>de minimis</i> levels, perform a general conformity determination.	Section 3.12 of the EIS has been revised to include estimates of the proposed project's direct and indirect air emissions, including emissions of criteria pollutants and greenhouse gases and how it will comply with the General Conformity requirements of the Clean Air Act. Emissions are anticipated to be below <i>de minimis</i> levels.
Sysum	Scott	32	8	Specify Emission Sources - The Final EIS should specify the emission sources, by pollutant, from mobile sources, stationary sources, and ground disturbance. This source-specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention.	Section 3.12 of the EIS has been revised to specify the emission sources, by pollutant, from mobile and stationary sources, as well as ground disturbance.

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Sysum	Scott	32	9	<p>Equipment Emissions Mitigation Plan - The EPA suggests the Final EIS include an EEMP. An EEMP would identify actions to reduce diesel particulates, carbon monoxide, hydrocarbons, and NOx associated with construction activities. We recommend that the EEMP require that all construction-related engines:</p> <ul style="list-style-type: none"> • Are tuned to the engine manufacturer's specification in accordance with an appropriate time frame. • Do not idle for more than five minutes (unless it is necessary for the operating scope of the equipment and operation). • Are not tampered with in order to increase engine horsepower. • Include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the project site. • Use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area. • Include control devices to reduce air emissions. <p>The determination of which equipment is suitable for control devices should be made by an independent Licensed Mechanical Engineer. Equipment suitable for control devices may include drilling equipment, generators, compressors, graders, bulldozers, and dump trucks.</p>	<p>Project design features (Appendix B) have been revised to include additional features to reduce emissions and minimize impacts to air quality. These design features include: tuning engines to manufacturer's specifications; not allowing engines to idle unnecessarily for more than 5 minutes; not tampering with engines to increase horsepower; including particulate traps, oxidation catalysts and other suitable control devices; and, using diesel fuel with a sulfur content of 15 parts per million or less. These design features are comprehensive of any measures that would be included in an emissions mitigation plan. Accordingly, a separate emissions mitigation plan is not necessary.</p>
Sysum	Scott	32	10	<p>Fugitive Dust Control Plan - The Final EIS should identify the need for a Fugitive Dust Control Plan to meet the requirements of the Northern Sierra Air Quality Management District Regulation II Rule 226 and State of Nevada requirements for a Surface Area Disturbance Dust Control Plan.</p>	<p>Section 3.12 of the EIS has been revised to identify the need for a Fugitive Dust Control Plan to meet the requirements of the Northern Sierra Air Quality Management District Regulation II Rule 226 and State of Nevada requirements for a Surface Area Disturbance Dust Control Plan.</p>

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Sysum	Scott	32	11	Consider a mitigation measure that would provide advanced notification to sensitive receptors of the potential effects of PM10 and PM2.5, as well as toxic air contaminants. We recommend that such notification be provided concurrently with advanced notification of construction for noise impacts.	Air quality impacts to sensitive receptors were determined to be negligible therefore mitigation is not warranted. See response to comment 32-5. As a courtesy, NV Energy sends notices to property owners adjacent to the ROW prior to construction.
Sysum	Scott	32	13	Include the results of a jurisdictional delineation in the Final EIS, and describe the status of consultations with the Army Corps of Engineers regarding a CWA Section 404 permit, and the Proposed Project's compliance with the 404 (b)(1) Guidelines. The Final EIS should quantify potential impacts to waters of the U.S. to the best extent possible and disclose any uncertainty in the quantification methodology.	A jurisdictional delineation will be conducted on the selected alternative once the alternative has been engineered, and the location of poles and access roads are known. The project has been designed to have conductors and poles span all streams, regardless of jurisdictional status. The classification of potentially jurisdictional streams and identification of flow regime (i.e., perennial, intermittent, and ephemeral) was included in the Specialist Report: Water and Soils Bordertown to California 120 kV Transmission Line Project (USFS 2014h), which allowed for the planning of avoidance and minimization measures. The EIS has been revised to include a map of potential Waters of the U.S. (Figure 3.6-3) and Section 3.6.2.3 and Table 3.6-3 includes an estimate of potential Waters of the U.S. impacts in acres based on a review of aerial imagery.
Sysum	Scott	32	14	To the extent any aquatic features that could be affected by the project are determined not to constitute waters of the United States, the EPA recommends that the Final EIS characterize the functions of such features and discuss mitigation. Under Executive Order 11990 Protection of Wetlands, the Final EIS should specifically discuss mitigation opportunities for impacts to non-jurisdictional wetlands.	Section 3.6.1.3 has been revised and clarifies that Waters of the State that may not meet the criteria of Waters of the U.S. are limited to isolated wetlands and ephemeral channels. A new subsection has been added to Section 3.6.2.2 to include Waters of the U.S. and Waters of the State. Except for two non-jurisdictional wetlands on the Poeville Alternative, no impacts would occur to wetlands. Impacts to ephemeral channels are assessed in Section 3.6.2.2 under stream impacts.
Sysum	Scott	32	15	Agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for the environmental effects of a proposed action.	Section 3.13 has been revised to evaluate the potential effects of the proposed project on greenhouse gases, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for environmental effects of the proposed project.

