

TransWest Express Transmission Project

Draft

Environmental Impact Statement (Volume III)



Wyoming State Office

Mission Statement

The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

Mission Statement

Western is a Federal agency under the Department of Energy that markets and transmits wholesale electrical power through an integrated 17,000-circuit mile, high-voltage transmission system across 15 western states. Western's mission: Market and deliver clean, renewable, reliable, cost-based Federal hydroelectric power and related services.

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3.13 Recreation Resources

This section provides baseline information regarding outdoor recreation uses on public and private lands that could be affected by the Project in Wyoming, Colorado, Utah, and Nevada. Included within this section is a description of the existing recreational opportunities and activities, recreation use estimates for BLM and USFS lands in the analysis area, a description of the recreation sites that occur in each region of the analysis area, and an overview of the plans and regulations of federal, state, and local land management agencies that provide recreation opportunities in the analysis area. Direct effects to other resources that indirectly affect recreation are discussed in those respective sections, including Section 3.7, Wildlife; Section 3.5, Vegetation; Section 3.12, Visual Resources; and Section 3.16, Transportation and Access.

3.13.1 Regulatory Background

A variety of federal, state, and local land management agencies serve as recreation providers in the analysis area, including USFS, BLM, USFWS, Bureau of Reclamation, NPS, various state agencies that regulate recreation uses on state lands, and local and county governments. These entities guide recreation activities on public lands with management plans developed under their guiding authority. The following sections summarize the management plans for federal, state, and county/municipal agencies that manage recreation within the analysis area.

3.13.1.1 Federal Plans, Policies, and Regulations

BLM

All BLM-administered public lands in Wyoming, Colorado, Utah, and Nevada are managed in accordance with the approved RMP or MFP for each BLM FO. Each RMP/MFP provides goals, objectives, and management actions to guide recreational uses of BLM-managed land resources within the FO. BLM RMPs that are pertinent to the project are listed in **Table 1-3**. In addition, the BLM prepares a variety of planning documents related to its recreation and visitor services program, including interpretive plans and travel management plans.

USFS

The USFS conducts planning activities and administers NFS lands in accordance with provisions of the NFMA of 1976, NEPA, and other applicable legislation and regulations. A LRMP is required for each forest and provides direction for all resource management programs, including recreation uses. The USFS LRMP and EIS documents pertinent to the project are listed in **Table 1-4**. Other USFS planning documents that identify recreational opportunities and facilities, and provide guidance for recreation uses within the analysis area are listed in **Table 3.13-1**.

USFWS/NPS/Bureau of Reclamation

Although most public lands within the analysis area that are managed by a federal agency are managed by the BLM or USFS, there are areas managed by the USFWS, NPS, and Bureau of Reclamation in Colorado, Nevada, and Utah. Typically the agency has a management plan that includes goals, objectives, policies, and/or regulations pertaining to recreation within their management area or agreements with local agencies for management. A list of these plans is included in **Table 3.13-1**.

3.13.1.2 State Plans, Policies, and Regulations

State lands within the analysis area include state parks, wildlife management areas (WMAs), and other special management areas that include recreational uses of the land resources. Planning documents that identify recreational opportunities and facilities, and provide guidance for recreation uses in various state management areas within the analysis area are listed in **Table 3.13-1**.

Table 3.13-1 Federal and State Recreation Planning Documents for Managing Recreation

State	Planning Document	Agency
Wyoming	2004 Wyoming Statewide Trails Plan	Wyoming Department of State Parks & Cultural Resources, Division of State Parks & Historic Sites – Trails Program
	Wyoming Statewide Comprehensive Outdoor Recreation Plan 2009-2013	Wyoming Department of State Parks and Cultural Resources, Division of State Parks, Historic Sites and Trails
	Continental Divide National Scenic Trail Comprehensive Plan 2009	USFS
Colorado	Colorado Statewide Comprehensive Outdoor Recreation Plan 2008-2012	Colorado Parks and Wildlife
	Colorado Division of Wildlife: Chapter 9 – Division Properties; Regulations Applicable To All Division Properties 2012	
	Dinosaur National Monument General Management Plan 1986 River Management Plan 1979	NPS
Utah	Utah Statewide Comprehensive Outdoor Recreation Plan 2009	Utah State Parks
	Starvation Reservoir Resource Management Plan 1999	Bureau of Reclamation
Nevada	Nevada Statewide Comprehensive Outdoor Recreation Plan 2010	Nevada State Parks
	Clark County Wetland Park Master Plan	Clark County/Bureau of Reclamation
	Desert National Wildlife Refuge Complex Final Comprehensive Conservation Plan and EIS 2009	USFWS
	Lake Mead National Recreation Area General Management Plan 1986 Land Protection Plan 1987 Lake Management Plan 2003	NPS

State-owned lands within the analysis area that are not part of designated management areas, such as state parks or wildlife management areas, include lands held in trust and managed by a designated state agency (State Land Board, Office of State Lands) to produce income to support public schools and other state institutions.

Statewide Comprehensive Outdoor Recreation Plans (SCORPs) have been prepared by the states of Wyoming, Colorado, Utah, and Nevada. A SCORP provides statewide policy direction for recreation; identifies statewide outdoor recreation issues; and provides an implementation program that identifies the state's strategies, priorities, and actions for recreation, including the allocation of federal grants to recreation programs and facilities. Each SCORP is a collaborative effort developed with the assistance and support of a diverse array of recreation stakeholders representing local, state, and federal agencies; non-profit groups; outdoor industry groups; and other organizations directly linked to outdoor recreation.

3.13.1.3 County Plans, Policies, and Regulations

General Plans or Comprehensive Plans for a county (including master plans or land use plans) generally consist of a map or maps showing existing and planned land uses, as well as descriptive text identifying objectives, goals, policies, and standards or actions used to implement the plan. Each comprehensive plan includes a plan element for parks or open space, and recreation. This plan element identifies an overall vision or direction for recreation as it relates to community needs, and provides direction for specific facilities and opportunities. A tabulation of county planning documents is contained in Section 3.14, Land Use.

3.13.2 Data Sources

The recreational resources in the analysis area were identified from a variety of public sources and from field reconnaissance conducted during January through March of 2011. Recreation information for public lands administered by the BLM and the USFS were identified from a review of available data in affected BLM Field Office RMPs and websites, and USFS National Forest LRMPs and websites. BLM recreation specialists or other field office personnel were contacted to acquire available BLM data in a digital or hard-copy format. In addition, designated parks and open spaces on county and municipal lands were identified from the recreation and open space elements of Comprehensive Plans, General Plans, and other land use management plans adopted by counties and incorporated cities within the analysis area. Scenic Byway information was obtained from data provided by the National and State Scenic Byway programs website.

3.13.3 Analysis Area

The alternative routes and ancillary facilities are located within 23 counties in four states and include federal lands managed by the BLM, USFS, various state agencies, municipal lands, and private lands. The majority of recreation resources within the analysis area occur on federal lands managed by the BLM and USFS.

The analysis area for characterizing recreation resources comprises all public general recreation areas and special recreation management areas for which any portion of the area is contained within a 2-mile transmission line corridor centered on the 250-foot-wide transmission line ROW or within additional project areas (terminal, ground electrode siting areas, etc.). The 2-mile transmission line corridor was used to analyze impacts to recreation resources because it would include all access roads, substations, and other permanent or temporary facilities and because it would largely encompass all potential intrusions experienced by the public from the 250-foot-wide transmission line ROW. Context for the impact to recreational areas and uses is obtained by considering the impact to the portion within the 2-mile transmission line corridor against the total special management area or area available for general recreation. In some cases, visual and noise effects to the recreation setting may require a wider analysis area for the full characterization and impact analysis of those resources. Analysis areas for related resources are defined in the appropriate sections (Section 3.12, Visual Resources; Section 3.18.5, Noise) and are incorporated by reference in this section as applicable.

3.13.4 Baseline Description

Outdoor recreation opportunities on public lands in Wyoming, Colorado, Utah, and Nevada are a key factor that has attracted many people to the western U.S. The proximity of USFS, BLM, and other public lands to urbanized areas and rural communities is important to the quality of life for many residents and also is an important lifestyle factor in the increasing populations of many western communities. In addition, recreational use on public lands helps support the economies of western communities and states. The demand for outdoor recreation in the West has risen substantially, by 65 percent in the last 30 years (BLM undated). Recreation in the analysis area includes a broad range of developed and dispersed recreation opportunities on public and private lands.

3.13.4.1 Recreation Use Estimates and Trends

BLM

The BLM provides annual public lands statistics (BLM 2011a) that include an overview of recreational use and opportunities on public lands. BLM offices are responsible for collecting and maintaining various data related to the recreation program. The field-level data are aggregated in the BLM's Recreation Management Information System (RMIS) database. **Table 3.13-2** summarizes estimated visitor use of BLM lands by state from 2000 to 2010.

Table 3.13-2 Estimated Recreation Use on BLM Lands by State, 2000 – 2010

Administrative State	Developed Recreation Sites		Dispersed Areas		Recreation Lease Sites		Recreation Partnership Sites		Total	
	Visits (1,000) ¹	Visitor Days (1,000) ²	Visits (1,000) ¹	Visitor Days (1,000) ²	Visits (1,000) ¹	Visitor Days (1,000) ²	Visits (1,000) ¹	Visitor Days (1,000) ²	Visits (1,000) ¹	Visitor Days (1,000) ²
Colorado										
2000	2,356	1,122	2,400	2,084	N/A	N/A	N/A	N/A	4,576	3,206
2010	2,497	1,402	3,265	4,610	0	0	686	127	6,448	6,139
% change	6.0%	25.0%	36.0%	121.2%	--	--	--	--	40.9%	91.5%
Nevada										
2000	1,822	695	3,223	3,415	N/A	N/A	N/A	N/A	5,045	4,110
2010	2,311	1,606	3,639	2,960	0	0	21	5	5,971	4,571
% change	26.8%	131.1%	12.9%	-13.3%	--	--	--	--	18.4%	11.2%
Utah										
2000	3,602	3,062	2,567	4,750	N/A	N/A	N/A	N/A	6,169	7,812
2010	2,888	1,987	2,998	3,190	21	8	183	178	6,090	5,363
% change	-19.8%	-35.1%	16.8%	-32.8%	--	--	--	--	-1.3%	-31.3%
Wyoming										
2000	1,676	423	1,979	1,862	N/A	N/A	N/A	N/A	3,655	2,285
2010	1,148	729	1,261	765	0	0	43	16	2,452	1,510
% change	-31.5%	72.3%	-36.3%	-58.9%	--	--	--	--	-32.9%	-33.9%

¹ A visit is the entry of any person for recreational purposes onto lands and related waters administered by the BLM, regardless of duration.

² One visitor day represents an aggregate of 12 visitor hours at a site or area.

Sources: BLM 2001b, BLM 2011a.

Visits to both developed recreation sites and dispersed recreation areas on BLM-managed lands and waters have increased in Colorado and Nevada, while visits to BLM-developed recreation sites and dispersed recreation areas in Wyoming have decreased. Utah has experienced an increase in the use of BLM dispersed recreation areas, but a sharp decrease in use of developed recreation sites. Recreation lease sites and recreation partnership sites accounted for nearly a total of 1 million additional visits to BLM lands in all four states in 2010. Recreation visits on BLM lands in all four states increased by 7 percent between 2000 and 2010 (BLM 2011a). This has led to greater and more diverse forms of recreation use, as well as an increase in user conflicts and public concern over the most appropriate uses and management of the public lands. For all public lands, public demand for outdoor recreation, driven in part by a growing U.S. population and rising international visitation, continues to intensify; however, population increases in western states are not reflected in increasing visitation to BLM-managed lands in Utah and Wyoming. Other factors that may contribute to differing trends in recreation use estimates between the four states could include relative levels of disposable incomes, relative age of the population, or other demographic differences.

USFS

The National Visitor Use Monitoring (NVUM) program provides estimates of the volume and characteristics of recreation visitation to NFS lands to help the USFS manage its recreation resources in a way that meets the needs of visitors while maintaining the quality of the natural resource base. The NVUM program conducts more than 100,000 visitor surveys on NFS lands every 5 years, with 20 percent of the national forests conducting surveys each year. This nationwide visitor use survey provides statistically sound estimates of visitation to each national forest and to each site type. The visitation data for the Ashley, Dixie, Fishlake, Manti-La Sal, and Uinta national forests, shown in **Table 3.13-3**, are from NVUM data collection completed from FY2002 through FY2011. Each forest gets sampled once every 5 years, so in a given year several forests are engaged in NVUM field data collection. Those forests that completed their NVUM work in 2009 were updating visitation estimates from approximately 5 years earlier. The NVUM data does not provide trend measures, but reports only the most current visitation patterns and activities on NFS lands. Data for 2002 and 2006 for some forests shown in **Table 3.13-3** were collected from forest plans and may not represent the same sampling methods.

Table 3.13-3 Estimated Recreation Use on National Forests Crossed by Analysis Area, 2002 to 2011

National Forest	Visits						
	2002	2006	2007	2008	2009	2010	2011
Ashley	1,338,428	N/A	960,000	N/A	N/A	N/A	N/A
Dixie	N/A	646,000	N/A	N/A	733,000	N/A	N/A
Fishlake	447,270	487,000	N/A	531,000	N/A	N/A	N/A
Manti-La Sal	804,301	672,000	N/A	N/A	N/A	N/A	352,000
Uinta*	2,840,000	N/A	2,934,000	N/A	N/A	N/A	N/A

N/A = not available.

* Reported visitation is for just the Uinta National Forest portion of the Uinta-Wasatch-Cache National Forest. Only recreation resources within the Uinta National Forest, as identified in the Uinta National Forest LRMP, are within the analysis area. Therefore, all subsequent references to the Uinta-Wasatch-Cache National Forest will be only to the Uinta National Forest, which may differ from other resource sections.

Sources: USFS 2002 to 2011.

Based on the NVUM data, Uinta National Forest received the most visitation with about 3 million visits per year, with increased visitation between 2002 and 2007. The Ashley National Forest received between 900,000 and 1.4 million visits; current data show a decrease in visitation between 2002 and 2007. The Dixie and Manti-La Sal national forests generally received between 500,000 and 800,000 visits per year; current data show an increase in visitation to the Dixie National Forest, while visitation on the Manti-La Sal National Forest dropped each reporting year, with a drop to below 400,000 in 2011 (USFS 2002 to 2011). The Fishlake National Forest received the least visitation, with an average visitation of less than 500,000.

3.13.4.2 Recreation Opportunities

Recreation opportunities exist on all public lands within the analysis area. Recreation opportunities may be dispersed or developed:

- Dispersed recreation opportunities include unstructured activities and typically occur in a more primitive setting. Dispersed, unstructured activities typify the recreational uses occurring on public (federal and state) lands throughout the majority of the analysis area. Dispersed recreation in the analysis area includes motorized and non-motorized activities such as undeveloped camping, fishing, hunting, hiking, horseback riding, rock and ice climbing, mountain biking, snowmobiling, caving, off-highway vehicle (OHV) trail riding or open area

use, and driving for pleasure. Dispersed recreation activities by Project region are included in Section 3.13.5, Regional Summary.

- Developed recreation sites on federal and state lands in the analysis area include campgrounds, picnic areas, information and interpretive sites, trailhead facilities, boat ramps, and fishing accesses. Federal agencies provide the majority of developed recreation facilities in the analysis area. City and county governments also provide public recreation facilities, consisting primarily of parks, trails, and open space areas. Privately owned recreation facilities in the analysis area include golf courses, private campgrounds, a hot springs, and facilities or services available through lodging providers. These facilities are listed by Project region in Section 3.13.5, Regional Summary.

Recreation opportunities also include special management areas designated by Federal agencies, including BLM special recreation management areas (SRMAs), historic trails, scenic byways, etc. Management of SRMAs focuses on providing special recreation opportunities that would not otherwise be available to the public, reducing conflicts among users, minimizing damage to resources, and reducing visitor health and safety problems. Recreation opportunities within or along these areas may be developed or dispersed. Recreation opportunities also are present on undesignated lands, which are those areas managed by a federal agency for which no special management exists.

Special Recreation Permits (SRP) are required for some recreation activities on BLM public lands. They are used to ensure public health and safety, protect recreation and natural resources, and ensure the public receives a fair monetary return for certain recreation uses of BLM public lands. SRPs are required for commercial activities, competitive events, certain organized group activities, and in some designated special areas. For NFS lands, Special Use Permits (SUPs) are issued for some recreational events.

3.13.4.3 Recreation Opportunity Spectrum Classes in the Analysis Area

The end product of recreation management is the experience people have, and the key to providing high quality recreation experiences and opportunities is the recreation setting and how it is managed. The Recreation Opportunity Spectrum (ROS) system is used by land managers to guide management of recreation settings and opportunities. ROS classifications may be incorporated into both BLM and USFS land use planning processes. The ROS provides levels of development, facility investment, and management intensity according to the different settings under each class. Typically, the ROS is divided into six or seven major classes described in **Table 3.13-4**. These classes include conditions that range from high-density urban environments to primitive settings. Physical, social, and managerial conditions will vary along this continuum. In general, the analysis area is located primarily along existing roadway and utility corridors that are characterized by the ROS classes Routed Natural, Routed Modified, or Rural.

Table 3.13-4 Recreational Opportunity Spectrum (ROS) Classifications

ROS Class	Setting Description		
	Sights and Sounds of Humans	Motorized Use/Parking	Area Characterization
Urban	Predominant	Facilities for highly intensified motor use and parking are available	Large numbers of users can be expected, substantially urbanized environment although the background may have natural appearing elements
Rural	Readily evident	Facilities for intensified motorized use and parking are available	Considerable number of facilities are designated for use by a large number of people, moderate densities are provided far away from developed sites and facilities, substantially modified natural environment
Routed Modified	Similar to the Routed Natural setting, except this area has been heavily modified (roads or recreation facilities). This class still offers opportunity to have a high degree of interaction with the natural environment and to have moderate challenge and risk and to use outdoor skills.		

Table 3.13-4 Recreational Opportunity Spectrum (ROS) Classifications

ROS Class	Setting Description		
	Sights and Sounds of Humans	Motorized Use/Parking	Area Characterization
Roaded Natural	Moderate evidence	Conventional motorized use is provided for in construction standards and design of facilities	Interaction between users may be low to moderate, but with evidence of other users prevalent, predominantly natural appearing environment
Semi-primitive Motorized	Often evidence of other users	Motorized use may be evident	Concentration of users is low, predominantly natural or natural-appearing environment
Semi-primitive Non-motorized	Often evidence of other users	Public motorized use is not permitted	Interaction between users is low, predominantly natural or natural-appearing environment
Primitive	Minimal evidence of other users	Motorized use is not permitted	Interaction between users is very low, essentially unmodified natural environment

The Fishlake, Uinta, Ashley, and Manti-La Sal national forests all utilize ROS classes to manage recreation. Although the Dixie National Forest LRMP does not utilize ROS classes, it does include developed recreation, semi-primitive recreation, and roaded natural recreation classifications that relate closely to ROS classes. Currently, most BLM field offices in the analysis area include very limited, if any, implementation of ROS in the RMPs; however, the Rawlins Field Office uses a ROS system comprising Primitive, Front Country, and Middle Country designations to guide recreation decisions within the Adobe Town DRUA. These designations are roughly analogous to the primitive, semi-primitive motorized, and roaded natural ROS categories described above.