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Sysum	Scott	32	16	The DEIS provides only summary conclusions regarding potential GHG emissions associated with the proposed project and how climate change may influence the potential impacts of the action alternatives. Recommendation: Provide additional information in the Final EIS regarding potential GHG emissions, consistent with the recent CEQ guidance	Section 3.13 of the EIS has been revised to include analysis of potential greenhouse gas emissions, consistent with the final CEQ guidance (2016). GHG emissions loss of carbon sequestering have been quantified for each alternative.
Sysum	Scott	32	17	On p. 3-56, the Draft EIS states: "The potential for soil erosion would be minimized through design features (Appendix B) that require the effective implementation of BMPs and restoration of temporary project-related surface disturbances." Although the design features for the project are listed, the BMPs are not identified.	Although not specifically identified in the EIS, site specific BMPs are described in the standard BMP handbooks used in California and Nevada. The SWPPP would include the use of BMPs from the following standard references for Washoe County: <ul style="list-style-type: none"> • The Truckee Meadows Construction Site Best Management Practices (BMP) Handbook, June 2008 Update, prepared by Kennedy/Jenks Consultants, KJ 0795014 • Nevada Contractors Field Guide for Construction Site Best Management Practices (BMPs), December 2013 The SWPPP developer would use BMPs from the following standard references for Sierra County: <ul style="list-style-type: none"> • California Storm Water Best Management Practices (BMPs) Handbook, Construction BMP Online Handbook, California Stormwater Quality Association. • Department of Transportation (CA) has this option: Storm Water Quality Handbooks, Project Planning and Design Guide, Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual, Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation, March 2003.

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Sysum	Scott	32	18	Also on page 3-56, the Draft EIS states: "To minimize the potential for soil compaction during construction, design feature SO 1 would prohibit the use of heavy equipment when soils are wet." The design feature SO 1 is missing from the list of Project Design Features in Appendix B.	Design Feature SO 1 was replaced with a similar design feature, WA 5, which prohibits operation of equipment on soils too wet to support equipment in order to prevent ruts. The EIS has been revised accordingly.
Sysum	Scott	32	20	Please send a hard copy of the FEIS to this office at the above address (mail code ENF-4-2) when it is officially filed with EPA's electronic EIS submittal tool: e-NEPA.	Comment noted. The EIS will be sent to the provided address as requested.
Sysum	Scott	32	21	The discharge of fill to a water of the U.S. requires a Clean Water Act section 404 permit from the U.S. Army Corps of Engineers. In order to be permitted under section 404, the proposed project must be the Least Environmentally Damaging Practicable Alternative and must comply with the 404 (b)(I) Guidelines, which require that projects first avoid, then minimize, and, finally, mitigate any impacts to waters of the U.S.	Table 3.6-3 has been revised to present potential impacts to Waters of the U.S. Impacts range from 0.007 acre for the Mitchell Alternative to 0.031 acre for the Poeville Alternative. Impacts from any alternative are considered temporary and minor. While the Poeville Alternative has slightly greater potential impacts to Waters of the U.S. than other alternatives, the selection of the Poeville Alternative would comply with the Section 404(b)(1) Guideline because impacts are not significant. The preamble to the Section 404(b)(1) guidelines explains "where there is no significant or easily identifiable difference in impact, the alternative need not be considered to have "less adverse" impact" (Guidelines for Specification of Disposal Sites for Dredged or Fill Material. Rule, 40 Federal Register 230, pp 85339). Avoidance and minimization are the intent of design features developed for water resources and vegetation. The design features are in Section 3.6.2.2 and Appendix B of the EIS.

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Sysum	Scott	32	22	The Draft EIS indicates that waters of the U.S. may be present within the analysis area, but that no jurisdictional delineation has been completed (p.3-52). A jurisdictional delineation would enable the applicant to use the flexibility inherent in transmission line design (e.g., the ability to adjust tower placement and access roads) to determine which alignment constitutes the LEDPA. In the absence of an approved jurisdictional delineation, we are unable to determine whether or not the section 404 requirements would be met.	See response to comment 32-13.
Sysum	Scott	32	23	In the Final EIS, identify the BMPs that would be required by the listed design features. Update the list of Project Design Features in Appendix B of the Final EIS to include design feature SO 1.	See response to comment 32-18 and 32-17.
Morgan	Scott	33	1	The State Clearinghouse submitted the above named Draft EIS to selected state agencies for review. The review period closed on January 26, 2015, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.	Comment noted.
Freese	Mark	34	3	We agree with and support the project design features listed in Appendix B.	Comment noted.