3.13.4.4 Special Recreation Management Areas

The BLM designates recreation management areas where recreation and visitor services objectives are recognized as a primary resource management consideration and specific management is required to protect the recreation opportunities. Such recreation management areas are designated as either a SRMA or an Extensive Recreation Management Area (ERMA). SRMAs recognize unique and distinctive recreation values and are managed to enhance a targeted set of activities, experiences, benefits, and recreation setting characteristics, which become the priority management focus. ERMAs recognize existing recreation use and demand, and are managed to sustain principal recreation activities and associated qualities and conditions of the ERMA, commensurate with management of other resources (BLM 2011b). In some BLM Field Offices, all recreation areas not located within a SRMA are considered an ERMA. Generally, recreation opportunities in ERMAs are dispersed, unstructured activities that do not require intensive management or substantial investment in trails or facilities.

There are no designated recreation management areas on NFS lands within the analysis area.

SRMAs or ERMAs within the analysis area are identified for each Project region in Section 3.13.5, Regional Summary.

National Recreational Areas

NRAs are congressionally designated recreation areas, often centered on large reservoirs and emphasizing water-based recreation. Congressionally designated units of the NPS, including national recreation areas, and other similar Congressionally designated areas under the management of other agencies, have a higher level of national significance and protection than agency-designated land use classifications. Within the analysis area, the Lake Mead NRA is operated by the NPS and is located in southeastern Nevada and northwestern Arizona. The NRA encompasses two reservoirs (Lake Mead and Lake Mohave) formed by the Colorado River, which flows through Glen Canyon NRA and Grand Canyon National Park before reaching the Lake Mead NRA. The Lake Mead NRA contains 1,482,476

acres of federal land and 28,212 acres of nonfederal land. The Lake Mead NRA offers year-round recreational opportunities for boating, fishing, hiking, photography, picnicking and sightseeing. It also is home to thousands of desert plants and animals. A description of the portion of the Lake Mead NRA that is within the Region IV analysis area is included in Section 3.13.5, Regional Summary.

National and State Scenic Byways and Backways

The National Scenic Byways (NSB) Program was established under the Intermodal Surface Transportation Efficiency Act of 1991 and reauthorized in 1998 under the Transportation Equity Act for the 21st Century. Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities.

To be considered for designation within the National Scenic Byways Program, a road must possess characteristics of regional importance within at least one of the six intrinsic quality categories identified above. Roads designated as All-American Roads must possess at least two of these intrinsic qualities at a level of national importance. Backways and byways are components of the National Scenic Byway Program that meet the byway criteria, but generally do not meet full federal safety standards, meaning they are not wide enough, graded enough, or level enough to be safe year-round for passenger cars. States or federal agencies such as the BLM also may designate scenic byways or backways. In general, the terms National Scenic Byway; All-American Road State Scenic Byway; Indian Tribe Scenic Byway; or USFS-, BLM-, BIA-, or NPS-designated Scenic Byway and Backway refer not only to the road or highway itself, but also to the corridor through which it passes.

The analysis area contains a number of scenic byways and backways. These roads and their intrinsic qualities are identified for each Project region in Section 3.13.5, Regional Summary. Section 3.12, Visual Resources, also contains information about the important landscapes viewed from scenic byways.

Designated National Trails and Other Recreational Trails

The National Trails System is a network of scenic, historic, and recreation trails created by the National Trails System Act of 1968 and amended in 1978 (NPS 2009).

- National recreation trails provide a variety of outdoor recreation uses in or reasonably accessible to urban areas.
- National scenic trail designation is extended to trails providing maximum outdoor recreation potential and conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which the trails may pass.
- National historic trail designation is extended to trails following as closely as possible and practicable to original trails or routes of travel of national historic significance.

There is one National Recreation Trail within the analysis area, the River Mountains Loop Trail, located near Las Vegas, Nevada. This 35-mile trail is a multi-use trail managed by the City of Henderson, Bureau of Reclamation, City of Boulder, and NPS. The River Mountains Loop Trail also is a National Millennium Trail. Impacts to this trail are discussed in Section 3.13.6.12, Region IV.

There is one National Scenic Trail that passes through the analysis area: the Continental Divide National Scenic Trail (CDNST). Impacts to this trail are discussed in Section 3.13.6.9, Region I.

The Old Spanish National Historic Trail crosses the analysis area at numerous locations in Utah and Nevada in Regions II, III, and IV. The Old Spanish Trail route was established along a network of Native American footpaths that crossed the expanse of the Colorado Plateau and the Mojave Desert. While there are public and private organizations offering interpretation and education, cultural

activities, and local heritage recreational events in some areas along the route (Old Spanish Trail Association 2011), the Old Spanish National Historical Trail is primarily a historic resource, not a recreational trail. Impacts to the Old Spanish National Historical Trail and other historic trails are therefore analyzed in Section 3.11, Cultural Resources and Native American Concerns, and Section 3.15, Special Designation Areas. However, it is unknown at this time if the segments of the historic trails/roads/highways crossed by the alternatives are contributing segments to these linear resources overall NRHP eligibility. Visual impacts to historic trails also are discussed in Section 3.12, Visual Resources.

State Wildlife Management Areas, Cooperative Wildlife Management Units, and State Parks

The analysis area contains two Wyoming state WHMAs, three Colorado SWAs, one hunting lease, and 23 units within the Utah wildlife management area (WMA) system. These wildlife management areas have been established to preserve fish and wildlife habitat and to provide recreational opportunities including fishing, hunting, and wildlife viewing. TWE would need to apply to the managing entity for access to a permanent ROW within WMAs. Because WMAs are often acquired with Federal Aid funds to protect wildlife habitat, the USFWS-Fed Aid would need to make a determination on whether or not the proposed access and ROW would compromise the purposes for which the property was acquired before TWE's application would be approved. Similarly, three of the WMAs totaling 6,900 acres are managed as partial mitigation for the Central Utah Project. These properties are a mix of State of Utah (39 percent) and Federal (61 percent) ownership. The Mitigation Commission, in consultation with the USFWS, would need to make a determination on whether or not the proposed access would compromise the purposes for which the properties were acquired and the appropriate compensatory mitigation that would be required should a ROW be approved.

The analysis area also contains 15 cooperative wildlife management units (CWMUs) in Utah. These are hunting areas consisting of mostly private lands that have been authorized for the specific purpose of managing big game animals. CWMUs may have special management that would preclude development of roads or transmission lines. The analysis area also includes two state parks. WHMAs, SWAs, WMAs, CWMUs, and State Parks are described by Region in Section 3.15.3 and included in **Figures 3.13-1** through **3.13-5**.

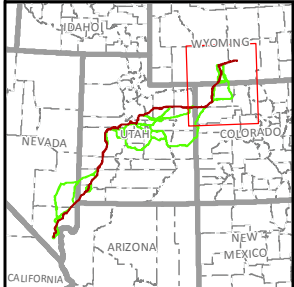
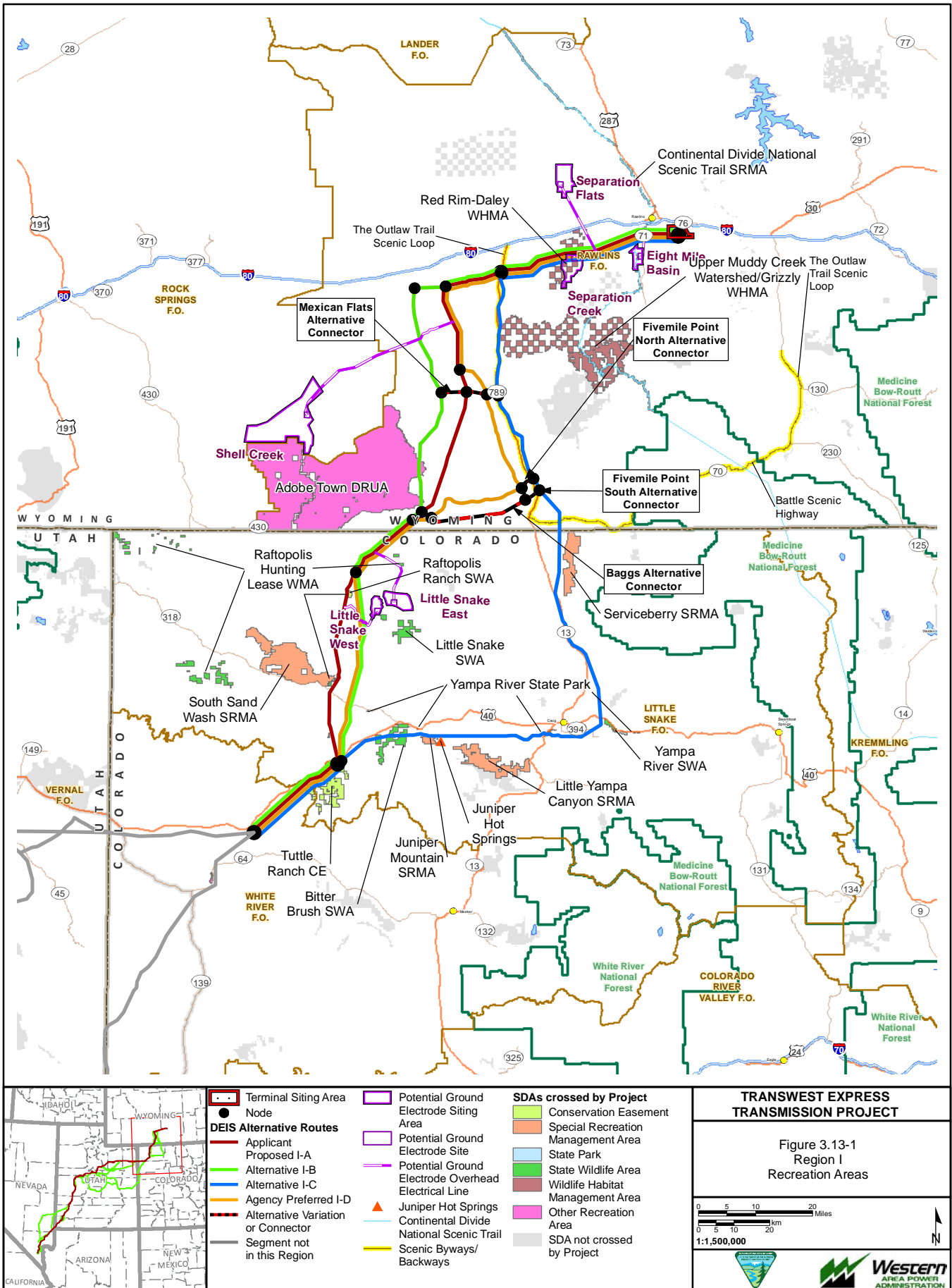
Other Special Management Areas

In addition to designated recreation areas, there are federally designated special management areas within the analysis area where recreation occurs, including wilderness areas, WSAs, roadless areas, national monuments, and ACECs. These areas generally provide opportunities for solitude and dispersed recreation activities in a primitive setting, but are not managed primarily for recreation. Wilderness areas, WSAs, ACECs, roadless areas, national monuments, and other special designation areas are described in more detail in Section 3.15, Special Designations.

3.13.4.5 Off-Highway Vehicle Use on Dispersed and Specially Managed Recreation Areas

OHV use is one of the fastest growing recreational activities on public lands (USFS undated). Annual retail purchases of OHVs in the U.S. increased by 280 percent over a 10-year period from 368,600 OHVs in 1996 to 1,034,966 in 2006 (USFS 2006). OHV types used within the analysis area include all-terrain vehicles (ATV), cars/trucks/sport utility vehicles (SUV), motorcycles, and snowmobiles, though the majority of OHV participants in the analysis area use cars/trucks/SUVs. In addition to riding OHVs as a recreation activity, OHVs provide transport for non-recreation public uses such as grazing, oil and gas development, and other authorized uses of public lands (see Section 3.14, Land Use), as well as transport for recreation opportunities such as hunting, fishing, and camping. OHV use occurs both on- and off roads and trails as designated by federal agencies that manage land in the analysis area.

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<ul style="list-style-type: none"> Terminal Siting Area Node DEIS Alternative Routes Applicant Proposed I-A Alternative I-B Alternative I-C Agency Preferred I-D Alternative Variation or Connector Segment not in this Region 	<ul style="list-style-type: none"> Potential Ground Electrode Siting Area Potential Ground Electrode Site Potential Ground Electrode Overhead Electrical Line Juniper Hot Springs Continental Divide National Scenic Trail Scenic Byways/Backways 	SDAs crossed by Project <ul style="list-style-type: none"> Conservation Easement Special Recreation Management Area State Park State Wildlife Area Wildlife Habitat Management Area Other Recreation Area SDA not crossed by Project
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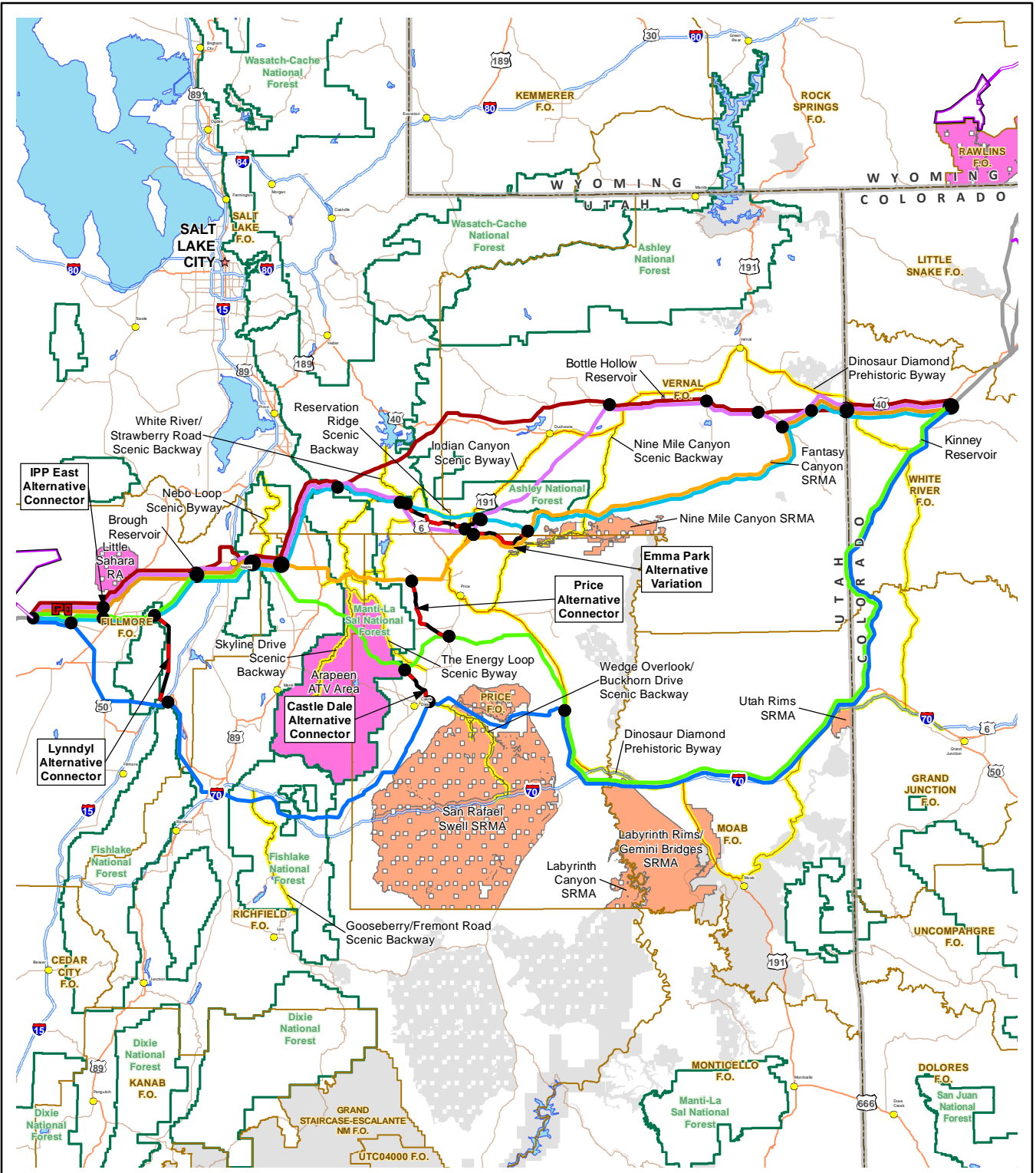
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.13-1
Region I
Recreation Areas

0 5 10 20 Miles
0 5 10 20 km

1:1,500,000

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<ul style="list-style-type: none"> Terminal Siting Area Node DEIS Alternative Routes Applicant Proposed II-A Alternative II-B Alternative II-C Alternative II-D Alternative II-E Agency Preferred II-F Alternative Variation or Connector Segment not in this Region 	<ul style="list-style-type: none"> Potential Ground Electrode Siting Area Potential Ground Electrode Site Potential Ground Electrode Overhead Electrical Line Scenic Byways/Backways 	<ul style="list-style-type: none"> SDAs crossed by Project Special Recreation Management Area Other Recreation Area SDA not crossed by Project
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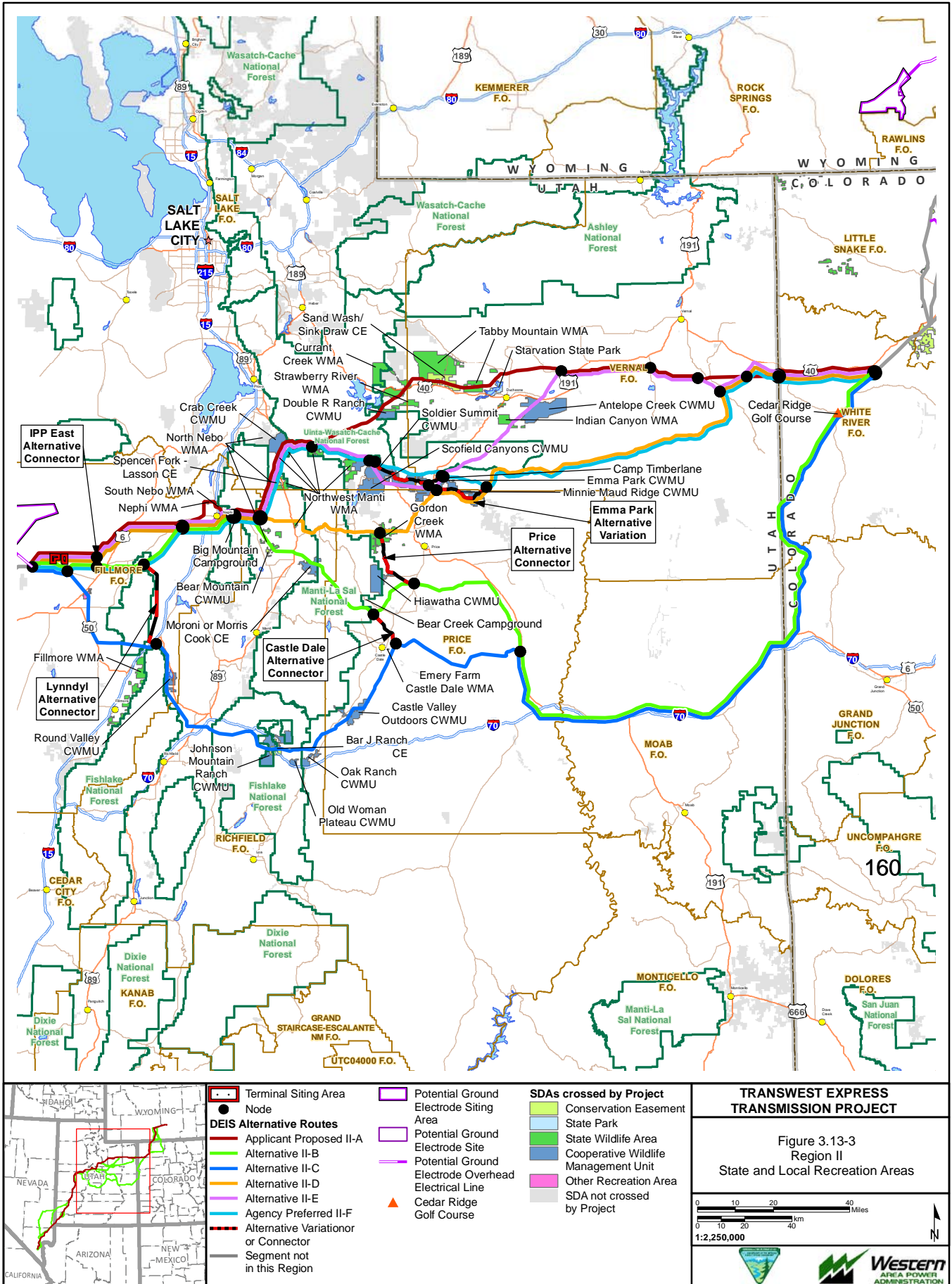
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.13-2
Region II
Federal Recreation Areas

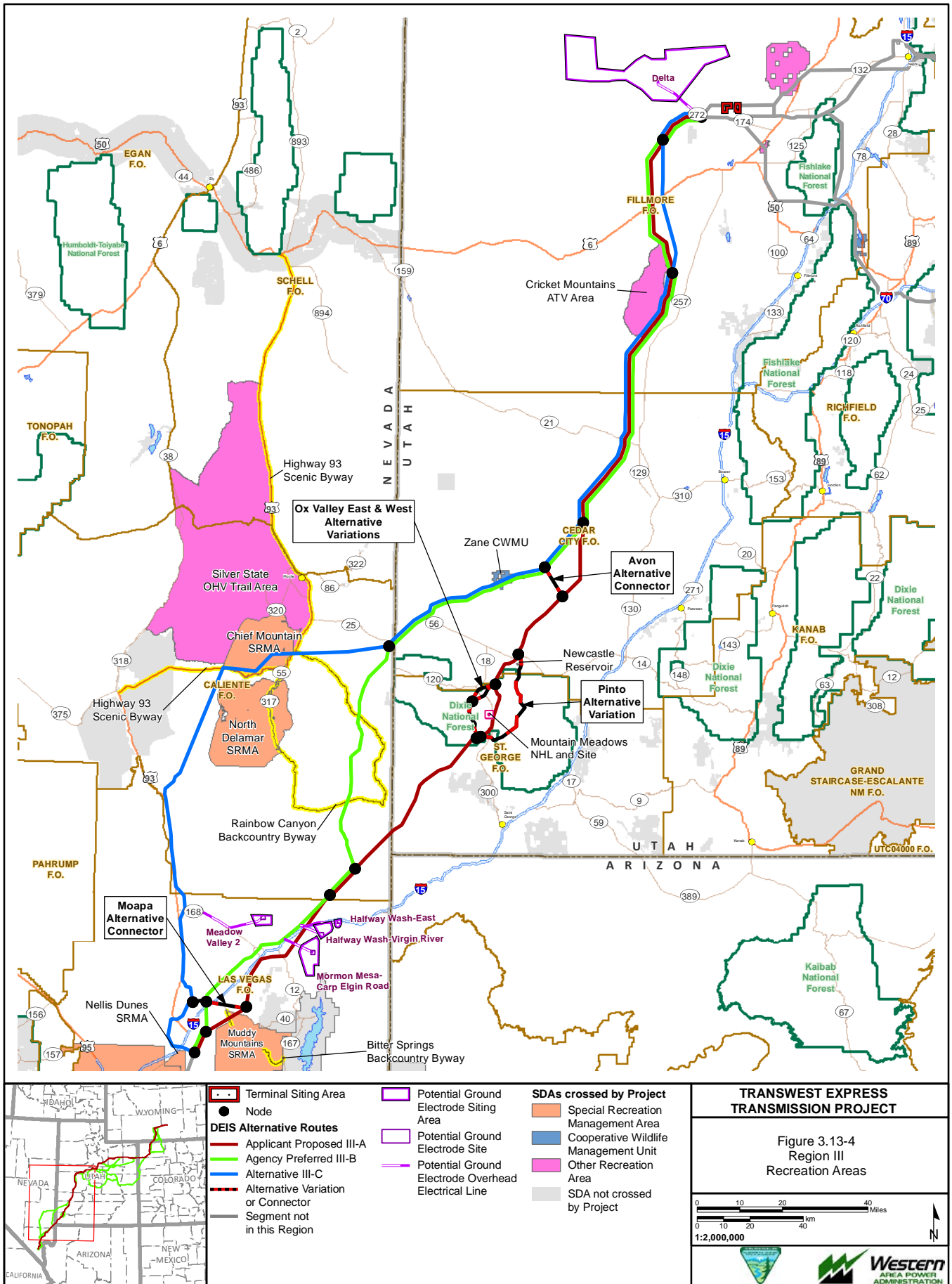
0 10 20 40 Miles
0 10 20 40 km

1:2,250,000

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<p>Terminal Siting Area</p> <p>● Node</p> <p>DEIS Alternative Routes</p> <p>— Applicant Proposed III-A</p> <p>— Agency Preferred III-B</p> <p>— Alternative III-C</p> <p>— Alternative Variation or Connector</p> <p>— Segment not in this Region</p>	<p>□ Potential Ground Electrode Siting Area</p> <p>□ Potential Ground Electrode Site</p> <p>□ Potential Ground Electrode Overhead Electrical Line</p>	<p>SDAs crossed by Project</p> <p>□ Special Recreation Management Area</p> <p>□ Cooperative Wildlife Management Unit</p> <p>□ Other Recreation Area</p> <p>□ SDA not crossed by Project</p>
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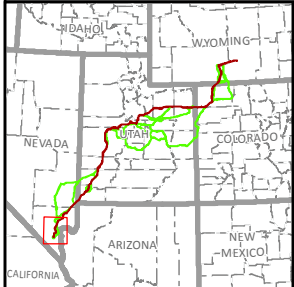
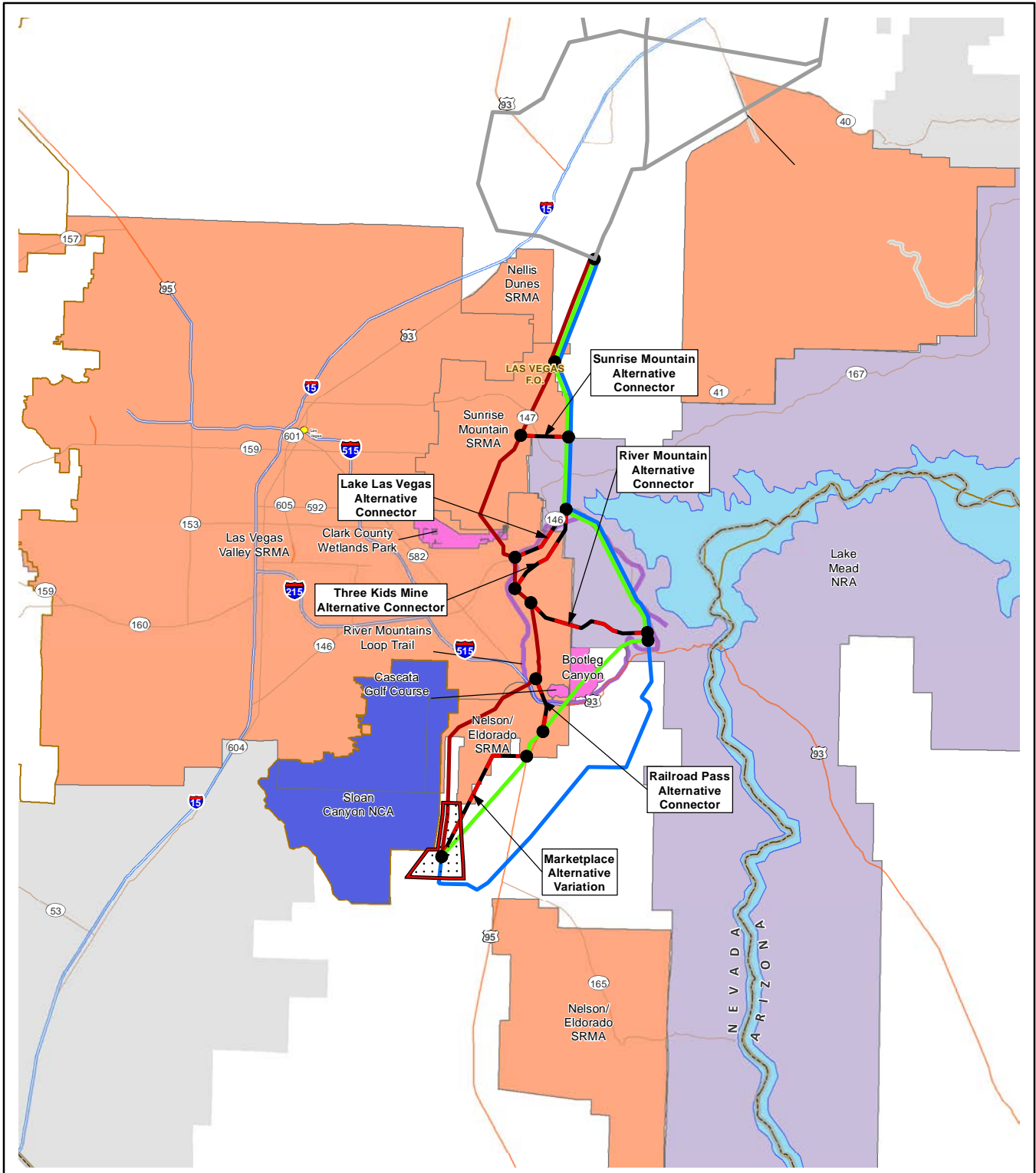
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.13-4
Region III
Recreation Areas

0 10 20 40 Miles
0 10 20 40 km

1:2,000,000

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<ul style="list-style-type: none"> Terminal Siting Area Node <p>DEIS Alternative Routes</p> <ul style="list-style-type: none"> Applicant Proposed/ Agency Preferred IV-A Alternative IV-B Alternative IV-C Alternative Variation or Connector Segment not in this Region 	<p>SDAs crossed by Project</p> <ul style="list-style-type: none"> National Conservation Area National Recreation Area Special Recreation Management Area Other Recreation Area SDA not crossed by Project
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TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.13-5
Region IV
Recreation Areas

0 2.5 5 10 Miles

0 2.5 5 10 km

1:500,000

Increasing OHV traffic on public lands has caused the uncontrolled proliferation of user-created, undesignated trails arising from repeated cross-country travel. Unauthorized motorized use causes natural resource damage (e.g., soils, habitat) and increased public safety concerns (USFS undated). In 1972, Executive Order No. 11644 was issued, requiring each federal agency to designate “areas and trails” for off-road vehicle use or restriction, and to develop regulations to implement the Executive Order (BLM 2001a). The BLM’s regulations (43 CFR 8340) established management areas as either “open,” “limited,” or “closed” to off-road vehicle use.

- **Open:** an area where all types of vehicle use is permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards. The BLM designates areas as “open” for intensive off-road vehicle (ORV) use where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel.
- **Limited:** an area restricted at certain times, in certain areas, and/or to certain vehicular use. These restrictions may be of any type, but can generally be accommodated within the following type of categories: numbers of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on existing roads and trails; use on designated roads and trails; and other restrictions. The agency designates areas as “limited” where it must restrict ORV use in order to meet specific resource management objectives. The BLM also may enact other limitations to protect resources, particularly in areas that motorized OHV enthusiasts use intensively or where they participate in competitive events.
- **Closed:** an area where ORV use is prohibited. The BLM designates areas as “closed” if closure to all vehicular use is necessary to protect resources, ensure visitor safety, or reduce use conflicts.

The BLM’s OHV designations are determined through the land use planning process. A summary of OHV designations within the analysis area is included in the regional summaries contained in Section 3.13.5.

For lands within the NFS, each national forest or ranger district designates roads, trails, and areas as open or closed to motor vehicles. In general, OHV use within national forests is limited to existing or designated roads and trails. NFS road and trail designations include class of vehicle and, if appropriate, time of year for motor vehicle use. USFS travel designations are required to be shown on a motor vehicle use map (USFS 2011). Outside of BLM and USFS lands, some OHV use is allowed. A summary of OHV designations by agency is included in the regional summaries contained in Section 3.13.5, Regional Summary of Recreation Sites/Areas.

3.13.5 Regional Summary of Recreation Sites/Areas

Summaries of dispersed and developed recreation opportunities and special designated management areas are provided by Project Region in the sections below.

3.13.5.1 Region I

Within Region I, three BLM FOs provide a variety of recreation opportunities in Wyoming and Colorado: Rawlins, Little Snake, and White River. Recreation opportunities available on lands within the analysis area generally include hunting, fishing, geocaching, wildlife viewing, boating, hiking, mountain biking, horseback riding, rock hounding, camping, OHV use, and picnicking. BLM recreation lands contain almost no developed facilities. There are no USFS lands within the Region I analysis area. There is one NPS-managed national monument in the Region I analysis area (also discussed in Section 3.15, Special Designations). A brief description of dispersed recreation activities by BLM FO is included in **Table 3.13-5**. **Table 3.13-6** identifies all federally managed special recreation management areas within the Region I analysis area. There are no designated scenic byways and backways within the analysis area. **Figure 3.13-1** identifies all recreation areas within the Region I analysis area.

Table 3.13-5 Federally Managed Dispersed Recreation Opportunities within Region I Analysis Area

Managing Entity	Key Dispersed Recreation Activities within Analysis Area
BLM Rawlins FO, Wyoming	The FO encompasses approximately 3.5 million acres of BLM-managed public lands. Dispersed recreation activities on public lands include wildlife viewing, hunting, hiking, backpacking, OHV use, fishing, biking, photography, camping, orienteering, and floating. Access to public lands is limited due to the checkerboard pattern of land ownership. Access for dispersed recreation occurs through Carbon County roads and BLM roads, the CDNST (discussed below), the North Platte River, and across public lands. Hunting occurs on federal land sections that are accessible by public roads or with permission of the private landowner. OHV use is limited to existing roads and vehicle routes within the checkerboard area and limited to designated roads and trails between the checkerboard area and the state line. The analysis area includes portions of the 238,970-acre Adobe Town Dispersed Recreation Use Area, which is managed to provide dispersed recreation in an undeveloped recreation setting. The Rim Lake recreation site, a small day use and fishing area, also is located within the analysis area. The analysis area also includes portions of the Battle Scenic Highway and Outlaw Trail Scenic Loop, which are not designated national scenic byways, but are recommended recreational driving routes.
BLM Little Snake FO, Colorado	The FO encompasses approximately 1,336,900 acres of BLM-managed public lands. Dispersed recreation activities on public lands include hunting, fishing, geocaching, wildlife viewing, boating, hiking, mountain biking, horseback riding, rock hounding, camping, OHV use, and picnicking. Hunting is a popular recreation activity. The area west of Craig/Maybell is excellent for pronghorn antelope hunting. OHV use is limited to existing roads and trails pending transportation planning; the Juniper Mountain SRMA is limited to designated roads and trails. The Yampa River is very popular for fishing, boating and floating, especially on weekends. The Yampa River is one of the most hydrologically and biologically intact rivers in the West. The portion of the Yampa River between Craig and Maybell receives intensive recreation use and is renowned for its high quality scenery and recreation opportunities. The area contains several special management areas (discussed below). Equestrian activities on public lands in the Little Snake Resource Area generally occur on existing roads and trails or open country areas. Popular equestrian areas exist in the South Sand Wash and Little Yampa Canyon SRMAs (discussed below).
BLM White River FO, Colorado	The FO encompasses 1.5 million acres of BLM-managed public lands. Dispersed recreation activities are available in the analysis area.

Sources: BLM 2012a,b,c,d; 2011c; 2008a; 1987a; Public Lands Information Center 2013.

Table 3.13-6 Federally Managed Special Recreation Management Areas within Region I Analysis Area

Managing Entity	Recreation Site/Area ¹	Description
BLM Rawlins FO, Wyoming	CDNST SRMA	600-acre SRMA containing about 82 miles of trail. Recreation activities on the trail include hiking, mountain biking, horseback riding, and limited motor vehicle use. The 3,100-mile CDNST runs along the Rocky Mountains from Canada to Mexico and is managed to provide high quality primitive hiking and horseback riding opportunities in diverse country along the trail, and to conserve natural, historic, and cultural resources along the trail corridor (USFS 2009a). Within the SRMA, the BLM Rawlins FO manages the trail to emphasize interpretive and educational opportunities and to ensure the continued availability of outdoor recreation opportunities associated with the trail. Recreation activities within the SRMA include backpacking, mountain biking, camping, hunting, OHV use, picnicking, and wildlife viewing. The SRMA is an avoidance area for linear utility systems.