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Freese	Mark	34	4	We recommend adding a design feature/requirement that all acres permanently disturbed will be offset at a 3:1 ratio to address mule deer habitat loss impacts. In addition, acres that are rehabilitated that do not meet the success criteria after 5 years should be offset at a 3:1 ratio. As discussed in previous comment letters and the draft EIS, substantial impacts have occurred to the Truckee Loyaltan Interstate Herd. As such and in order to achieve our "no net loss" objective, we recommend that all permanent impacts be offset to prevent further habitat loss for mule deer.	The EIS has been revised to include a new design feature and an additional mitigation measure. Design feature WL 8 requires that NV Energy set up a habitat restoration account and fund restoration of habitat based on the number of wildlife habitat permanently and temporarily disturbed. Section 3.9.2 has been revised to state that the failure to successfully restore target vegetation communities would represent a long-term loss of habitat and may result in more than a minor impact to mule deer especially if the habitat is winter range. The EIS has been revised to include the suggested mitigation for the habitat that is not successfully reclaimed after 5 years. Mitigation would ensure that long-term minor impacts would be reduced to negligible.
Webster	Michael & Shernaaz	35	1	The Websters live and own property in Verdi, Nevada and California, including an undeveloped parcel in Dog Creek canyon. The Websters regularly recreate in the vicinity of, and will be directly affected by, several of the alternatives routes of the transmission project.	Direct effects to recreation would be anticipated from any of the action alternatives. A detailed discussion of the potential direct effects to recreation from each action alternative is provided in <i>Specialist Report: Recreation Bordertown to California 120 kV Transmission Line Project</i> , on the project website: http://www.fs.usda.gov/goto/htnf/bordertownline .
Webster	Michael & Shernaaz	35	6	As the most eastward route the Poeville alternative passes through the least amount of actual forested land and thus its construction will presumably have the least impact on vegetation and wildlife. The alternative routes instead pass through heavily wooded areas that would necessarily suffer much more extensive impact and vegetation loss if a corridor were constructed.	Comment noted.

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Webster	Michael & Shernaaz	35	7	The existing Poeville line already includes actual lines or space for lines that are currently not in use, and thus could potentially be used for this project without the need to construct new lines. This further suggests that the Poeville route will have much less impact than adding an entirely new route that will pass through large tracts of USFS land.	Comment noted. The Poeville Alternative would utilize approximately 12.6 miles of existing utility corridor. Approximately 4.9 miles of the Poeville Alternative would be constructed with an underbuild of an existing distribution line. Approximately 2.2 miles of the Poeville Alternative would replace existing H-frame poles, and approximately 5.4 miles would consist of entirely new pole structures outside of an existing utility corridor. Figures 2.1-1 through 2.1-3 show utility corridors and segments where an existing distribution line would be replaced with a single pole underbuild.
Webster	Michael & Shernaaz	35	12	Potential for New Roads and Encroachments. Construction of the power line along new routes - in particular the Peavine and Peavine / Poeville alternatives will necessarily create new roads and access points into the forest which will promote encroachments by off road vehicles and hunters. In turn this will lead to increased fire risk and potential poaching and trapping, as well as increased trespassing on private lands adjacent to the forest.	All construction access roads constructed on NFS land will be re-contoured and reclaimed (Section 2.3.2.2). Project design feature RT 3 and RT 4 require blockades on roads to prevent unauthorized access immediately following restoration (Appendix B). Additionally, on NFS land, Code of Federal Regulation (36 CFR 261.13) prohibits unauthorized motorized travel on roads that have not been designated for such use. Restoration, design features, and the Motor Vehicle Use Map are anticipated to prevent unauthorized OHV use and any potential subsequent indirect effects of unauthorized OHV use, such as poaching. Poaching and trespass are also both prohibited under state and local laws.
Webster	Michael & Shernaaz	35	14	Particular action alternatives will have adverse effects to specific known cultural resources.	Per Section 106 of the National Historic Preservation Act (NHPA), the Forest Service has taken into account the effects of the Bordertown Project on historic properties. All NRHP-listed sites, NRHP-eligible sites, and unevaluated sites would be mitigated, which may include avoidance. Adverse effects to historic properties will be mitigated as outlined in a HPTP.

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Webster	Michael & Shernaaz	35	17	Most of the power needs are not in Verdi but to the east in Reno and far removed from Verdi. Future development may lead to building a new substation closer to Reno. The Poeville route remains closest to the population center and thus to future potential changes in the power grid. The remaining alternatives instead require traversing miles of forest to reach a substation that is miles from the center of power consumption.	Section 1.3 describes the purpose and need of the proposed transmission line. Compliance with North American Electric Reliability Corporation (NERC) standards are mandatory, and the Federal Energy Regulatory Commission) may assess substantial civil penalties for violations of NERC standards. For clarification, a new substation would not improve reliability or provide redundancy to the 120 kV system that supplies power to the West Reno/Verdi area (See Section 2.11.8). A substation is used to convert power to a different voltage and is needed to regulate or reduce electric voltage to levels that can be conveyed to the customer.
Webster	Michael & Shernaaz	35	21	Of the alternatives evaluated the Websters strongly support the decision of the USFS to adopt the Poeville alternative as the preferred route for the proposed Bordertown to California transmission line, for the following reasons: 1. USFS Priorities. As noted in the DEIS, the Poeville route is the only alternative considered that is consistent with Humboldt-Toiyabe Forest Plan specifying that "the first priority will be to utilize existing corridors." The remaining 3 alternatives all would require extensive construction of new corridors and consequent extensive destruction of the forest. The Poeville alternative minimizes new environmental damage by following corridors where the environmental damage has already been done.	Comment noted. The Poeville Alternative is the agency preferred alternative. A selected alternative will be disclosed in the Draft Record of Decision. Following an objection period, a Final Record of Decision will be issued. None of the alternatives identified in the EIS are inconsistent with the Forest Plan or require a Forest Plan amendment. The Forest Plan does not require use of existing utility corridors; however, it encourages use of existing corridors since the disturbance has already occurred there and access has been established to the corridor.