Table 3.13-6 Federally Managed Special Recreation Management Areas within Region I Analysis Area

Managing Entity	Recreation Site/Area ¹	Description
BLM Little Snake FO, Colorado	South Sand Wash SRMA	35,510 acres. Recreation activities in the SRMA include wildlife viewing, hunting, rock hounding, mountain biking, camping, antler gathering, and OHV use. Zone 1: open off-road motorized recreation. Zone 2: single-track and double-track OHV riding, limited to designated roads and trails. Physical, social, and administrative prescribed setting character is rural; near improved country roads and a highway, large groups and conspicuous and large-scale landscape alteration.
	Juniper Mountain SRMA	1,780 acres. Recreation activities in the SRMA include boating, hunting, camping, and hiking. ROW avoidance area. Zone 1: Day use motorized and non-motorized boating. Zone 2: Hunting (national- and regional-level destination big game hunting), camping, hiking, and horseback riding. The physical setting character is natural landscape with some primitive and maintained roads and trails. The social and administrative setting is backcountry, where encounters with other people will be from 3 to 6 people and landscape alterations are uncommon.
	Serviceberry SRMA	12,375 acres. Zone 1: Non-motorized hunting and heritage interpretation/education. Zone 2: Non-motorized big game hunting and undeveloped camping in a backcountry setting.
	Little Yampa Canyon SRMA	27,310 acres. Managed to provide river boating, big game hunting, camping, wildlife viewing, and interpretation/education opportunities for local communities and visitors to the area. VRM Class II for areas within line of sight from the river within the SRMA; VRM Class III elsewhere.
	Yampa Valley Trail	100-mile motorized and non-motorized trail along the Yampa River. Recreation uses on the trail include mountain biking, horseback riding, hiking, wildlife viewing, and OHV use. Includes the East and West Juniper Mountain trailheads.
NPS	Dinosaur National Monument	Dinosaur National Monument consists of 209,444 acres and offers a variety of recreation opportunities, including river rafting on the Green and Yampa Rivers, scenic driving, stargazing, hiking, bicycling, camping, fishing, horseback riding, snowmobiling, snowshoeing, cross-country skiing, and fossil viewing. The monument also offers guided tours.

¹Within each BLM FO, other specially designated areas, such as WSAs, WSRs, wilderness areas, or ACECs have recreational use, but are not designated specifically for recreational use. These other areas are analyzed in Section 3.15, Special Designations.

Sources: BLM 2012a,b,c,d, 2011c, 2008a, 1987a; NPS 2013b.

Within the Wyoming portion of the analysis area, Wyoming Game and Fish manages two WHMAs within the region primarily for hunting. Within the Colorado portion of the analysis area, CPW manages one state park, which includes several popular recreation access points along the Yampa River; three SWAs; and portions of State Trust lands that are part of the Public Access Program and are available for hunting, wildlife viewing, and fishing. One private recreation site also is located in Region I, Juniper Hot Springs. **Table 3.13-7** provides a list of all state managed recreation areas within the analysis area, including key resource values and recreation activities.

Table 3.13-7 State and Locally Managed Recreation Areas within Region I Analysis Area

Managing Entity	Management Area	Description
Wyoming Game and Fish	Red Rim – Daley WHMA	25,177 acres. Provides crucial winter habitat for pronghorn antelope and a variety of other wildlife. Open all year, however, drifting snow closes most trails in early winter. Recreation activities include hunting (elk, deer, antelope, moose, and upland game birds), camping, hiking, and wildlife viewing.

Table 3.13-7 State and Locally Managed Recreation Areas within Region I Analysis Area

Managing Entity	Management Area	Description
Wyoming Game and Fish (Continued)	Upper Muddy Creek Watershed/Grizzly WHMA	59,783 acres. Utility ROW avoidance area. Managed for Colorado River fish species unique to the Muddy Creek watershed and for crucial winter habitat for elk and mule deer. Motorized vehicle use is limited to designated roads and vehicle routes. Surface disturbing activities buffers exist around aquatic resources.
Colorado Parks and Wildlife	Bitter Brush SWA	8,057 acres. Recreation activities include hunting (deer, elk, and pronghorn) and wildlife viewing. Public access is prohibited from January 15 through April 30. Vehicle access is restricted to Moffat County Roads 59 and 143.
	Little Snake SWA	5,501 acres. Recreation activities include hunting, camping, hiking, and wildlife viewing.
	Yampa River SWA	860 acres. Recreation activities include northern pike fishing, waterfowl hunting, wildlife-watching, and boating. Area includes put-in and take-out access point for boaters.
	Raftopolous Hunting Lease	11,383 acres. CDOW conservation easement on private lands for hunting use.
	Yampa River State Park	Park comprises a 134-mile-long portion of the river, stretching from Hayden, Colorado to Dinosaur National Monument on the Utah border. There are 13 river access points, six of which are within the analysis area (from east to west): <ul style="list-style-type: none"> • Yampa River SWA (see above) • South Beach (Pump Station) Access Point: 3 miles south of Craig. Offers fishing, camping, and boat launching. Access from this point offers an opportunity to float into “Little Yampa Canyon,” a 32-mile stretch of river to the next access point. • Juniper Mountain Access Point: 20 miles west of Craig. Offers camping, picnicking, fishing, boat launching, and wildlife viewing. • Maybell Bridge Access Point: In Maybell. Improved site, offers picnic sites and overnight camping. • Sunbeam Access Point: 7 miles northwest of Maybell. Primarily for boat launching; minimal facilities and no overnight camping. • East Cross Mountain Access Point: 18 miles southwest of Maybell. Improved site, camping permitted.
Private	Juniper Hot Springs	Located south of Maybell, Colorado. Several mineral spring pools are available and camping is allowed.

Sources: AllTrips Steamboat Springs Colorado 2011; BLM 2008a; CDOW 2011, 2010, 2009; CPW 2012, 2011a,b; Craig Chamber of Commerce 2012; Field and Stream 2010; Juniper Hot Springs 2013; WGFD 2011, 2008.

3.13.5.2 Region II

Recreation opportunities within this region are provided by a variety of entities, including eight BLM FOs, four national forests, the Utah Division of Wildlife Resources, the Utah Division of State Parks and Recreation, one county, one tribe, and several private entities/associations. Recreation opportunities on lands within the analysis area include: OHV use, fishing, boating, camping, picnicking, hunting, hiking, horseback riding, mountain biking, scenic driving, and wildlife viewing. Only a few recreation sites within the region contain developed facilities. The region includes 17 WMAs/units in Utah that primarily provide hunting and wildlife viewing opportunities. In addition, the Utah Cooperative Wildlife Management Association manages 14 hunting units in the region. Emery County, the Church of Jesus Christ of Latter-Day Saints, and a private company operate three campgrounds within the region. Brief descriptions of dispersed and developed recreation opportunities by BLM FO and national forest are included in **Tables 3.13-8** and **3.13-9**. **Table 3.13-10** identifies scenic byways and BLM backways within the Region II analysis area. **Table 3.13-11** identifies all

federally managed special recreation management areas within the Region II analysis area, and **Table 3.13-12** identifies all state and locally managed recreation areas within the Region II analysis area. **Figure 3.13-2** identifies all federally managed recreation areas within the Region II analysis area. **Figure 3.13-3** identifies all state and locally managed recreation areas within the Region II analysis area.

Table 3.13-8 BLM-Managed Recreation Opportunities within Region II Analysis Area

Managing Entity	Key Recreation Activities within Analysis Area
White River FO, Colorado	1.5 million acres of BLM-managed public lands. Recreation activities available in the analysis area include fishing and boating on the White River, and at Kinney Reservoir, as well as big game and mountain lion hunting, rock crawling, scenic driving, cultural tourism, and OHV use.
Grand Junction FO, Colorado	1,280,000 acres of BLM-managed public lands. Recreation activities in the north desert area include motorized uses, including an open OHV use area, hunting, and recreational shooting. Within the Book Cliff area, recreation activities include wild horse viewing, hiking, and horseback riding.
Moab FO, Utah	1.8 million acres of BLM-managed public lands, which are a destination recreation area with two million annual site visits. Recreation activities support hundreds of local jobs and the bulk of the local business community. Recreation opportunities include mountain biking; dirt bike, OHV and jeep use; rock climbing; river rafting; casual sightseeing; and hiking. The FO experiences a high number of seasonal visitors and an intense demand for recreational activities. Busy seasons include both spring and fall, with spring bringing the most visitors to the area. Summer visitation is mainly associated with touring the nearby National Parks and with river-related activities.
Vernal FO, Utah	1,697,039 acres of BLM-managed public lands. Recreation opportunities within the FO area include bird watching, camping, fishing, hiking, river running on the Green River, hunting, mountain biking, recreational driving, OHV use, and historical tourism. The analysis area contains a portion of the Dinosaur Diamond Prehistoric Byway.
Price FO, Utah	2,479,000 acres of BLM-managed public lands. Recreation activities include camping, hunting, fishing, hiking, horseback riding, rock climbing, mountain biking, caving, river running, wildlife viewing, visiting historic sites, sailing, OHV use, and fishing and boating on the Green River, Price River, and San Rafael River. Historical tourism is available at dinosaur quarries and provides examples of prehistoric Fremont Culture. Key recreational areas include the San Rafael Swell, which is 2,000 square miles of public land known for its scenic sandstone formations, deep canyons, desert streams, and expansive panoramas. The analysis area contains a portion of the Energy Loop: Huntington/Eccles Canyons Scenic Byway, the Wedge Overlook/Buckhorn Drive Scenic Backway, and the Nine Mile Canyon Scenic Backway.
Richfield FO, Utah	2.1 million acres of BLM-managed public lands. Recreation activities include bird watching, camping, hiking, OHV activities, horseback riding, whitewater boating, and recreational driving. Recreational opportunities are generally dispersed and without constructed facilities.
Salt Lake FO, Utah	2 million acres of BLM-managed public lands. Recreation opportunities in the analysis area include camping, scenic backcountry driving, OHV use, hiking, horseback riding, hunting, mountain biking, rock climbing, wilderness backpacking, wildlife viewing, nature photography, rock hounding, and geocaching.
Fillmore FO, Utah	4.7 million acres of BLM-managed public lands located on the eastern edge of the Basin and Range Geographic Province. Portions of the FO are in both Region II and Region III. Dispersed recreation opportunities within the Region II portions of the FO include hunting, fishing, hiking, round hounding, and OHV use, including 60,000 acres of sand dune riding in the Little Sahara Recreation Area.

Sources: BLM 2012d,e,f,g,h,i,j,k; 2008b,c,d,e; 1997b; 1990; 1987a,b,c; Emery County 2012.

Table 3.13-9 Forest Service-Managed Recreation Opportunities within Region II Analysis Area

National Forest	Key Recreation Activities within Analysis Area																													
<p>Ashley National Forest</p>	<p>1.4 million acres of USFS-managed public lands. Recreation opportunities within the analysis area are dispersed and include hiking, camping, OHV use, hunting, fishing, and wildlife viewing. Recreation activities mostly occur along the Sowers Canyon Road (NFSR 10152) at the forks of drainages to the canyon. The upper areas of the IRA are used very little due to steep terrain and limited access. The analysis area includes the Indian Canyon Scenic Byway and portions of the Reservation Ridge Scenic Backway. The analysis area includes portions of the Duchesne/Roosevelt Ranger District and does not contain any developed recreations sites. The Avintaquin Campground is located just outside of the analysis area.</p> <p>Considered as a whole, the Ashley National Forest contains the following acreage by ROS class:</p> <table border="1"> <tr><td>Urban</td><td>N/A</td><td>0%</td></tr> <tr><td>Rural</td><td>N/A</td><td>0%</td></tr> <tr><td>Roaded Modified</td><td>N/A</td><td>0%</td></tr> <tr><td>Roaded Natural</td><td>454,465 acres</td><td>32%</td></tr> <tr><td>Semi-primitive Motorized</td><td>280,820 acres</td><td>20%</td></tr> <tr><td>Semi-primitive Non-motorized</td><td>372,415 acres</td><td>26%</td></tr> <tr><td>Primitive</td><td>300,040 acres</td><td>21%</td></tr> <tr><td>Non-inventoried, unknown, or private</td><td>3,379 acres</td><td><1%</td></tr> <tr><td>TOTAL</td><td>1,407,743 acres</td><td>100%</td></tr> </table> <p>The analysis area includes acreage within roaded natural, semi-primitive motorized, and semi-primitive non-motorized ROS classes.</p>			Urban	N/A	0%	Rural	N/A	0%	Roaded Modified	N/A	0%	Roaded Natural	454,465 acres	32%	Semi-primitive Motorized	280,820 acres	20%	Semi-primitive Non-motorized	372,415 acres	26%	Primitive	300,040 acres	21%	Non-inventoried, unknown, or private	3,379 acres	<1%	TOTAL	1,407,743 acres	100%
Urban	N/A	0%																												
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Non-inventoried, unknown, or private	3,379 acres	<1%																												
TOTAL	1,407,743 acres	100%																												
<p>Fishlake National Forest</p>	<p>1.8 million acres of USFS-managed public lands. Analysis area includes portions of the Richfield Ranger District and Fillmore Ranger District. Recreation opportunities within the analysis area include fishing, hunting, camping, hiking, horseback riding, prospecting, rock hounding, OHV use, and snowmobiling. Key OHV areas include the Great Western Trail /Paiute ATV Trail, Gooseberry ATV Trail, and Gooseberry Fishlake Trail. The Maple Grove picnic area and campground are located just outside of the analysis area. The analysis area includes portions of the Gooseberry/Fremont Road Scenic Backway.</p> <p>Considered as a whole, the Fishlake National Forest contains the following acreage by ROS class:</p> <table border="1"> <tr><td>Urban</td><td>N/A</td><td>0%</td></tr> <tr><td>Rural</td><td>10,838 acres</td><td>1%</td></tr> <tr><td>Roaded Modified</td><td>N/A</td><td>0%</td></tr> <tr><td>Roaded Natural</td><td>523,803 acres</td><td>29%</td></tr> <tr><td>Semi-primitive Motorized</td><td>1,055,681 acres</td><td>58%</td></tr> <tr><td>Semi-primitive Non-motorized</td><td>195,979 acres</td><td>11%</td></tr> <tr><td>Primitive</td><td>N/A</td><td>0%</td></tr> <tr><td>Non-inventoried, unknown, or private</td><td>32,231 acres</td><td>2%</td></tr> <tr><td>TOTAL</td><td>1,818,532 acres</td><td>100%</td></tr> </table> <p>The analysis area includes acreage within roaded natural, semi-primitive motorized, and semi-primitive non-motorized ROS classes.</p>			Urban	N/A	0%	Rural	10,838 acres	1%	Roaded Modified	N/A	0%	Roaded Natural	523,803 acres	29%	Semi-primitive Motorized	1,055,681 acres	58%	Semi-primitive Non-motorized	195,979 acres	11%	Primitive	N/A	0%	Non-inventoried, unknown, or private	32,231 acres	2%	TOTAL	1,818,532 acres	100%
Urban	N/A	0%																												
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Primitive	N/A	0%																												
Non-inventoried, unknown, or private	32,231 acres	2%																												
TOTAL	1,818,532 acres	100%																												
<p>Manti-La Sal National Forest</p>	<p>1.4 million acres of USFS-managed public lands. The analysis area includes portions of the Sanpete Ranger District and Ferron-Price Ranger District. Recreation activities include hunting, fishing, mountain biking, hiking, horseback riding, snowmobiling, camping, scenic driving, and OHV use. Key OHV areas include the Arapeen ATV trail system, which includes over 350 miles of ATV and OHV roads, and the Great Western Trail. Scenic driving opportunities in the analysis area include the Skyline Drive Scenic Backway and Energy Loop/Huntington-Eccles Canyons Scenic Byway. Developed facilities within the analysis area include the Indian Creek Group Campground, Potter's Pond Campground, North Skyline Winter Staging Area, Gooseberry Campground, Flat Canyon Campground, Boulger Reservoir, Wasatch Academy (operated through special use permit), and Electric Lake Reservoir. Beaver Dam Reservoir, Gooseberry Reservoir area, and the Fairview Lakes also are located just outside the analysis area.</p> <p>Considered as a whole, the Manti-La Sal National Forest contains the following acreage by ROS class:</p> <table border="1"> <tr><td>Urban</td><td>N/A</td><td>0%</td></tr> <tr><td>Rural</td><td>809 acres</td><td>0%</td></tr> <tr><td>Roaded Modified</td><td>N/A</td><td>0%</td></tr> <tr><td>Roaded Natural</td><td>502,186 acres</td><td>36%</td></tr> <tr><td>Semi-primitive Motorized</td><td>705,230 acres</td><td>50%</td></tr> <tr><td>Semi-primitive Non-motorized</td><td>77,626 acres</td><td>5%</td></tr> <tr><td>Primitive</td><td>49,449 acres</td><td>3%</td></tr> <tr><td>Non-inventoried, unknown, or private</td><td>79,182 acres</td><td>6%</td></tr> <tr><td>TOTAL</td><td>1,414,482 acres</td><td>100%</td></tr> </table> <p>The analysis area includes acreage within rural, roaded natural, semi-primitive motorized, and semi-primitive non-motorized ROS classes.</p>			Urban	N/A	0%	Rural	809 acres	0%	Roaded Modified	N/A	0%	Roaded Natural	502,186 acres	36%	Semi-primitive Motorized	705,230 acres	50%	Semi-primitive Non-motorized	77,626 acres	5%	Primitive	49,449 acres	3%	Non-inventoried, unknown, or private	79,182 acres	6%	TOTAL	1,414,482 acres	100%
Urban	N/A	0%																												
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Non-inventoried, unknown, or private	79,182 acres	6%																												
TOTAL	1,414,482 acres	100%																												

Table 3.13-9 Forest Service-Managed Recreation Opportunities within Region II Analysis Area

National Forest	Key Recreation Activities within Analysis Area		
Uinta National Forest*	Approximately 980,000 acres of USFS-managed public lands (not including the Wasatch and Cache national forests). The analysis area includes portions of the Spanish Fork Ranger District and Heber Ranger District. Recreation activities include OHV use, mountain biking, scenic driving, hiking, and horseback riding. Key recreation areas within the analysis area include Strawberry Reservoir, Strawberry River Day Use Area (used to access the Strawberry River WMA, a designated Blue Ribbon fishery), Aspen Grove Campground and Reservoir Marina, portions of the Strawberry OHV Trail System and Sheep Creek Snowmobiling area, several trails (Willow Creek, Teat Mountain, and Long Hollow), and the Great Western Trail. The analysis area includes portions of the White River/Strawberry Road Scenic Backway, the Nebo Loop National Scenic Byway, and the Reservation Ridge Scenic Backway.		
	Considered as a whole, the Uinta National Forest contains the following acreage by ROS class:		
	Urban	N/A	0%
	Rural	1,655 acres	<1%
	Roaded Modified	85,222 acres	9%
	Roaded Natural	274,406 acres	28%
	Semi-primitive Motorized	354,817 acres	36%
	Semi-primitive Non-motorized	122,676 acres	12%
	Primitive	58,687 acres	6%
	Non-inventoried, unknown, or private	86,345 acres	9%
TOTAL	983,808 acres	100%	
The analysis area includes acreage within rural, roaded modified, roaded natural, semi-primitive motorized, semi-primitive non-motorized and primitive ROS classes.			

* Only recreation resources within the Uinta National Forest, as identified in the Uinta National Forest LRMP, are within the analysis area. Therefore, all subsequent references to the Uinta-Wasatch-Cache National Forest will be only to the Uinta National Forest, which may differ from other resource sections.

Sources: Emery County 2012; USFS 2013, 2012a,b,c,d,e, 2003, 1986a,b,c.

Table 3.13-10 Scenic Byways and BLM Backways within Region II Analysis Area

Name	Length/Designation	Description
Dinosaur Diamond Prehistoric Byway	480-mile National Scenic Byway within western Colorado and eastern Utah	The route passes by numerous sites where dinosaur bones and tracks are visible in the ground. There are many museums along the route that provide opportunities to see and learn about dinosaurs.
The Energy Loop/Huntington-Eccles Canyons Scenic Byway	83-mile National/Utah/National Forest Scenic Byway between Huntington, Fairview, and Colton primarily through the Manti-La Sal National Forest	Passes by historical industrial development resources including coal mining operations, historic mining towns, and coal-fired power plants. Nearby Sanpete Valley contains some of the best-preserved Mormon Pioneer settlements in existence.
Indian Canyon Scenic Byway	47-mile National/Utah State Scenic Byway crossing the Ashley National Forest between Helper and Duchesne	Passes by a unique display of rock formations and vegetation types, from pinyon and juniper to aspen and Douglas fir. Elk and deer are often seen along the route and the contrasts of autumn foliage are particularly beautiful. From the summit, the road follows Indian Canyon through desert terrain bordering Indian Creek. Offers access to recreation areas within the Ashley National Forest. This route is a portion of the Dinosaur Diamond Prehistoric Highway.
Reservation Ridge Scenic Backway	45-mile Utah/National Forest Backway between Soldier Summit on Highway 6 to U.S. 191	The route roughly parallels the Right Fork of the White River at first, as it climbs up to 8,900 feet, offering dramatic views of Strawberry Reservoir, then curving south through aspen and pine stands perched on top of the plateau, where openings provide more views of rugged cliffs and steep canyons.
Gooseberry/Fremont Road Scenic Backway	40-mile Utah Scenic Backway between Fremont, Utah, and Salina, Utah	Route travels through the Fishlake National Forest through mountain meadows cut by streams, offering recreation opportunities at Johnson Valley Reservoir, Lost Creek Reservoir, Rex Creek Reservoir, Sevenmile Creek, and the Gooseberry Ranger Station.
Wedge Overlook/Buckhorn Drive Scenic Backway	Utah Scenic Backway; 20-mile and 25 mile segments located northeast of Castle Dale, along the San Rafael River	Vantage points along the rim of the San Rafael Swell provide views down canyon after canyon. Wedge Overlook offers a view down the "Little Grand Canyon," where the San Rafael River winds 1,200 feet below. Buckhorn Draw Road slowly descends through a narrow sandstone canyon, intersecting the river at points, and then reaching the interstate through open rangeland.

Table 3.13-10 Scenic Byways and BLM Backways within Region II Analysis Area

Name	Length/Designation	Description
Nine Mile Canyon Scenic Backway	78-mile National Backcountry Byway/Utah Scenic Backway between Price, Utah, and Myton, Utah	Passes through a major representative area of the prehistoric Fremont Culture. The canyon houses a myriad of rock panels along the main road and in side canyons. Petroglyphs (carvings on rock faces) and pictographs (paintings on rock faces) depict animals, hunting scenes, and godlike figures. Cliff granaries on high canyon ledges may be spotted by careful observers. Vegetation and terrain along this backway vary from high desert species to aspen groves. The buff colored cliffs of the canyon are highlighted by balanced rocks and window arches. Deer and elk are seen frequently. A number of side canyons branch off Nine Mile Canyon itself; rock art sites are frequently located near those junctions.
Skyline Drive Scenic Backway	86-mile Utah Scenic Backway between the Highway 6 Tucker rest stop along I-70 through the Manti-La Sal National Forest	Mountain road that follows the spine of the Wasatch Plateau climbing to an elevation of 11,000 feet and offering panoramic views of Sanpete Valley, mile-deep canyons, lake-filled basins and alpine meadows and forests. The route is accessible July through September. High clearance 4-wheel drive vehicles are required. The Skyline Drive corridor contains portions of the Great Western Trail.
White River/Strawberry Road Scenic Backway	28-mile Utah Scenic Backway between Soldier Summit on Highway 6 and Strawberry Reservoir	The road travels along the Left Fork of the White River, ascending 1,100 feet through the open fields of sage and grass, with stands of pine and aspen at higher elevations. At the terminus of the road is Strawberry Reservoir and Strawberry Bay, which are both fully developed for boating, fishing, camping, and picnicking.
Nebo Loop Scenic Byway	37-mile National Scenic Byway in Utah crossing the Uinta National Forest between the cities of Nephi and Payson	Route provides views of the Wasatch Range and 11,929-foot Mt. Nebo. Flat bottomlands, high-alpine conifers, red rock formations, gray sandstone cliffs and salt flats. Sites visible from the route include Devil's Kitchen, Walk Flat, and Mt. Nebo Wilderness.

Sources: Dinosaur Diamond 2012; Gorp.com 2012; Public Land Information Center 2012; Trails.com 2012; USDOT 2012, Utah.com 2012.

Table 3.13-11 Federally Managed Special Recreation Management Areas within Region II Analysis Area

Managing Entity	Recreation Site/Area ¹	Description
BLM Moab FO, Utah	Utah Rims SRMA	15,424 acres. Managed as a Community SRMA to provide sustainable opportunities for motorized, mechanized, and non-motorized route-related recreation while protecting and maintaining other resource values. Includes the Bitter Creek campsite.
	Labyrinth Rims/Gemini Bridges SRMA	300,650 acres. Managed as a Destination SRMA to provide opportunities for boating, camping, mountain biking, OHV and jeep use, and scenic driving.
BLM Vernal FO, Utah	Fantasy Canyon SRMA	69 acres. Provides opportunities for self-guided touring and hiking around unique geological formations.
	Nine Mile Canyon SRMA	44,168 acres. Managed to protect high-value cultural values and scenic quality and provide cultural tourism opportunities within the canyon, which has the greatest abundance of well-preserved rock art in the west and is often referred to as the "world's longest art gallery."
BLM Price FO, Utah	San Rafael Swell SRMA	938,500 acres. Provides opportunities for sightseeing, OHV use, mountain biking, horseback riding, hiking, wildlife viewing, visiting cultural sites, camping, picnicking, photography, rock hounding, snowmobiling, and hunting.
	Labyrinth Canyon SRMA	34,240 acres. Managed to provide flatwater river recreation, camping, hiking, and rock art viewing opportunities.
BLM Fillmore FO, Utah	Little Sahara RA	60,000 acres. Area provides sand dune OHV riding and camping opportunities. The entire RA is open to OHV use except for campgrounds, where OHV use is limited to designated roads, and within the 9,604-acre Rockwell Natural Area, which is closed to OHVs.

¹ Within each BLM FO, other specially designated areas, such as WSAs, WSRs, wilderness areas, or ACECs have recreational use, but are not designated specifically for recreational use. These other areas are analyzed in Section 3.15, Special Designations.

Sources: BLM 2012d,e,f,g,h,i,j,k; 2008b,c,d,e; 1997b; 1990; 1987a,b,c.

Table 3.13-12 State Managed and Locally Managed Recreation Areas within Region II Analysis Area

Managing Entity	Management Area	Description
Utah Division of State Parks and Recreation	Starvation State Park and Reservoir	State Park includes the reservoir and developed campground area. Boating, water skiing, wake boarding, and other sports are popular at Starvation Reservoir. The reservoir offers sandy beaches and fishing for walleye, trout, and perch.
UDWR	Gordon Creek WMA	22,690 acres (11,100 DWR, 6,900 BLM, 3,000 SITLA, and 1,690 private). Developed to assure protection of critical big game winter range. Reversionary clause on some parcels if land use changed from "big game management."
	North Nebo WMA—Fountain Green Unit	Three subunits: Fountain Green (365 acres), Moroni Conservation Easement (1,110 acres), and Big Hollow (850 acres). All units protect big game winter range; the Fountain Green unit is managed to reduce crop depredation on adjacent farms and improve upland game habitat. The property is closed to public access in winter and spring to protect wintering wildlife; the Fountain Green unit farm road is closed all year. Already crossed by power line(s). The Moroni Conservation Easement was purchased under three transactions, so there are three parts to the Conservation Agreement. The July 1997 agreement (#2-5249) states in Section B.2. Development Rights: Grantors convey to Grantee the rights to all . . . industrial, commercial or any other forms of development that could be construed as inconsistent with the wildlife-habitat protection purpose of this Deed of Conservation Easement. Also in D.2. Easements and ROW: Without prior written approval of Grantee (UDWR), no rights-of-way or easements may be issued on the above-described property. In Parts II and III, section B.2. the Grantor conveyed the same development rights to the Grantee and the same terms and conditions for easements and ROWs as in the 1997 agreement.
	Currant Creek/Wildcat WMA	22,857 acres. Acquired as mitigation for wildlife habitat lost during construction of Central Utah Project (CUP) water developments. The property also provides angler access and aquatic/terrestrial habitat protection. Vehicle use during winter is not encouraged; motorized vehicles not allowed off remaining roads.
	Northwest Manti WMA—Dairy Fork Unit	4,975 acres. Unit acquired to preserve and enhance deer and elk winter range. Closed to public access in winter and spring to protect wintering wildlife. The WMA contains existing power lines.
	Northwest Manti WMA—Birdseye/Lake Fork Unit	3,750 acres. Unit acquired to preserve big game winter range. Closed to public access in winter and spring to protect wintering wildlife. The WMA contains existing power lines.
	Nephi WMA—Nephi Unit	152 acres. Unit supports riparian habitat and patches of emergent marsh along West Creek. Upland game hunting opportunities are available. Vehicles are not permitted on the property.
	Fillmore WMA	Several separate parcels covering 13,100 acres. Area managed to provide protection for big game winter range. All lands are fenced; vehicles are restricted to established roads. Closed to public access in winter and spring to protect wintering wildlife.
	Indian Canyon WMA – Cottonwood Canyon Unit	7,746 acres. Area provides opportunities to view elk, antelope, and small numbers of deer. Cottontail rabbit hunting is a popular wintertime activity in the Cottonwood Canyon area. Some roads are closed; motorized vehicles are not allowed off remaining roads. Vehicle use in winter is not encouraged.
	Tabby Mountain WMA—Rabbit Gulch Unit	Two parcels of 8,247 and 1,160 acres. Unit acts as critical range for big game in winter. Closed to public access in winter and spring to protect wintering wildlife. Vehicle use is confined to established roads.
	Tabby Mountain WMA—Tabby Mountain Unit	42,025 acres. Unit acts as critical range for big game in winter. Closed to public access in winter and spring to protect wintering wildlife. Vehicle use is confined to established roads. This WMA is adjoined by a conservation easement (Sand Wash/Sink Draw) that prohibits overhead transmission lines.
North Nebo WMA—Spencer Fork Unit	6,500 acres. Unit acquired to protect big game winter range. Closed to all access in late winter and spring to protect wintering wildlife. Vehicle use is confined to established roads. Contains existing power line(s). Section B.2.a. of the 1999 Deed of Conservation Agreement (DCA) (#73398) states that the "Grantor conveys . . . industrial, commercial and any other forms of development that would be construed as inconsistent with the conservation values and purpose of the Easement . . ." Section C.3. of the DCA states that: "Without prior written approval of Grantee, no rights-of-way or easement may be issued on the above described property."	
South Nebo WMA—Triangle Ranch Unit	4,918 acres. Unit managed to protect big game winter range. Closed to public access in winter and spring to protect wintering wildlife. Already crossed by power line(s). Reversionary clause on some parcels if land use changed from "big game management."	

Table 3.13-12 State Managed and Locally Managed Recreation Areas within Region II Analysis Area

Managing Entity	Management Area	Description
UDWR (Continued)	Strawberry River WMA	3,070 acres. Area is mitigation for the CUP and provides unique fishing and wildlife viewing opportunities. Area contains big game and predator habitat. Vehicles are restricted to the main road and immediate parking areas. In accordance with the Mitigation Commission's and Bureau of Reclamation's management plan for the Strawberry River WMA, the middle Strawberry River from Soldier Creek Dam to about 1 mile upstream of Strawberry Pinnacles is one of the few remaining undeveloped riparian ecosystems in the region. The primary management objectives on this section of the middle Strawberry River are to provide the highest level of protection to the biological productivity and diversity of the riparian and aquatic ecosystem and to provide angling opportunities.
	Emery Farm Castle Dale WMA	80-acre farm comprised of salt-grass pasture and Russian olive trees. The property was obtained when the Emery County power plants were built to offer upland game habitat protection.
	Northwest Manti WMA–Hilltop Conservation Easement	1,074 acres. Unit includes juniper/pinyon woodlands interspersed with openings dominated by oakbrush or big sagebrush. The unit was acquired to protect and enhance high-value mule deer winter range. Closed to public access in winter and spring to protect wintering wildlife. Deed of Conservation Easement, Section V-Prohibited Uses and Practices, G. Construction (grantors will not construct any structures or facilities on the property. . .); H. Roads (grantors will not construct any new roads except as specifically provided for in Section III. . .), L. Utilities (additional utility structures and systems are prohibited, unless such structures or systems are necessary for permitted ranching operations or residential use. . .)
	Northwest Manti WMA–Lasson Draw Unit	2,225 acres. Unit acquired to protect big game winter range. Comprised of a sagebrush/grass community in the valley and a pinyon juniper woodland/oakbrush community on the steeper slopes. Big game hunting and deer and elk viewing opportunities are provided. Property is closed to all access in late winter and spring to protect wintering wildlife. Motor vehicle use restrictions are enforced on the unit. Already crossed by buried pipeline; Questar pipeline maintenance road is not a public access road.
	Northwest Manti WMA–Starvation Unit	5,770 acres. Unit provides big game hunting opportunities and is a popular use of the property. Starvation Creek supports a limited fishery that receives a fair amount of fishing pressure. The unit was acquired to protect and enhance deer and elk winter range. The property is closed to public access in winter and spring to protect wintering wildlife. Already crossed by power line(s).
Private/UDWR	CWMUs	Antelope Creek (31,853 acres), Bear Mountain (8,037 acres), Castle Valley Outdoors (10,558 acres), Crab Creek (10,409 acres), Double R Ranch (6,390 acres), Emma Park (22,471 acres), Hiawatha (15,355 acres), Johnson Mountain Ranch (13,330 acres), Minnie Maud Ridge (16,030 acres), Oak Ranch (4,670 acres), Old Woman Plateau (8,165 acres), Round Valley (7,976 acres), Scofield Canyons (15,658 acres), Soldier Summit (26,127 acres).
Emery County	Bear Creek Campground	Located 8 miles up Huntington Canyon, the campground provides 29 campsites and 2 pavilions.
Private	Big Mountain Campground	Located 5 miles east of Nephi, Utah, the campground provides RV camping, fishing, and camping amenities at the base of the Nebo Loop Scenic Byway.
Ouray Park Irrigation Company	Brough Reservoir	Blue ribbon trophy trout fishing.
Uintah and Ouray Indian Reservation	Bottle Hollow Reservoir	Used for fishing.
Western Rio Blanco Metropolitan Recreation and Park District	Cedar Ridges Golf Course	Par 36, 9 hole public golf course near Rangely, Colorado.
Church of Jesus Christ of Latter Day Saints	Camp Timberlane	The camp consists of 720 acres of forest land at the top of Argyle Canyon. The camp consists of 4 major campgrounds, a summer home for the Camp Manager, a smaller campground, a family size "A" frame and 2 individual campsites. The camp is generally available from early June to Labor Day. Several hiking trails also are available.

Source: Big Mountain Campground 2013; Camptimberland.org 2013a,b; Emery County 2013; UDWR 2002; Western Rio Blanco Metropolitan Recreation and Park District 2013.

3.13.5.3 Region III

The BLM is the main federal agency providing recreation opportunities in this region. Five BLM Field Offices provide recreation areas within the analysis area that contain few to no developed facilities. Despite the lack of facilities, there are many recreation opportunities available on lands within the region, including hiking, camping, rock climbing, horseback riding, hunting, OHV use, scenic driving, fishing, mountain biking, and competitive OHV events. In addition, there are recreation opportunities available on NFS lands on the Dixie National Forest and USFWS lands on the Desert NWR; the NWR is discussed in Section 3.15, Special Designation Areas. There is one private recreation site within the region, Newcastle Reservoir. A brief description of dispersed recreation opportunities by BLM FO and national forest within the Region III analysis area is included in **Table 3.13-13**. **Table 3.13-14** identifies Scenic Byways and Backways within the Region III analysis area. **Table 3.13-15** identifies all federally managed special recreation management areas and **Table 3.13-16** identifies all state and locally managed recreation areas within the Region III analysis area. **Figure 3.13-4** identifies all recreation areas within the Region III analysis area.

Table 3.13-13 Forest Service-Managed Recreation Opportunities within Region III Analysis Area

Managing Entity	Key Dispersed Recreation Activities within Analysis Area
Fillmore FO, Utah	4.7 million acres of BLM-managed public lands located on the eastern edge of the Basin and Range Geographic Province. Portions of the FO are in both Region II and Region III. Dispersed recreation opportunities within the Region III portions of the FO include hunting, fishing, hiking, rock hounding, and OHV use. The FO also contains several state-managed WMAs. Cultural tourism sites include the Dominguez-Escalante trail. The 129-mile Cricket Mountains ATV loop trail system is located within the analysis area.
Cedar City FO, Utah	2.2 million acres of BLM-managed public lands. The FO area is characterized by vast acres of sagebrush and pinyon-juniper clad foothills, home to greater sage grouse, the Utah prairie dog, the Southwest Desert Elk Herd, and the Sulphur Wild Horse Herd - a breed of horse noted by its distinct markings and Spanish genetics. Dispersed recreation opportunities within the FO include primitive camping, hiking, horseback riding, OHV use, bird watching, rock hounding, mountain biking, nature study, and photography. Cultural tourism sites include the Dominguez-Escalante trail. The analysis area also contains portions of the American Discovery Trail, a system of 6,800 miles of recreational trails and roads that collectively form a coast-to-coast hiking and biking trail across the U.S.
St George FO, Utah	635,000 acres of BLM-managed public lands. Located at the merge point of the Mojave Desert, the Great Basin, and the Colorado Plateau ecosystem, these public lands are a rich mix of geologic formations, biological habitats, scenic landscapes, and cultural history. Recreation activities range from casual sightseeing and hiking to more physically demanding activities such as mountain biking, ATV riding, rock climbing, horseback riding, and canyoneering. Other activities include geocaching and cultural tourism (including the Dominguez-Escalante and Old Spanish trails).
Caliente FO, Nevada	4.2 million acres of BLM-managed public lands. Much of the FO area is representative of the Great Basin with large expanses of rolling sagebrush and grasses. Recreation opportunities include hunting (pronghorn, mule deer, elk), hiking, biking, horseback riding, camping, OHV use, and rock hounding. The analysis area includes portions of the Silver State OHV trail, a 260-mile congressionally designated OHV trail and BLM Backcountry Byway; there are several trailheads in and near the town of Caliente. The Chief Mountain area is frequently used for OHV riding and includes three developed trailheads, 413 miles of roads, OHV routes and trails, including 39 miles of the Silver State Trail. The Oak Springs Summit Trilobite Area is located 12 miles west of Caliente. Areas of the FO within the analysis area include portions of the Chief Mountain and North Delamar SRMAs. The analysis area includes portions of the Highway 93 Scenic Byway and Rainbow Canyon Backcountry Byway.
Las Vegas FO, Nevada	2.4 million acres of BLM-managed public lands, portions of which are included in both Region III and Region IV. Dispersed recreation opportunities within the Region III analysis area include hunting, camping, and OHV use. The FO permits a number of commercial and competitive high speed desert events. Other recreation opportunities within the analysis area include rock climbing in Arrow Canyon and recreational driving along the Bitter Springs Backcountry Byway.