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Webster	Michael & Shernaaz	35	22	2. Protecting the Forest. The USFS should give much higher priority to preserving and protecting the forest than to accommodating the business interests of a for-profit company. Power lines can be moved, but once the forest is lost the damage is irreparable. Thus, any potential additional costs to NV Energy of the Poeville route should carry little weight compared to the environmental costs to our dwindling natural resources. The Poeville route traverses the smallest distance through the national forest and thus by this criterion alone clearly has the least impact on the forest.	Comment noted. Resource comparisons between alternatives are in Section 2.12 of the EIS.
Webster	Michael & Shernaaz	35	23	Fire Risk. Of the alternatives considered, the Poeville route offers the best access and least fuel in the event of a fire. The Caughlin Ranch fire of 2011 made it evident that power lines present a real fire risk. Fighting the Caughlin fire was difficult, and will be many times more difficult along the routes that are much more heavily forested. In particular, near Verdi, the Peavine route runs through regions with dense growth with minimal access roads. The USFS recently developed a long-term plan for fire mitigation in the Dog Valley area. At their presentation of this plan in Verdi, it was noted that the Dog Creek Canyon was not included in the plan because the canyon is steep and inaccessible. The Peavine route traverses this canyon and thus runs through parts of the forest that the USFS had already decided were too difficult to address for fire concerns. The Peavine route therefore combines some of the worst access and highest fuel density in the area. Moreover, these problems are in areas that are very close to homes and private property in Verdi, and to areas where homes have been lost to past forest fires such as the Crystal Peak fire of 1994.	Construction and operation of the proposed transmission line, regardless of the action alternative, would have some risk of wildfire (see Section 3.11.2.2). Regardless of the alternative, the risk of ignition and size of wildfire would be expected to be minimized by a Fire Prevention Plan, maintaining vegetation clearance within the right-of-way, and high-speed relay equipment to de-energize the transmission line in less than 0.1 second in the event of a failure. A design feature was developed for the Mitchell and Peavine Alternatives to require fuels reduction inside of the variable-width corridor and would tie into the Dog Valley Ecosystem project boundary. Approximately 261.9 acres of area that would be treated for the Mitchell Alternative would overlap the Dog Valley Ecosystem project boundary. Approximately 43.4 acres of area that would be treated for the Peavine Alternative would overlap the Dog Valley Ecosystem project boundary. The impact would be the same for all action alternatives.

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Webster	Michael & Shernaaz	35	24	Wildlife Impact. The Dog Creek canyon is one of the most pristine regions of the Dog Valley area because of poor access, and a unique ecosystem because of the year-round creek. Such creeks are a rarity in the area, and Dog Creek supports an abundant variety of wildlife. The USFS should make preservation of this ecosystem a very high priority. The Peavine alternative runs directly over the creek in a steep and heavily wooded area. Construction of this route would introduce erosion, non-native species, and increased human traffic along the creek, including hunting, fishing, and trapping, and thus will adversely impact the flora and fauna.	The USFS considered characteristics of Dog Creek Canyon in its evaluation of project effects (Sections 3.9.2.3 and 3.9.2.4). Design features (Appendix B) have been developed to minimize impacts to forested communities, water and soil resources, wildlife, vegetation, special status species, etc. such that short term and long-term impacts from any alternative, including the Peavine Alternative, would be negligible to minor.
Webster	Michael & Shernaaz	35	25	General Visual Impact. The proposed Peavine route will run very close to and bisect existing neighborhoods in Verdi, and run perpendicular to the canyons in Verdi so that the lines will be at a high elevation. It will pass through hills that are visible from miles away throughout long stretches of the Highway 80 corridor. It will be visible up close from nearly every location in Verdi. The scars they will create will thus impact nearly all of the residents of Verdi.	Section 3.2.4.3 and Visual Simulations in Appendix C disclose the potential visual impacts of the Peavine Alternative from multiple representative locations,. Although hills and landforms may be visible from miles away, distance from the proposed transmission line would generally be expected to diminish its visual contrast with the surrounding landscape.

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Webster	Michael & Shernaaz	35	26	<p>Future Development. NV Energy is likely to expand on any routes developed under the present action. In an article in the January 2, 2012 issue of the Reno Gazette, a spokesperson for NV Energy noted that the power line will allow additional growth in the western Reno and Verdi areas. In addition, NV Energy appears to view the line as facilitating wind and solar generation projects in the Bordertown area. Thus the USFS needs to consider not only the impact of the current proposal but the broader long term impact, on the area and the forest, of the development the line will promote. In particular, adding a new corridor now will open this corridor to further expansion in the future under the pretext that this corridor now meets the USFS Plan of "utilizing existing corridors." Once a new line is permitted along the Peavine, Mitchell, or Peavine/ Poeville routes, it will likely become NV Energy's preferred route for future expansion. As these routes are expanded with additional lines, poles, and construction, the negative effects on the forest will continue to expand.</p>	<p>The proposed transmission line may accommodate additional population growth, but it would not be anticipated to induce population growth. The proposed transmission line does not include the construction of any residential structures, the generation of power, or employment opportunities that may otherwise attract people to the area.</p> <p>The cumulative effects analysis addresses the impacts from past, present and reasonably foreseeable future actions. At the time of this EIS, there are no additional future transmission lines proposed on NFS land in the reasonably foreseeable future. Thus, the EIS does not address future transmission lines. The Council on Environmental Quality's Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations acknowledges that an EIS must identify all the indirect effects that are known, and make a good faith effort to explain the effects that are not known but are reasonably foreseeable. The guidance states that the agency is not required to engage in speculation.</p>

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Webster	Michael & Shernaaz	35	27	<p>Multi-state regulatory requirements of multiple agencies. The Poeville alternative has the advantage that all new corridors will remain in Nevada. The 3 alternatives all involve major new corridors within the state of California. NV Energy must also obtain necessary permits from the California Public Utilities Commission ("CPUC") and the California Department of Fish and Game ("DFG"). See NV Energy Study, at 28-29. As a result of these discretionary approvals, the CPUC and DFG will have to undertake extensive analysis under the California Environmental Quality Act ("CEQA") of the transmission line. It is unclear from the report and NV Energy Study how the USFS and these California agencies intend to coordinate the CEQA and NEPA analysis, particularly when consideration by these agencies and their obligations under CEQA may impose greater constraints on the alternatives selected by NV Energy for study. Moreover, it may be that California agencies may choose a different set of alternatives than included in the present analysis or arrive at different conclusions regarding the significance of impacts and mitigation requirements. Since these decisions may drive the ultimate feasibility and / or preference of various alternatives, the USFS should consider whether it could arrive at a fully informed decision absent vital input from the CEQA process.</p>	<p>California state and local agencies are required to comply with CEQA, and the USFS is required to comply with NEPA. Joint NEPA and CEQA documents are encouraged, but not required. The CPUC determined early in the project that they would not be a CEQA lead agency and it does not regulate NV Energy. NV Energy does not have customers in California. California state and local agencies will not be issuing a permit for NFS land, thus any potential new alternatives or mitigation measures developed through CEQA would apply to activities located on private land in Sierra County. NV Energy will work with Sierra County and/or the Lahontan Regional Water Quality Control Board following the NEPA process to complete the CEQA process if it is required for the agency selected alternative. All necessary permits and authorizations, including CEQA (if required) will be required as conditions of approval for the permit issued by the USFS.</p>
Kloos	Vern	36	2	<p>The City would prefer either the Mitchell or Peavine alternatives as they would have the least visual, construction or other perceived (e.g. EMF) impacts on City of Reno residents. These two routes also provide complete separation of this proposed 120 KV line from the existing 114 and 106 120 KV lines which supports the primary reason of providing separate and redundant power sources in case of fire or other failure to one of these 120 KV lines.</p>	<p>Comment noted. Visual and EMF impacts are disclosed in Sections 3.2 and 3.4 of the EIS, respectively. See response to comment 2-11 regarding purpose and need for the project as it relates to placement of the proposed transmission line next to the existing #114 and #106 120 kV transmission lines.</p>

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Kloos	Vern	36	3	Both the Peavine/Poeville and the Poeville alternatives would have greater visual, construction and other perceived (e.g. EMF) impacts on residents of the City of Reno; and would be within the same corridor in the Verdi area and along the Truckee River. Locating this new line for several miles in the same corridor as the 114 and 106 120 KV lines would also partially defeat the purpose of providing separate redundant power sources in case of failure to all of these lines due to their close proximity when combined in the same corridor.	Comment noted. See Response to Comment 36-2.
Kloos	Vern	36	5	As discussed in the applicable permits section of the document, this comment verifies that a Special Use Permit (SUP) would be required to be approved for any section of the 120 KV line located in the City of Reno, because the line is defined as a "Major Utility". In addition to the SUP requirement RMC 18.08.202(e)(13) requires Major Utilities: (a) to be located in an existing utility corridor or facility site adopted in the Regional Plan; (b) shall not be located in the Truckee River Corridor unless it can be demonstrated there will be no detrimental residual impact; (c) shall maintain a 10 foot separation from the property line of licensed K-12 schools, day care centers, residential structures and hospitals; and (d) Major Utilities that cannot meet the requirements of 13 (b) and (c) shall be mitigated with underground construction, low EMF designs, low visibility designs and/or off-site mitigation as described in the Regional Plan. In addition to the above, an amendment to the Regional Plan to create any new utility corridors would have to be approved prior to or concurrent with the processing of the SUP(s) within the City's jurisdiction. It should be noted that any road grading or other construction activity associated with the project located within the City of Reno jurisdiction which involves one or more of the following would require approval of an SUP for: (1) non-residential	Comment noted. Table 1.9-1 in the EIS has been revised to list the additional special use permits NV Energy may be required to obtain within the City of Reno.