Table 3.13-13 Forest Service-Managed Recreation Opportunities within Region III Analysis Area

Managing Entity	Key Dispersed Recreation Activities within Analysis Area																														
Dixie National Forest	<p>1.7 million acres of USFS-managed public lands. The analysis area includes portions of the Pine Valley Ranger District. Recreational opportunities are highly diversified and include camping, hunting, viewing scenery, hiking, horseback riding, and fishing in both primitive settings and developed areas. Vehicle-based activities include camping, picnicking, hunting, gathering forest products, viewing interpretive exhibits, viewing scenery, snowmobiling, and biking. Developed recreation opportunities within the analysis area include the Mountain Meadows Massacre Site and the Ox Valley ATV Trail. Considered as a whole, the Dixie National Forest contains the following acreage by ROS class:</p> <table border="1"> <thead> <tr> <th>ROS Class</th> <th>Acreage</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Urban</td> <td>N/A</td> <td>0%</td> </tr> <tr> <td>Rural</td> <td>N/A</td> <td>0%</td> </tr> <tr> <td>Roaded Modified</td> <td>N/A</td> <td>0%</td> </tr> <tr> <td>Roaded Natural</td> <td>54,848 acres</td> <td>3%</td> </tr> <tr> <td>Semi-primitive Motorized</td> <td>115,513 acres</td> <td>7%</td> </tr> <tr> <td>Semi-primitive Non-motorized</td> <td>225,221 acres</td> <td>13%</td> </tr> <tr> <td>Primitive</td> <td>67,292 acres</td> <td>4%</td> </tr> <tr> <td>Non-inventoried, unknown, or private</td> <td>1,248,423 acres</td> <td>73%</td> </tr> <tr> <td>TOTAL</td> <td>1,711,297 acres</td> <td>100%</td> </tr> </tbody> </table> <p>The analysis area includes acreage within roaded natural, semi-primitive motorized, and semi-primitive non-motorized ROS classes.</p>	ROS Class	Acreage	Percentage	Urban	N/A	0%	Rural	N/A	0%	Roaded Modified	N/A	0%	Roaded Natural	54,848 acres	3%	Semi-primitive Motorized	115,513 acres	7%	Semi-primitive Non-motorized	225,221 acres	13%	Primitive	67,292 acres	4%	Non-inventoried, unknown, or private	1,248,423 acres	73%	TOTAL	1,711,297 acres	100%
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Sources: BLM 2012k,l,m,n,o; 2008f; 1998; 1997c; 1987a,b; 1986; Great Basin Institute 2012; Millard County 2012a,b; USFS 2012f, 1986c.

Table 3.13-14 Scenic Byways and BLM Backways within Region III Analysis Area

Name	Length/Designation	Description
Highway 93 Scenic Byway	148.8-mile Nevada State Scenic Byway between the town of Crystal and the Humboldt-Toiyabe National Forest on Highway 93 in eastern Nevada	Route provides high desert scenery with views of Mount Gafton, Dutch John Peak, and the Wilson Creek Range. Roadway passes through Pioche, an early 20 th century mining camp filled with historic buildings.
Rainbow Canyon Backcountry Byway	21-mile BLM Backcountry Byway	Route provides views of Rainbow Canyon, a deep canyon full of red rock and unique rock formations. The road closely follows the busy Union Pacific Railroad.
Bitter Springs Backcountry Byway	28-mile BLM Backcountry Byway	Scenic drive with many rock formations, like the Muddy Mountains, and colorful sandstone for sightseeing. Byway features include abandoned borax mines.
Silver State OHV Trail	260-mile BLM Backcountry Byway	OHV trail network offering access to the rugged, scenic, and remote deserts and mountains of eastern Nevada. The trail system can be accessed from Panaca, Pioche, and Caliente. There are five main trailheads to access the Silver State Trail; Patterson, Pahroc Wash, Stampede, Chief Mountain South, and Chief Mountain West.

Sources: BLM 2012n, 2008f, 1998, 1997c, 1987a,b, 1986; Exploring Nevada.com 2012; Great Basin Institute 2012; USDOT 2012.

Table 3.13-15 Federally Managed Special Recreation Management Areas within Region III Analysis Area

Managing Entity	Recreation Site/Area ¹	Description
Caliente FO, Nevada	Chief Mountain SRMA	111,181 acres. Recreation opportunities include rock hounding, trilobite collecting, camping, hunting, and both event-organized and casual OHV riding. The SRMA contains 413 miles of roads, OHV routes, and trails. The Chief Mountain SRMA is crossed by 38.7 miles of the Silver State Trail. Both the West and South Chief Mountain trailheads provide access to this trail. The SRMA contains two trilobite collection areas.

Table 3.13-15 Federally Managed Special Recreation Management Areas within Region III Analysis Area

Managing Entity	Recreation Site/Area ¹	Description
Caliente FO, Nevada (Continued)	North Delamar SRMA	202,890 acres. Managed for a broad spectrum of recreation opportunities to ensure a balance of recreation experiences. A wide range of activities occur within the SRMA including backcountry driving, hunting, OHV use, competitive racing, heritage tourism, and hiking.
Las Vegas FO, Nevada	Muddy Mountains SRMA	123,400 acres. Managed to provide integrated management of wildlife habitat, cultural resources, and recreational uses. 78,480 acres managed as a semi-primitive non-motorized area; 44,897 acres managed as a semi-primitive motorized area.
	Nellis Dunes SRMA	10,000 acres. Managed as an open area for intensive OHV and other recreation opportunities, including organized OHV events, casual OHV freeplay, picnicking, photography, and other non-OHV commercial and competitive permitted activities. Portions of this SRMA are within Region III and IV.

¹Within each BLM FO, other specially designated areas, such as WSAs, WSRs, wilderness areas, or ACECs have recreational use, but are not designated specifically for recreational use. These other areas are analyzed in Section 3.15, Special Designations.

Sources: BLM 2012k,l,m,n,o; 2008f; 1998; 1997c; 1987a,b; 1986.

Table 3.13-16 State and Locally Managed Recreation Areas within Region III Analysis Area

Managing Entity	Management Area	Description
Private/UDWR	CWMUs	Zane (9,779 acres)
Newcastle Irrigation Company	Newcastle Reservoir	The Newcastle Irrigation Company owns the reservoir and presently provides unrestricted public access to the shoreline for fishing.

Sources: UDEQ 2011.

3.13.5.4 Region IV

Recreation opportunities in this region are primarily provided by the BLM and NPS. Several BLM areas provide opportunities for scenic driving, OHV use, and trail use. NPS provides developed recreation opportunities at two campgrounds in the Lake Mead NRA, in addition to trail use opportunities on the River Mountains Loop Trail and on backcountry roads. Region IV also includes a county wetlands park, a city park renowned for its mountain biking trails, and a private golf course.

Currently, there are no National Scenic Byways or BLM-designated Scenic Byways or Backways within Region IV. The Nevada Commission on Tourism currently is facilitating the nomination of Lakeshore and Northshore Roads within Lake Mead NRA for State Scenic Byway status. The nomination is primarily honoring the scenic, cultural, and natural features found along these road corridors.

A brief description of recreation opportunities on federally managed lands is included in **Table 3.13-17**. **Table 3.13-18** identifies all federally managed special recreation management areas within the Region IV analysis area, and **Table 3.13-19** identifies all state, local, or privately managed recreation areas within the Region IV analysis area. **Figure 3.13-5** identifies all recreation areas within the Region IV analysis area.

Table 3.13-17 Federally Managed Recreation Opportunities within Region IV Analysis Area

Managing Entity	Key Recreation Activities within Analysis Area
Las Vegas FO, Nevada	2.4 million acres of BLM-managed lands, portions of which are included in both Region III and Region IV. Dispersed recreation opportunities within the Region IV analysis area include the River Mountains Loop Trail, a 32-mile loop trail circling the River Mountains and linking residential areas to local and regional parks, including Bootleg Canyon to the south and Lake Mead NRA to the east. Camping is dispersed outside of the Red Rock NCA and not allowed within Las Vegas Valley, which includes areas west of the Lake Mead NRA including the northern portion of Sloan Canyon NCA, Las Vegas Valley SRMA, Nellis Dunes SRMA, and the western portion of the Muddy Mountains wilderness area/SRMA. These same areas are generally closed to OHV use, with the exception of Nellis Dunes, which is a popular OHV open use area. The Eldorado Valley, Nelson Hills and Jean/Dry Lake areas are also popular OHV use areas.
NPS Lake Mead NRA	The NRA contains 1,482,476 acres of federal land and 28,212 acres of nonfederal land. Lake Mead NRA offers year-round recreational opportunities for boating, fishing, hiking, photography, picnicking and sightseeing. A portion of the Boulder Basin Zone of the NRA is within and adjacent to the analysis area. The majority of visitors to this zone are day users; overnight accommodations are limited. There are two developed areas: <ul style="list-style-type: none"> • Las Vegas Bay is the closest area to Las Vegas and therefore attracts a large number of day use visitors; includes camping and picnicking facilities. • Boulder Harbor/Beach is the largest and most heavily visited development in the recreation area; offers camping, picnicking, RV hookups, and boat launch and harbor areas. The area also contains several trails including a bluffs trail, wetlands trail, a historic railroad trail, and a portion of the River Mountains Loop Trail. The area also offers recreational driving opportunities along Lakeshore Drive.
BLM Sloan Canyon NCA	48,000 acres. Managed to conserve, protect, and enhance the cultural, archaeological, natural, wilderness, scientific, geological, historical, biological, wildlife, educational, and scenic resources of this area. The area features important archaeological sites, scenic vistas, important wildlife habitat, and opportunities for primitive recreation. The northern end of the NCA is designated as a roaded natural area and contains a system of hiking and biking trails. The southeast portion is managed for semi-primitive non-motorized recreation. The western portions contain the North McCullough wilderness areas and are managed for primitive recreation.

Sources: BLM 2012o,p, 2006, 1998; City of Henderson 2012; NPS 1987, 2012.

Table 3.13-18 Federally Managed Special Recreation Management Areas within Region IV Analysis Area

Managing Entity	Name	Description
Las Vegas FO, Nevada	Nelson/Eldorado SRMA	81,600 acres. Offers competitive OHV events in accordance with desert tortoise protection requirements, including up to nine speed events scheduled only between November 1 and February 28 if within critical tortoise habitat.
Las Vegas FO, Nevada	Sunrise Mountain SRMA	37,620 acres. Offers recreation opportunities in concert with sensitive plant, scenic, cultural, and geologic values of the concurrent ACEC. Recreation opportunities include non-speed motorized and mechanized activities on designated roads.
Las Vegas FO, Nevada	Las Vegas Valley SRMA	197,300 acres. Designated to facilitate the provision of open space areas, recreational trails, and parks necessary for valley residents in coordination with county and city governments.
Las Vegas FO, Nevada	Nellis Dunes SRMA	10,000 acres. Managed as an open area for intensive OHV and other recreation opportunities, including organized OHV events, casual OHV freerplay, picnicking, photography, and other non-OHV commercial and competitive permitted activities. Portions of this SRMA are within Region III and IV.

Sources: BLM 2012o, 1998.

Table 3.13-19 State- and Locally Managed Recreation Areas within Region IV Analysis Area

Managing Entity	Name	Description
Clark County	Clark County Wetlands Park	2,900 acre nature and wildlife habitat viewing area bordering both sides of the Las Vegas Wash between Frenchman Mountain and Lake Mead. The park features a 100-acre nature preserve area with an information center, concrete walking trails, and graveled secondary trails. The park offers hiking, equestrian, and mountain biking opportunities.
Boulder City Parks and Recreation Department	Bootleg Canyon	Contains miles of popular mountain bike trails of varying degrees of difficulty and a commercial zipline operation.
Private	Cascata Golf Course	Privately owned par-72 luxury golf course featuring lush fairways, lakes, and streams surrounded by canyons. Rated #1 in the country by Zagat Survey in 2008.

Sources: bootlegcanyon.net. 2012; Cascatagolf.com 2012; Clark County 2012; flightlinezbootlegcanyon.com 2012.

3.13.6 Impacts to Recreation

The NEPA scoping process revealed the public's concerns with impacts to recreation at specific locations, increases in traffic from construction, and the effects of noise and the "humming" sound from transmission lines on recreation users. Comments also were received related to the future use of access roads; comments were received that advocated for public use of access roads, as well as designing access roads to minimize unpermitted off-road vehicle use.

This section analyzes the impacts that construction, and operation, maintenance and decommissioning of the transmission line would have on recreational resources and opportunities, as well as recreational expectations and the likelihood for user satisfaction throughout the analysis area. *Recreational resources* are defined as the natural elements within the environment that provide the physical basis for recreation. *Recreational opportunities* are defined as the combination of the natural elements (e.g., scenery, vegetation, geology, land forms, weather) and human-controlled conditions (e.g., roads and trails, developed sites, facilities) that create the potential for recreation and may include dispersed or specially managed opportunities. *Recreational expectations* are those assumptions made by the user that, having prepared for the desired recreational experience and having entered the area of opportunity, he/she would have that expected experience (e.g., the natural sights and sounds of an undeveloped landscape while hiking or during a river rafting trip, a scenic drive through high quality scenery, or a hunting trip into areas with high quality wildlife habitat). It is important to note that achieving recreational expectations are not guaranteed regardless of the presence of the resource and the opportunity; unforeseen and/or changing conditions that are beyond the control of the managing entity or the user can influence and partially determine the user experience. *User satisfaction* can be defined as that subjective evaluation of the recreation activity in which the resource user recognizes that his/her recreational experiences meet or exceed his/her recreational expectations.

While recognizing that recreation resource users are individuals with uniquely personal expectations, goals, and levels of recreational satisfaction, it was assumed for the purposes of impact analysis that:

1. Recreation users within the analysis area could be classified into general user groups based on their primary recreation activity, each of which has its own set of recreational opportunities and expectations; and
2. Based on these opportunities and expectations, each group also has specific recreational conditions and criteria that increase the likelihood for having satisfying user experiences.

The following sections outline key recreation user groups that exist within the analysis area. Each user group description identifies the types of recreational opportunities and expectations associated with

each group, and in general, types of construction and operation impacts that would impact those opportunities and expectations.

3.13.6.1 Scenic Drivers

This group primarily would include users of passenger cars and recreational vehicles (RVs) driving for pleasure while enjoying scenic attractions. Recreationists that also could be included in this group are recreational aircraft users that enjoy scenic views from above. Recreational opportunities include scenic highways and byways and other areas where scenic integrity can be accessed by roads. The desired recreational experience for this user group generally relies upon paved access to scenic attractions (with the ability to access turnoffs and/or temporary parking) and developed campsites. During construction, activities that would result in high traffic volumes, crowded or closed parking areas or turnoffs, or construction activities and fugitive dust directly along the route would adversely affect this user group, as would noise and visual disturbances within developed campsites. During operations, impacts to the scenic attraction that can be viewed from the paved viewpoints, day use areas, or within developed campsites would adversely affect this user group.

3.13.6.2 Hunters and Wildlife Viewers

This group would include those using BLM and NFS lands, state-managed wildlife management areas, or conservation easement areas for hunting of a variety of wildlife species, though generally big game or upland game avian species. The desired recreational experience for this user group generally relies upon unimpeded access during hunting seasons to key hunting areas, dispersed camping areas, and a generally natural-appearing environment containing sufficient wildlife habitat to support the species. During construction, activities that would remove wildlife habitat, or would cause access road or area closures or noise and human activity affecting wildlife during hunting seasons would adversely affect this user group. During operations, impacts are expected to be lower for this user group, with the exception of noise and activities from transmission line maintenance. Facilities and human activities could be present if they do not interfere with access, degrade or remove habitat, impede wildlife movement or cause avoidance behaviors, or otherwise interfere with potential for hunting success; however, wildlife photographers would be impacted by the presence of human structures.

3.13.6.3 Motorized (Off-highway) Drivers

This group would include users of off-road motorcycles, dune buggies, all-terrain vehicles (ATVs), 4-wheel drive vehicles, and other OHVs. Recreation opportunities would include all designated OHV use areas and trails. The desired recreational experience for this user group generally relies upon a somewhat natural-appearing environment with non-paved surfaces ranging from graded dirt roads to challenging routes with some evidence of human sights, sounds, and disturbances to remote, natural-appearing environments. The presence of construction activity and some presence of human-constructed structures are acceptable; however, road or trail closures during either construction or operation would adversely affect this user group. If new roads or routes were left open for use by the general public, this generally would be positive for this group due to additional OHV access.

3.13.6.4 Mountain Bikers

The desired recreational experience for this user group generally relies upon a relatively natural or natural appearing environment in which evidence of human disturbances, restrictions, and controls is present but not appearing to dominate the environment. Recreation opportunities would include all roads and trails where mechanized travel is permitted. During construction, trail or trailhead facility closures and noise or dust/vehicle emissions would have adverse impacts on this group's recreational experience. Operations are assumed to have few adverse impacts to this group, as long as trails are not permanently closed.

3.13.6.5 Non-mechanized Users

This group would include hikers, backpackers, and equestrians. The desired recreational experience of this group generally relies upon dispersed recreation opportunities within a natural-appearing environment with little evidence of disturbance. Such areas would include national recreation or scenic trails as well as other hiking trails developed by the managing entity for day or extended use. During construction, closure to trails, trailhead facilities, or camping areas, and visual impacts and noise or dust/vehicle emissions would have adverse impacts on this group's recreational experience. During operations, visual impacts from the transmission line that cannot be mitigated would adversely affect this user group. In addition, visual impacts from the maintenance of transmission line roads and routes also would adversely affect this user group.

3.13.6.6 Recreational Boaters and Anglers

This user group includes primarily people who recreate on non-motorized boats such as canoes, kayaks, and rafts. Recreational opportunities in the analysis area primarily consist of floating on the Yampa and Green rivers. The needs of this group are similar to those of the non-mechanized user group. In general, the desired recreational experience for this user group relies upon a natural-appearing environment that shows little evidence of human disturbances within the river corridor, other than at the river access points and designated primitive campsites. During construction, closures to access points, noise, dust/vehicle emissions, and visual disturbances along the river corridor would have adverse impacts on this group's recreational experience. During operations, visual impacts to the river corridor's scenic quality would adversely affect this user group. The desired recreational experience for anglers would include many of these factors, but would rely more heavily on factors that lead to fishing success (i.e., access to key fishing areas, undisturbed waters, etc.), and less on undisturbed land vistas. Access point closures, noise or human activity along river corridors, or sedimentation affecting water quality or fish habitat would have adverse impacts on this group's recreational experience; therefore, impacts to this user group are expected to occur primarily during construction.

For each user group and within each Region, the analysis identifies the following:

- Impacts to resources that underlie recreational use (e.g., impacts to big game or big game habitat within WMAs or dispersed hunting areas);
- Temporary or permanent closures to existing recreational opportunities from construction or operation of the transmission line and facilities, including any permitted special events;
- Temporary or permanent access restrictions to recreational opportunities from construction or operation of the transmission line and facilities; and
- Changes to the recreation setting of recreational opportunities (noise, visual) that would not meet user expectations.

Effects were determined by assessing the location of Project facilities associated with each alternative in relation to existing recreation opportunity areas. This assessment was conducted by using maps of recreation facilities and use areas overlaid with maps showing the location of Project transmission lines and support facilities. The analysis area for recreation includes all recreation facilities and areas within the 2-mile transmission line corridor. Impacts were determined by reviewing recreation activities that take place within affected areas, including typical use periods, users, and activity requirements to determine potential impacts from both construction and operations on recreation facilities, recreation use, recreation users, and the recreation setting. Impacts are described for both dispersed recreation and recreation at developed sites. In addition to typical recreation activities affected, the acreages of affected dispersed recreation areas are included, as are acreages for affected ROS classes within national forests. Impacts to key user groups also are described, as are general impacts to the key

recreation seasons most affected by construction and maintenance activities. Especially noted are impacts to recreation activities or facilities for which displaced visitors cannot easily find a substitute.

Aesthetic effects identified in Section 3.12, Visual Resources, were used to evaluate adverse effects on the recreation setting, including degraded scenic vistas, or establishment of highly obtrusive features. Obtrusive noises, identified in Section 3.18, Public Health and Safety, were considered in relation to the location of recreation opportunities and uses to evaluate adverse effects to the recreation setting. Obtrusive noises, such as construction equipment movement, earthwork, tree removal, other short-term construction activities, and operational transmission line “buzzing” were considered in comparison to other existing noise sources on nearby recreational activities. Potential effects on wildlife or aquatic resources were determined using the findings presented in Sections 3.5, Vegetation; 3.6, Special Status Plant Species; 3.7, Wildlife Resources; 3.8, Special Status Wildlife Species; 3.9, Aquatic Resources; and 3.10, Special Status Aquatic Resources. Section 3.14, Land Use, and Section 3.16, Transportation and Access, provided the basis for addressing changes in land use and management or access to recreation opportunities.

3.13.6.7 Impacts from Terminal Construction and Operation

The northern and southern terminals would be constructed regardless of alternative route or design option. This section describes the impacts to recreation from terminal construction and operation.

Northern Terminal

The Northern Terminal would be located on private property southwest of Sinclair, Wyoming. There is no public use of the proposed Northern Terminal area for recreation and no known private recreation use occurs on or adjacent to the property. Land areas around the terminal area are used for dispersed recreation.

During construction, recreational uses in adjacent portions of the CDNST SRMA area closest to the Northern Terminal could be temporarily affected by noise and activity; however, there are no special management areas and no recreational use that could not occur on other public lands.

No impacts to recreation are anticipated from construction and operation of the proposed Northern Terminal because there is no public use or known recreation use occurring at the site.

Southern Terminal

The Southern Terminal would be located primarily on private property southwest of Boulder City, Nevada. Existing substations and energy facilities are located in the area. There is no public use of the private property within the proposed Southern Terminal area for recreation; however, there could be some unauthorized OHV use on private property due to OHV use on adjacent BLM lands. The Southern Terminal area includes three acres of the eastern edge of the Sloan Canyon NCA; the Southern Terminal Alternative would be located within this area. Impacts to the Sloan Canyon NCA are discussed in Section 3.15, Special Designations.

Design Option 2 – DC from Wyoming to IPP; AC from IPP to Marketplace Hub

Because the implementation of Design Option 2 would utilize the same alternative routes and construction techniques as the Proposed Project, impacts from construction and operation of this design option would be similar to those discussed under the alternative routes. Differences between this design option and the Proposed Project include the locations of the southern converter station and ground electrode systems, as well as the addition of a series compensation station midway between the IPP and Marketplace. The southern converter station would be located near the IPP in Utah instead of at the Marketplace in Nevada and the ground electrode system would be within 50 miles of the IPP. Construction and operation of a converter station near IPP, and a series compensation station would not be expected to impact recreation resources beyond what is described for Project impacts.

Construction of the ground electrode site near the IPP would affect 112,569 acres of undesignated BLM lands available for dispersed recreation in the Fillmore FO. Please see Section 3.13.6.8 for general construction and operation impacts to dispersed recreation for a description of potential impacts to recreation from construction and operation of the Delta ground electrode site.

Design Option 3 – Phased Build-Out

Because the implementation of Design Option 3 would utilize the same alternative route, facilities, and construction techniques as the Proposed Project, impacts from construction and operation of this design option would be the same as those discussed under the alternative routes. The additional substation near the IPP needed for Design Option 3 would not be expected to impact recreation resources beyond what is described for Project impacts.

3.13.6.8 Impacts Common to all Alternative Routes and Associated Components

Construction and operation of all of the alternative routes in each analysis area region would entail impacts to undesignated, general BLM and NFS lands (i.e., the lands do not contain specific recreation facilities or activities, or are not designated for specific purposes). Undesignated BLM and NFS lands typically receive dispersed hunting, fishing, camping, and OHV use. In general, a large portion of the land managed by each BLM FO or national forest is undesignated. This section includes a description of the general impacts that power line construction, operations and maintenance, and decommissioning would have on dispersed recreation. Context and intensity would vary by alternative and would depend upon acreage losses (i.e., acreage encumbered with facilities) or used during construction, the specific user group, and landscape characteristics near the construction area. These issues are discussed in greater detail by region, FO, and national forest in Sections 3.13.6.9 to 3.13.6.12. Impacts to designated recreational areas/sites or areas with known developed uses also are described by region, FO, and national forest in these sections. Any recreation-related BMPs within the relevant management plans, such as measures to protect the recreation viewshed or setting, would be required of the applicant to minimize impacts to recreation resources.

General Construction Impacts to Dispersed Recreation

During construction, noise or visual presence of construction activities could temporarily affect the experiences of visitors participating in dispersed recreation opportunities near the construction area (generally limited to those areas within the 2-mile transmission line corridor). Construction is expected to affect dispersed recreation use particularly on the weekends (Saturdays; there will be no construction on Sundays); seasons of use may vary by region and are discussed in Sections 3.13.6.9 to 3.13.6.12. The duration of transmission line construction activities on any given parcel of land may extend up to a year, although the total amount of time of actual construction activity would be much shorter, in the range of a few months. Over any particular section of the route, transmission line construction would be characterized by short periods (ranging from a day to 1 to 2 weeks) of relatively intense activity interspersed with periods of no activity.

Construction generally would result in vegetation (habitat) removal within the entire 250-foot-wide transmission line ROW. Roads and construction support areas would be built within the 2-mile transmission line corridor, resulting in additional surface disturbance. At peak construction levels, human activity would be high and noise would generally be above existing background levels within the entire width of the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety, for a discussion of noise); however, terrain and vegetation of the area could provide visual screening and noise attenuation. As discussed in Section 3.13.6, some user groups would be more affected by habitat removal, noise and visual disturbance than others; for example, hunters, wildlife viewers and mountain biker user groups, whose recreation experience is dependent upon quiet natural experiences or undisturbed wildlife would be more affected than OHV users or other activities for which vegetation removal, noise, and human activity does not affect the recreation experience. Section 3.13.6 provides a list of key user groups and assumptions related to changes in their

recreation experience from transmission line construction. In most cases, dispersed recreation opportunities are not limited to one particular locale and suitable substitute locations would exist nearby for the same dispersed recreational activities. Exceptions are described by region, FO, and national forest in Sections 3.13.6.9 to 3.13.6.12. Construction also could temporarily affect the ability of visitors to participate in dispersed recreation opportunities by limiting access. As noted in Section 3.16, Transportation and Access, Project construction would create short-term, minor and incidental increases in local traffic, but the construction phase is not expected to create substantial congestion for extended periods. Site specific access construction impacts are not provided in Section 3.16 at this stage due to the length of the corridors for each alternative; therefore, recreation site-specific access construction impacts are only discussed generally within this section. Road Access Plans will be developed for the Agency Preferred Alternative once it has been determined. Please see Section 3.16, Transportation and Access, for a description of the construction phase mitigation regarding the preparation of Road Access Plans and Construction Period Traffic Management Plans for the corridor as part of the COM Plan.

General Operation Impacts to Dispersed Recreation

Operations would result in permanent visual impacts to areas along the transmission line, including areas used for dispersed recreation. While these impacts would not appreciably affect the availability of the recreation resource used while engaging in dispersed recreational activities (i.e., big game or fish habitat), the setting in which they occur would be affected visually and some users may choose to recreate elsewhere. In general, suitable substitute locations would exist nearby for the same dispersed recreational activities. Exceptions are described by region, FO, and national forest in Sections 3.13.6.9 to 3.13.6.12.

Maintenance activities, particularly maintenance of access roads and vegetation management could affect access to recreation sites/areas; however, any access impediments or delays from Project-related activities would be temporary. Maintenance activities and vegetation management also could temporarily affect the ability of some user groups to participate in certain recreation opportunities (e.g., hunting, wildlife viewing) or affect the recreation experiences of visitors adjacent to maintenance work sites due to noise from maintenance activities. Transmission line maintenance activities are expected to occur infrequently; the frequency and type of vegetation maintenance activities would vary by area but could involve annual maintenance programs. Maintenance-related noise could temporarily affect adjacent hunting, fishing, and wildlife viewing opportunities by making the area less hospitable for wildlife or fish. In addition, maintenance-related noise also could temporarily affect adjacent opportunities for solitude or viewing scenery. Annual ground inspections would likely not result in any impacts to recreation opportunities or experiences. Semi-annual aerial inspections (passing helicopters) could result in temporary noise effects to the ambient recreation setting of any adjacent or nearby recreation site/area. Section 3.13.6 provides a list of key user groups and assumptions related to changes in their recreation experience from transmission line operation.

Project access roads would be evaluated on a case-by-case basis by the appropriate federal or state land manager to determine whether to close roads to the public, close and reclaim roads, or leave roads open as part of the transportation network. Roads to be closed to the public would have signage indicating the restriction or regulation, location, penalty for violation, and appropriate contact information for reporting violations. Despite the presence of closure signs, closed roads may become an attractive nuisance and lead to unauthorized OHV use and associated resource damage, noise, etc. Other deterrents such as barriers, contouring, and revegetation may be used to indicate closed roads as determined on a site-specific basis depending on site-specific needs, management requirements, and reasonable application of the treatment. The proponents would monitor permanent roads on NFS land and BLM-administered lands yearly, and the applicable land-managing agency will be provided with annual monitoring reports. If TWE-maintained access roads remain available for public use, continued maintenance of these roads would be a beneficial impact for those recreationists seeking motorized recreational opportunities and increased access in the area; conversely, such roads

could adversely impact recreational opportunities for solitude or non-motorized recreational experiences.

General Decommission Impacts to Dispersed Recreation

At the end of the project’s 50-year ROW grant, or when it is determined that the project is no longer economical, the project would be decommissioned and the area reclaimed. During decommissioning, the level of effort, equipment needed, and phasing to decommission the transmission lines and support facilities would be similar to constructing the facilities. Chapter 2 and **Appendix D** contain information regarding the preparation of Reclamation Plans.

3.13.6.9 Region I

Table 3.13-20 provides a summary of Region I recreation areas/sites by alternative, both within the 250-foot-wide transmission line ROW and within the 2-mile transmission line corridor.

Table 3.13-20 Region I Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area/Site	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
	250-foot-wide ROW 2-mile Corridor	250-foot-wide ROW 2-mile Corridor	250-foot-wide ROW 2-mile Corridor	250-foot-wide ROW 2-mile Corridor
	Acres (% of total area)	Acres (% of total area)	Acres (% of total area)	Acres (% of total area)
BLM Rawlins FO				
Dispersed, undesignated recreation areas	1,764 (0.05) 78,251 (2.2)	1,847 (0.08) 76,336 (2.2)	1,350 (0.04) 58,224 (1.7)	2,297 (0.06) 94,929 (2.7)
CDNST SRMA	4 (0.1) 1.4 miles/179 (29.8)	4 (0.1) 1.4 miles/179 (29.8)	4 (0.1) 1.4 miles/179 (29.8)	4 (0.1) 1.4 miles/179 (29.8)
Adobe Town DRUA	N/A	101 (0.04) 4,420 (1.8)	N/A	N/A
BLM Little Snake FO				
Dispersed undesignated recreation areas	1,328 (0.1) 51,779 (4.1)	1,217 (0.09) 63,149 (5.0)	770 (0.06) 28,629 (2.3)	1,217 (0.09) 63,149 (5.0)
South Sand Wash SRMA	N/A	N/A	N/A	N/A
Juniper Mountain SRMA	N/A	N/A	40 (2.2) 1,437 (80.7)	N/A
Serviceberry SRMA	N/A	N/A	0 1,462 (11.8)	N/A
Little Yampa Canyon SRMA	N/A	N/A	0 <1 acre (0)	N/A
BLM White River FO				
Dispersed, undesignated recreation areas	373 (0.03) 13,799 (0.9)	373 (0.03) 13,799 (0.9)	373 (0.03) 13,799 (0.9)	373 (0.03) 13,799 (0.9)
Other Federal Recreation Areas				
Dinosaur National Monument	N/A	N/A	N/A	0 16 (<0.01)
State Recreation Areas				
Wyoming				
Red Rim-Daley WHMA	58 (0.2) 2,847 (11.3)	58 (0.2) 2,847 (11.3)	58 (0.2) 2,847 (11.3)	58 (0.2) 2,847 (11.3)

Table 3.13-20 Region I Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area/Site	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
	250-foot-wide ROW 2-mile Corridor	250-foot-wide ROW 2-mile Corridor	250-foot-wide ROW 2-mile Corridor	250-foot-wide ROW 2-mile Corridor
	Acres (% of total area)	Acres (% of total area)	Acres (% of total area)	Acres (% of total area)
Upper Muddy Creek Watershed/Grizzly WHMA	N/A	N/A	19 (0.3) 1,015 (1.7)	N/A
Colorado				
Yampa River SWA	N/A	N/A	0 199 (23.1)	N/A
Bitter Brush SWA	N/A	N/A	107 (1.3) 4,921 (61.1)	N/A
Raftopolous Hunting Lease	0 617 (5.4)	N/A	N/A	N/A
Yampa River State Park	1 river crossing; 1 access point	1 river crossing; 0 access points	3 river crossings; 4 access points	1 river crossing; 0 access points
Local Recreation Areas				
Juniper Hot Springs	N/A	N/A	0 Entire site	N/A

Alternative I-A (Applicant Proposed)

Alternative I-A would cross dispersed recreation areas in three FOs, one specially managed recreation area, one wildlife area in Wyoming and one in Colorado. Alternative I-A also would affect one Yampa River access point and cross the river once.

BLM Dispersed Recreation Areas

General construction impacts to dispersed recreation activities are described in Section 3.13.6.8 and would affect recreationists by displacing visitors due to area closures, noise or visual presence of construction, or making the area inhospitable for wildlife. Within Region I, the 250-foot-wide transmission line ROW for Alternative I-A would impact 1,764 acres of dispersed recreation area in the Rawlins FO, 1,328 acres within the Little Snake FO, and 373 acres within the White River FO during construction. The 2-mile transmission line corridor for Alternative I-A, would encompass approximately 78,251 acres of dispersed recreation area in the Rawlins FO; 51,779 acres within the Little Snake FO; and 13,799 acres within the White River FO during construction. This is 2.2 percent, 4.1 percent, and less than 1 percent, respectively, of total available acreage for dispersed recreation in each FO and represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. These impacts would be greatest to the hunters and wildlife viewer user group due to the direct loss of habitat, and to non-mechanized users such as hikers or backpackers, due to aesthetic impacts that would make recreation experiences in those areas undesirable. It also is important to note that construction is sequential; therefore, not all acreage within the 2-mile transmission line would be subject to noise and human activity at the same time.

Recreation use in Region I would be affected most during the summer, when general recreation use peaks in this area, and during the fall and winter (generally September to February), when most big game hunting occurs. There are no high use areas identified within the Rawlins or White River FOs that would be near or within the 2-mile transmission line corridor. Within the Little Snake FO,

Alternative I-A would pass through important hunting areas west of Maybell. These areas would likely be lost to hunting during construction (see Section 3.8, Wildlife Resources for more information regarding avoidance behavior of big game from noise); however, the areas outside the 2-mile transmission line corridor, to which big game likely would be displaced, are federal lands that are open to hunting.

Within the Rawlins FO, Alternative I-A would cross Muddy Creek; within the Little Snake FO, the Alternative I-A would cross the Little Snake and Yampa rivers. There are no high recreational use areas or access points to Muddy Creek or the Little Snake River within the 2-mile transmission line corridor. Alternative I-A would cross the Yampa River near a high use access area west of Maybell (the East Cross Mountain access point). The access point would be within the 2-mile transmission line corridor, resulting in adverse impacts to recreational boaters or anglers on the river and campers at the access point due to the sounds and sights of construction. Impacts to the Yampa River are discussed in greater detail as part of the Yampa State Park analysis, below. Alternative I-A also would cross the Yampa Valley Trail west of Maybell. The trail is commonly used for mountain biking, horseback riding, hiking, wildlife viewing, and OHV use. However, use of the trail in this area is low; the more popular trail segment is in the Little Yampa Canyon SRMA (BLM 2010). Though construction activities could potentially degrade the recreation setting from construction noise and activities, only a small section of the trail would be temporarily affected and the majority of nearby trail mileage would not be affected. If visitors participate in recreation opportunities near the construction area (generally within the 2-mile transmission line corridor), recreation experiences for visitors could be temporarily degraded from construction noise and activities.

Operation of Alternative I-A would affect 1,764 acres of the 250-foot-wide transmission line ROW within the Rawlins FO; 1,328 acres within the Little Snake FO; and 373 acres within the White River FO. This represents <0.1 percent of each FO. Operation would have minimal impacts to most dispersed recreation experiences (see Section 2.14.6.2); however, the presence of a transmission line crossing the Yampa River would be a permanent adverse impact to the river recreation experience. Maintenance activities also could disrupt hunting and wildlife watching activities due to noise and human presence. Due to the importance of the area around Maybell for big game hunting, the following additional mitigation measure is recommended to reduce the potential for impacts to hunting:

REC-1: Where practicable, operation phase vegetation maintenance activities within dispersed recreation areas or key hunting locales would not occur during big game hunting seasons.