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				development located adjacent to or on residentially zoned property; and (2) cuts of 20 feet or more or fills of 10 feet or more. Other potential SUP's that may be triggered would be for grading disturbance of a major drainage way(s), disturbance of wetlands and/or hillside development. All of the applicable SUP's could be processed at the same time as one application.	
Kloos	Vern	36	6	In addition to the above, another issue that should be investigated relates to the location of the preferred route (Poeyville) on the City's Open Space and Greenways Plan on the north and southwest sides of Peavine Mountain.	Sections 3.3.4.5 and 3.3.4.6 of the EIS have been revised, including the analysis of the location of the Poeyville Alternative and Peavine/Poeyville Alternative on the City's Open Space and Greenways Plan.
Cruz	Darrel	37	1	However this alternative also states it will require road widening. The document doesn't explain why the roads need widening or where the road will be widened. In either case the document also states potential for archeological resources associated with road work. We ask to avoid any archeological sites.	To accommodate construction vehicles, existing roads would be temporarily widened to 30 feet-wide. Roads to be widened associated with the Poeyville Alternative are shown on Figure 2.6-1. Cultural resource inventories have been completed for all aspects of the project, including road widening. National Register-eligible sites would be avoided if possible. If avoidance is not feasible, mitigation will be developed as a part of a HPTP. Tribes will continue to be consulted throughout the Section 106 process.
Cruz	Darrel	37	2	Require a site monitor during the road widening segment.	Archaeological and Tribal Monitors are an anticipated component of project implementation; however, the details and scope of monitoring will be addressed in the Memorandum of Agreement (MOA).
Cruz	Darrel	37	3	Poeyville will use the current Alturas Alignment which has known archeological sites that have eligibility status. We are concerned how work will be conducted in these areas and how the archeological sites will be avoided and or protected. We ask to be consulted with when the project may have affects to the archeological sites and resources.	The USFS will continue to consult with you when necessary and appropriate.
Cruz	Darrel	37	4	We are requesting site monitors when construction is in or near any archeological sites.	Archaeological and Tribal Monitors are an anticipated component of project implementation; however, the details and scope of monitoring will be addressed in the MOA.

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Cruz	Darrel	37	5	Volume I, Page 46, Pedestrian Survey: we have never been in favor of using 30 meter transects; there is too much spacing between survey team and things can be missed. I have inserted this note for future reference survey work conducted.	Thank you for your comment. Your concern has been documented. However, using 30-meter transects when conducting these types of surveys is the agency approved and professionally accepted methodology for identifying cultural resources.
Cruz	Darrel	37	6	We wish to maintain consultation during the development of the HPTP. In addition, we ask to be kept informed of all inadvertent discoveries of during construction work.	A Historic Properties Treatment Plan (HPTP) will only be prepared if the finding of effect determination results in the potential for adverse effects to occur to an eligible site. The USFS will maintain consultation with the Washoe Tribe of Nevada and California throughout the Section 106 process.
Cruz	Darrel	37	7	The document provides language for the Native American Graves Protection and Repatriation Act (NAGPRA). In the event of inadvertent discoveries we wish to be contacted as soon as possible to assist with mitigation measures.	An Inadvertent Discovery Plan will be developed for Native American Graves Repatriation Act (NAGPRA) and non-NAGPRA cultural resources. The Plan will be included in the MOA between the Humboldt-Toiyabe National Forest, California and Nevada SHPOs, NV Energy and Tribes. Notification of such discovery will be given to Tribes as quickly as possible.
Cruz	Darrel	37	8	We would also like to see eagle/raptor deterrents installed on the power poles to protect eagles from potential electrocution.	To protect raptors, including golden eagles, from electrocution, design feature WL 9 (Appendix B) requires that transmission line and pole structures be constructed in conformance with the guidelines contained in Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006, prepared by the Avian Power Line Interaction Committee (2006).
Eben	Michon	38	1	At this time, the RSIC is reserving our comments until given the opportunity to understand the projects impact.	Consultation is ongoing between the USFS and Reno-Sparks Indian Colony.

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Eben	Michon	38	2	<p>The DEIS states that there were no Traditional Cultural Properties (TCP's) identified in the project areas by previous studies and that no discussion is being carried forward in the impact analysis (page 3-41; Cultural Resource Inventories). Members of Paiute, Washoe and Shoshone peoples have been interviewed regarding the traditional and cultural uses of the area, including a report (Administratively Confidential). Had the RSIC been given the opportunity to review the Report (dated March 2013), before December 2014, the RSIC would have remarked that there are TCPs for the Paiute, Washoe and Shoshone peoples located in the area. Consistent with Native American Tradition most of the project area is a significant cultural resource. While not formally designated, it has all the elements associated with, and it appears to be eligible as a TCP. Several Native American generations (past, present and future) continue to utilize and depend on the area. The RSIC is requesting that further research be conducted to assist in formal designation of TCPs in the project area. TCPs should be addressed in the effects analysis.</p>	<p>An Ethnographer has been hired to assist in formal identification and evaluation TCPs. This effort will be completed prior to signing the ROD. Due to the potential sensitivity, the effects analysis will not be publicly disclosed in the FEIS, but will be made separately. Mitigation will be included in the HPTP if TCPs may be affected by the project.</p> <p>Per agreements made in the field, the USFS sent Reno-Sparks Indian Colon the Cultural Resource Inventory Report on November 28, 2012. There appears to be some miscommunication.</p> <p>Consultation is ongoing between the USFS and the Reno-Sparks Indian Colony.</p>
Eben	Michon	38	3	<p>According to the Report and DEIS, the Poeville Alternative has identified the most cultural resources in this ROW. The Report states that there were 6 alternative corridors surveyed both in Nevada and California. In accordance with the DEIS, the Poeville Alternative identified 53 archaeological resources (28 Native American, 21 historic and 4 multi-component). The RSIC understands that the archaeological resources were identified on both USFS and Private lands. Unnecessary evaluation must be avoided unless approval of the project is going to result in significant disturbance.</p>	<p>Mitigation of identified cultural resources would only be required for the selected alternative and only if a Finding of Effect Determination resulted in potential adverse effects occurring to an eligible site.</p>

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Eben	Michon	38	4	The RSIC is the closest affiliated sovereign nation that represents members and descendants of Washoe, Paiute and Shoshone people.	The USFS acknowledges and respects that the Reno-Sparks Indian Colony, Washoe Tribe of Nevada and California and Pyramid Lake Paiute Tribe have an interest in the project area.
Eben	Michon	38	5	The RSIC is on the record for ongoing consultation for the Project and at this time, is requesting that our Unanticipated Discovery Plan be included in this project's mitigation plans, such as the Cultural Resources (CU) Section of the DEIS Appendix B, page B-8, and future Historic Preservation Treatment Plans as follows: Discovery of Native American Cultural Resources	An Inadvertent Discovery Plan will be developed for NAGPRA and non-NAGPRA cultural resources. The Plan will be included in the MOA between the Humboldt-Toiyabe National Forest, CA and NV SHPOs, NV Energy and Tribes. Notification of such discovery will be given to Tribes as quickly as possible.
Eben	Michon	38	6	The RSIC is requesting that a qualified Native America Monitor(s) be on site during any and all initial ground disturbance.	Native American monitors are welcome to be onsite during any portion of construction implementation. However, a monitoring plan will be developed as part of the MOA, including the identification of roles and responsibilities. Design feature CU 4 (Appendix B) states that "an approved archeologist will work with construction crews when crews are within 600 feet of the boundary of a known eligible historic cultural site. Tribal monitors may also be working with construction crews as cultural resource monitors."
Eben	Michon	38	7	A qualified Native America Monitor(s) will be present during the initial ground disturbance. These monitor(s) will be on-site prior to and throughout any initial surface ground disturbance.	The MOA will outline the monitoring component of the project. See comment 38-6.

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Eben	Michon	38	8	<p>The RSIC and the qualified Native America Monitor(s) will be included as an authorized representative who is empowered to halt all activities in a discovery situation. The RSIC Cultural Resource Program will be notified within 1 hour of the discovery. The RSIC is the closest affiliated & federally recognized tribe with a federally designated Tribal Historic Preservation Office (THPO).</p> <p>If any Native American cultural resources are discovered during the initial ground disturbance activity, or excavations throughout the project, the monitor(s) will be allowed to inspect all cultural resources (along with the qualified project staff and archaeologist) and the site to determine the extent of the discovery. The Native America Monitor(s) will be present during all undertaking related activities</p>	<p>An Inadvertent Discovery Plan will be developed for NAGPRA and non-NAGPRA cultural resources. The Plan will be included in the MOA between the Humboldt-Toiyabe National Forest, CA and NV SHPOs, NV Energy and Tribes. Notification of such discovery will be given to Tribes as quickly as possible.</p> <p>The MOA will outline the monitoring component of the project. See comment 38-6.</p>
Eben	Michon	38	9	The qualified Native America Monitor(s) will assess all mitigation measures, comments and solutions with the project staff. Data recovery will be observed by the qualified Native America Monitor(s).	Human remains and associated funerary items will be handled per NAGPRA law.
Eben	Michon	38	10	The RSIC is requesting there be no scientific study or destructive analysis on any cultural items or human remains that are discovered or removed from this proposed project site.	Human remains and associated funerary items will be handled per NAGPRA law.
Eben	Michon	38	11	Notwithstanding applicable laws, the RSIC will have the opportunity to remove and secure ownership of any Native American cultural resources for the purpose of preservation and education.	Human remains and associated funerary items will be handled per NAGPRA law. Please refer to design feature CU 7 (Appendix B), Nevada Revised Statutes (NRS) in Chapter 383.
Eben	Michon	38	12	Private landowners will be afforded the opportunity to consult with the RSIC on ownership of Native American cultural resources. As part of the acquisition of the ROW, NV Energy shall negotiate with private landowners to secure any the Native American cultural items for the benefit of the RSIC.	Human remains and associated funerary items will be handled per NAGPRA law. Please refer to Appendix B CU 7, NRS in Chapter 383.
Eben	Michon	38	13	Work can resume upon completion of removal of Native American cultural resources.	An Inadvertent Discovery Plan will be included in the MOA.

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Eben	Michon	38	14	In the event that Native American human remains and associated funerary objects are discovered, the RSIC THPO/Cultural Resource Program will be notified within one (1) hour of this unanticipated discovery. The qualified Native America Monitor(s) and the RSIC THPO/Cultural Resource Program will be a part of the initial discussions with any State, County, Federal and local representatives of any unanticipated discovery.	USFS will comply with the NAGPRA and would implement a method for repatriation as outlined in the MOA.
Eben	Michon	38	15	In the event that Native American human remains must be recovered or removed, the RSIC respectfully asks authorization to take care of this in a culturally sensitive manner, abiding by all State, Federal and Tribal laws. This will ensure the RSIC's spiritual and cultural responsibility and respect to the human remains. This will also address confidentiality of the reburial.	Human remains and associated funerary items will be handled per NAGPRA law. Please refer to Appendix B CU7, NRS in Chapter 383.
Eben	Michon	38	16	Private landowners will be afforded the opportunity to consult with the RSIC on ownership of Native American human remains and funerary items. As part of the acquisition of the ROW, NV Energy shall negotiate with private landowners to secure any of the Native American human remains and funerary items for the benefit of the RSIC.	Human remains and associated funerary items will be handled per NAGPRA law. Please refer to Appendix B CU7, NRS in Chapter 383.
Eben	Michon	38	17	Again, the RSIC is requesting there be no scientific study or destructive analysis on any cultural items, human remains or funerary items that are discovered or removed from this proposed project site.	Human remains and associated funerary items will be handled per NAGPRA law. Please refer to Appendix B CU7, NRS in Chapter 383. Basic archaeological methods will be employed to document the discovery.

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Eben	Michon	38	18	The RSIC is asking that pictures and drawings be prohibited of any unanticipated find or discovery of Native American human remains.	Human remains and associated funerary items will be handled per NAGPRA law. Please refer to Appendix B CU7 in compliance with Nevada Revised Statute Chapter 383. Basic archaeological methods will be employed to document the discovery
Eben	Michon	38	19	To this extent, the RSIC (as the closest affiliated tribe) has an interest in Native American cultural resources protection and management of this Project. The RSIC respectfully requests that the Project Proponent cover all expenses related to the Tribal Monitor(s).	Human remains and associated funerary items will be handled per NAGPRA law. Please refer to design feature CU 7 (Appendix B) in compliance with Nevada Revised Statute Chapter 383. Notification is made with the NV SHPO Office. The MOA will address the monitoring component of the project.
Eben	Michon	38	20	Again, the RSIC is reserving our comments until there is a discussion carried forward in the DEIS regarding in the impact analysis of the Project and its relationship TCPs.	Identification and evaluation of potential TCPs is a currently ongoing and will be completed prior to signing the Record of Decision. If TCPs are identified, and will be affected by the project, then mitigations will be included in the MOA and HPTP.

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Lissner	Robert	39	1	<p>Lifestyle has been aware of the proposed Transmission line for some time, but was unaware that the facility would not be built immediately adjacent to the Alturas 345kV corridor which also bisects the property. In a meeting with the proponents from NV Energy last week, we were shown what is indicated as the Peavine Alternative. This alternative shows that on the most northerly portion of the property impacted by the alignment it is adjacent to the Alturas corridor. However about midway through it deviates, for no apparent reason, placing it 420 feet further to the west (centerline to centerline)</p>	<p>Your letter was received outside of the specified comment period for the DEIS, and therefore, does not afford you standing during the objection period.</p> <p>NV Energy's depiction of the Peavine Alternative, which is the same as the Peavine/Poeville Alternative in this area, is correct. The centerline of the Peavine Alternative is not equally parallel to the centerline of the Alturas Line and diverges from the Alturas Line as it travels southeast towards the Forest boundary. The Peavine Alternative has not shifted from what was presented during scoping or the DEIS. However, the scale of Figures 2.1-1 and 2.1-2 makes it impossible to clearly show the divergence. Zoomed in aerials showing the alternatives were available to the public during scoping and DEIS public meetings.</p> <p>The routing of the Peavine Alternative was based on topography.</p>
Lissner	Robert	39	2	<p>As we have indicated to the proponents, this alignment has a very severe impact upon the development potential of the site which is already impacted by the Alturas Transmission line. In combination with the now proposed Peavine alternative the corridors render approximately 55.4 acres of otherwise developable land useless. This constitutes the removal of 20% of the total land area within these three parcels which are currently master planned for single family residential development at 3 units per acre. With this letter, we want to make it abundantly clear to the United States Forest Service and NV Energy that we are adamantly opposed to the current alignment and we are proceeding with our development plans as if the corridor were located adjacent to the Alturas corridor, or on the California side of the state line (also our property), either of which would and should be a better location.</p>	<p>In that section of the Peavine Alternative, a 300 foot-wide study corridor was used. The possibility of making a minor adjustment within this study corridor may be possible and could be explored with NV Energy during the easement acquisition process. NV Energy would purchase easements based on the appraised value of the land.</p>