Implementation of this measure would be highly effective in reducing impacts to hunting activities and also would be a beneficial impact to worker safety.

BLM SRMAs or Other Specially Managed Recreation Areas

CDNST and SRMA. On BLM lands within the Rawlins FO, approximately 1.4 miles of the CDNST would be included within the 2-mile transmission line corridor for Alternative I-A; the 250-foot-wide transmission line ROW would not include the CDNST on BLM lands. Approximately 0.1 miles and 1.5 miles of the CDNST would be included within the 250-foot-wide transmission line ROW and 2-mile transmission line corridor, respectively, on private land under Alternative I-A. The crossing of CDNST by the transmission line would occur on private property. Approximately 4 acres of the 250-foot-wide transmission line ROW would be within the 600-acre CDNST SRMA. This is approximately 0.1 percent of the SRMA, which covers about 82 miles of trail. Approximately 179 acres of the 2-mile transmission line corridor, in which roads and construction support areas could be constructed, also would be located within the SRMA. The trail/SRMA is managed to provide primitive recreational experiences and the scenic trail has national importance. Impacts to the trail itself would be minimized by the placement of the transmission line ROW within a designated overhead utility corridor; towers would be placed to avoid surface disturbance near the actual trail. Impacts from construction, as described in Section 3.13.6, would adversely affect the non-mechanized user group (hikers, backpackers, and

equestrians). Visual impacts would be permanent; however, operation of the line is unlikely to appreciably affect the overall recreational experience of the SRMA and trail because of the small percentage of area affected and the recreational experience and character of the trail at this location is already impacted by an existing 230- to 287-kv transmission line and the I-80 crossing. The transmission line would be consistent with SRMA management objectives because the line would be located within a designated utility corridor. Development of additional roads would have adverse impacts to the SRMA by subjecting it to construction noise and visual impacts. Impacts to the SRMA could be reduced with application of the following mitigation measures.

REC-2: *Within designated recreation management areas, access shall be limited to existing roads whenever practicable. If new and improved access cannot be avoided within these areas, access roads shall be closed or rehabilitated through methods and monitoring developed through consultation with the landowner or land management agency. Methods for closure could include gates, obstructions such as berms or boulders, or partial or full restoration to natural contour or vegetation.*

REC-3: *If designated corridors exist within the recreation area, new roads and ancillary construction areas shall only be located within designated utility corridors.*

Use of existing roads or placement of new roads and construction areas only within the designated corridor would be highly effective in limiting impacts to areas in which these actions are consistent with area management.

Within the Little Snake FO, no SRMAs would be located within either the 250-foot-wide transmission line ROW or the 2-mile transmission line corridor. The 2-mile transmission line corridor would be located approximately less than one mile outside of the South Sand Wash SRMA, but would not enter the SRMA. The portion of the SRMA that is closest to the 2-mile transmission line corridor is an isolated patch of open OHV play area (Zone I). The prescribed setting is “rural” (i.e., on or near improved country roads and a highway) and with conspicuous and large-scale landscape alteration from OHV use. Construction noise levels and visual disturbances would not be inconsistent with Zone I management. During operation, recreation in the SRMA is unlikely to be appreciably affected by the transmission line because the recreational experience can accommodate large scale landscape alteration.

State-managed Recreation Areas

Red Rim-Daley WHMA. Within Wyoming, approximately 2 miles of the 250-foot-wide transmission line ROW and 2,847 acres of the 2-mile transmission line corridor for Alternative I-A would fall within the Red Rim-Daley WHMA. This 25,177-acre WHMA provides crucial winter habitat for pronghorn antelope and a variety of other wildlife and is used recreationally for hunting and wildlife watching. During construction, approximately 58 acres (0.2 percent of the WHMA) of wildlife habitat would be removed. During peak construction, it is likely that big game would be temporarily displaced from the entire 2,847-acre portion of the 2-mile transmission line corridor within the WHMA (11 percent of the WHMA) due to their avoidance response (see Section 3.7, Wildlife, for a full discussion of noise impacts on wildlife). Access roads and construction staging areas also could be constructed within the 2-mile transmission line corridor, further fragmenting habitat and extending the area affected by construction noise and activity. Implementation of timing restrictions would prevent disturbance to wintering big game (TWE-32 and TWE-33 as well as BLM, USFS, and state wildlife agency restrictions); however, vegetation removal would still occur for transmission line and road construction.

Application of **REC-2** would minimize this impact by limiting access to existing roads within the WHMA and/or requiring full reclamation of any roads that are constructed. This would reduce habitat modification and fragmentation; however, 58 acres of habitat (0.2 percent of the WHMA) would still have some level of vegetation maintenance during operations that could affect habitat.

Construction of Alternative I-A would adversely affect the hunter and wildlife viewer user group through habitat removal, restricted access to areas undergoing construction, and by displacing wildlife in and near construction zones. Recreationists seeking wildlife watching experiences would be adversely impacted by these activities regardless of their timing. Hunters would largely be adversely impacted only if these activities were scheduled during active hunting seasons. Due to the checkerboard nature of land ownership, recreationists may not be able to easily move to other areas of the WHMA to follow wildlife movement, and wildlife may be displaced to areas that are not open to public use. The following additional mitigation measure is recommended to reduce the potential for impacts to hunting:

REC-4: *Where practicable, construction activities within key hunting locales such as WHMAs/WMAs/SWAs would not occur during big game hunting seasons.*

Implementation of this measure would be highly effective in reducing impacts to hunting activities and also would be a beneficial impact to worker safety.

Operation of the transmission line is unlikely to affect hunting or other wildlife-dependent recreation activities. Some visitors seeking a completely natural setting (such as wildlife photographers) might choose to visit areas without transmission lines; however, the majority of the WHMA would be visually undisturbed. The noise and activity associated with annual maintenance could temporarily displace wildlife. Application of **REC-1** (scheduling vegetation maintenance outside of big game hunting seasons where practicable) would further minimize impacts to hunting. Please see Section 3.18, Public Health and Safety, and Section 3.12, Visual Resources, for additional details regarding operational noise and visual impacts.

Raftopolous Hunting Lease and Other Public Access Program Areas. Within Colorado, no WMAs would be located within either the 250-foot-wide transmission line ROW or the 2-mile transmission line corridor; however, approximately 617 acres of the 2-mile transmission line corridor would fall within the 11,383-acre Raftopolous hunting lease. The Raftopolous hunting lease area and several smaller parcels of State Trust Lands that are part of the Public Access Program are open to hunting (CPW 2011). Application of **REC-2** would limiting access to existing roads within the area and/or require full reclamation of any roads that are constructed; however, wildlife in this 617-acre portion of the hunting lease (approximately 5 percent of the total lease area) could still be temporarily displaced by noise and activity from nearby ROW construction. However, the other 95 percent of the hunting lease area would still be available to hunters and the areas surrounding the lease are BLM lands that also are open to hunting.

Yampa River State Park. Alternative I-A would pass through the Yampa River State Park and cross the river at an access point west of Maybell, Colorado. Construction and operation would permanently adversely affect the recreation setting for boaters on the Yampa River as the transmission line would substantively change the visual setting of this mostly undeveloped river. Additionally, the State Park's East Cross Mountain access point (River Mile 60) would be within the 2-mile transmission line corridor. The East Cross Mountain access point offers camping and picnicking in addition to river access. The access point would remain open during construction; however, recreational river users, campers, and picnickers would experience noise and visual disturbances. The nearest State Park access point is about 11 miles upstream, but does not offer camping and has minimal facilities. The Maybell Bridge access point, located 3 miles east of Maybell and 28 miles upstream from the East Cross Mountain access point, is the closest improved access point offering camping. There also are two access points downstream (River Mile 55 and 46) managed by the NPS; however, the river is expert class beyond river mile 60 (class 5-6 within Cross Canyon). The following mitigation measures are recommended to reduce impacts to campers in the area:

REC-5: *No construction shall be allowed after 5:00 p.m. on weeknights, and no construction shall be allowed on weekends, holidays, or the opening of big game hunting seasons in areas that are adjacent to developed recreation sites.*

REC-6: *Construction zones will be sited such that access to high use recreational areas and trails is not impeded. If public safety concerns are such that current access or use cannot be maintained, the applicant will work with the appropriate land manager to develop alternative access points or redirect users to alternative existing points of access.*

Application of these measures would reduce the adverse impacts from noise and visual disturbances from construction activity during key recreational use times and ensure continued recreational access was available. However, noise and visual impacts would be present during weekdays. Long term visual impacts from operation would not be mitigated.

Local Recreation Areas

There are no local recreation areas within Alternative I-A.

Scenic Byways and Backways

Within the Rawlins FO, Alternative I-A would cross the Outlaw Trail Scenic Loop Highway; one crossing within the 250-foot-wide transmission line ROW, and 1.3 miles within the 2-mile transmission line corridor. Though not a nationally designated scenic byway, this route is recommended for recreational drivers in the area (Carbon County Visitors Council 2012). The transmission line would cross the highway near its junction with I-80. Scenic drivers would be subject to views of road construction near the byway and also would be able to view the transmission line (see Section 3.12, Visual Resources, for more information). Viewshed impacts from development of new access roads within the 2-mile transmission line corridor would be permanent unless fully restored. Impacts would be reduced through application of **REC-2**, which would limited access to existing roads near the highways and/or require full reclamation of any roads that are constructed. During construction, the affected portion of the highway also could experience additional traffic for segments used for employee commute, supply delivery, etc. (see Section 3.16, Transportation).

Alternative I-B

Alternative I-B would cross dispersed recreation areas in three FOs, two specially managed recreation areas, and one wildlife area in Wyoming. Alternative I-B also would also cross the Yampa River once.

BLM Dispersed Recreation Areas

The 2-mile transmission line corridor for Alternative I-B would impact 76,336 acres of dispersed recreation area in the Rawlins FO; 63,149 acres within the Little Snake FO; and 13,799 acres within the White River FO during construction. This is 2.2 percent, 5.0 percent, and less than 1 percent of total available acreage for dispersed recreation in each FO, respectively, and represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. Impacts to dispersed recreation and suggested mitigation would be the same as described under Alternative I-A, except that no designated access point to the Yampa River would be located within the 2-mile transmission line corridor.

Within the Rawlins FO, the 250-foot-wide transmission line ROW would encompass 101 acres (less than 0.1 percent) of the Adobe Town DRUA; the 2-mile transmission line corridor would encompass 4,420 acres (less than 2 percent) of the Adobe Town DRUA. The 250-foot-wide transmission line ROW would be located entirely in areas with Front Country ROS designations. These areas are roughly consistent with the Roaded Natural ROS class described in **Table 3.13-4**; development would be consistent with recreation management goals for this area. The 2-mile transmission line corridor primarily would include Front Country areas, as well as approximately 460 acres of Middle Country and 20 acres of rural areas. Development of roads and other construction support areas would be fully consistent with recreation goals for the rural areas, but would not be fully consistent with recreation management goals for the Middle Country areas, which provide for a recreational setting with a low concentration of users and some isolation from sights and sounds of development, while allowing for

motorized and mechanized equipment use. Application of **REC-2** would minimize impacts to recreation in these areas.

Operations would affect 1,847 acres of 250-foot-wide transmission line ROW within the Rawlins FO; 1,217 acres within the Little Snake FO; and 373 acres within the White River FO. This represents less than 0.1 percent of each FO. Impacts to dispersed recreation and suggested mitigation would be the same as described under Alternative I-A.

BLM SRMAs or Other Specially Managed Recreation Areas

CDNST SRMA. Impacts to the CDNST SRMA would be the same as described under Alternative I-A. No other SRMAs would be affected by Alternative I-B.

State-managed Recreation Areas

Red Rim-Daley WHMA. Impacts to the Red Rim-Daley WHMA would be the same as described under Alternative I-A.

Yampa River State Park. Impacts to Yampa River State Park would be similar to those described under Alternative I-A except there are no State Park river access sites within the 2-mile transmission line corridor.

Local Recreation Areas

There are no local recreation areas within Alternative I-B.

Scenic Byways and Backways

Impacts to the Outlaw Trail Scenic Loop highway would be the same as described under Alternative I-A.

Alternative I-C

Alternative I-C would cross dispersed recreation areas in three FOs, four specially managed recreation areas, and two wildlife areas in Wyoming and two in Colorado. Alternative I-C also would affect four Yampa River access points and cross the river three times.

BLM Dispersed Recreation Areas

The 2-mile transmission line corridor for Alternative I-C would impact 58,224 acres of dispersed recreation area in the Rawlins FO; 28,629 acres within the Little Snake FO; and 13,799 acres within the White River FO during construction. This is 1.7 percent, 2.3 percent, and less than 1 percent of total available acreage for dispersed recreation in each FO, respectively, and represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. Impacts to dispersed hunting, wildlife, and river boating and suggested mitigation would be similar to those described under Alternative I-A, except that Alternative I-C would cross the Yampa River a total of three times and four river access points would fall within the 2-mile transmission line corridor. Impacts to river access points are discussed further under State Recreation Areas, below. Operations would affect 1,350 acres of 250-foot-wide transmission line ROW within the Rawlins FO; 770 acres within the Little Snake FO; and 373 acres within the White River FO. This represents less than 1 percent of each FO. Impacts to dispersed recreation and suggested mitigation would be the same as described under Alternative I-A.

BLM SRMAs or Other Specially Managed Recreation Areas

CDNST SRMA. Impacts to the CDNST SRMA would be the same as described under Alternative I-A.

Juniper Mountain SRMA. Within the Little Snake FO, approximately 1 mile of the 250-foot-wide transmission line ROW and 1,437 acres of the 2-mile transmission line corridor for Alternative I-C would fall within the northern portion of the 1,780-acre Juniper Mountain SRMA. The 250-foot-wide transmission line ROW would cross the Yampa River just west of the SRMA. The SRMA is managed for boating, hunting, camping, and hiking. The portion of the SRMA within the 2-mile transmission line corridor is primarily within Zone 2, which is managed for national- and regional-level destination big game hunting, as well as hiking, camping, and horseback riding. The prescribed setting is natural backcountry, where landscape alterations are uncommon, and the area is managed as VRM Class II within line of sight of the river. Alternative I-C would cross the Yampa River downstream of the SRMA; however, the Juniper Mountain access points would be within the 2-mile transmission line corridor and the transmission line would be visible to river users within the SRMA. Operation of the transmission line would not be in conformance with the prescribed recreation setting for the SRMA (natural backcountry, where landscape alterations are uncommon, and VRM Class II within line of sight of the river) and would result in adverse impacts to user groups such as river boaters, hikers, and backpackers, whose recreational experience is dependent upon a natural landscape. Impacts to river users within the SRMA also are discussed under Yampa River State Park, below.

During construction, approximately 40 acres (2.2 percent of the SRMA) of wildlife habitat would be removed from the 250-foot-wide transmission line ROW. During peak construction, it is likely that big game would be temporarily displaced from the entire 1,437-acre portion of the 2-mile transmission line corridor located within the SRMA (81 percent of the SRMA) due to the avoidance response of big game. Access roads and construction staging areas also could be constructed within the 2-mile transmission line corridor, further fragmenting habitat and extending the area affected by construction noise and activity. Implementation of timing restrictions (TWE-32 and TWE-33 as well as BLM, USFS, and state wildlife agency restrictions) would prevent disturbance to wintering big game; however, vegetation removal would still occur for transmission line and road construction. Application of **REC-2** would minimize this impact by limiting access to existing roads within the SRMA and/or requiring full reclamation of any roads that are constructed. This would reduce habitat modification and fragmentation; however, 40 acres of habitat (2.2 percent of the SRMA) would still have some level of vegetation maintenance during operations that could affect habitat.

Construction would adversely affect the hunter and wildlife viewer user group through habitat removal, restricted access to areas undergoing construction, and by displacing wildlife in and near construction zones. Construction also would adversely affect the non-mechanized user group (hikers, backpackers, and equestrians) that recreate in this SRMA through construction activity and noise. Recreationists seeking wildlife watching experiences or natural settings would be adversely impacted by these activities regardless of their timing. Hunters would be adversely impacted only if these activities were scheduled during active hunting seasons. Due to the importance as a national- and regional-level destination for big game hunting, application of **REC-4** (scheduling construction outside of hunting seasons) is recommended to reduce impacts to this activity. Application of **REC-1** (scheduling vegetation maintenance outside of big game hunting seasons where practicable) would further minimize impacts to hunting during operations. Application of **REC-5** would minimize impacts to all recreation user groups by prohibiting construction during weekends and other high use periods in areas that are adjacent to developed recreation sites.

Serviceberry SRMA. Approximately 1,462 acres (11.8 percent) of the 12,380-acre Serviceberry SRMA lie within the 2-mile transmission line corridor in which roads and other construction facilities would be located. This portion of the SRMA (Zone 2) is managed for non-motorized big game hunting and undeveloped camping. Recreation needs and potential impacts of construction and operation to these user groups are described under Section 3.13.6. Application of mitigation measures **REC-2** would reduce impacts to this area by eliminating roads or requiring full reclamation; however, this portion of the SRMA could still experience noise and activity from nearby ROW construction. This would still result in adverse impacts to non-motorized recreation users such as campers. Hunters also would be affected if construction occurs during hunting season and they could not or chose not to move to

others areas of the SRMA. A very small portion (less than 1 acre) of the 2-mile transmission line corridor also falls within the Little Yampa Canyon SRMA. Application of mitigation measures **REC-2** would reduce impacts to this area by eliminating roads within this area.

State-managed Recreation Areas

Red Rim-Daley WHMA. Impacts to the Red Rim-Daley WHMA would be the same as under Alternative I-A.

Upper Muddy Creek Watershed/Grizzly WHMA. Within Wyoming, approximately 19 acres of the 250-foot-wide transmission line ROW and 1,015 acres of the 2-mile transmission line corridor for Alternative I-C would fall within the 59,780-acre Upper Muddy Creek Watershed/Grizzly WHMA. The WHMA is a utility ROW avoidance area and is managed to protect Colorado River fish species unique to the Muddy Creek watershed and crucial winter habitat for elk and mule deer. Recreation is primarily limited to hunting, angling, and wildlife viewing. Motorized vehicle use is limited to designated roads and vehicle routes. Implementation of timing restrictions during both construction and operation phases (TWE-32 and TWE-33 as well as Rawlins FO restrictions) would prevent disturbance to wintering big game; however, there would still be some loss of big game habitat. Habitat loss would be minimized through application of **REC-2**, which would limit access to existing roads within the WHMA and/or require full reclamation of any roads that are constructed. Construction impacts within the WHMA would primarily affect hunters, anglers and wildlife watchers. Impacts to hunters and wildlife watchers would be similar to those described under the Red Rim-Daley WHMA under Alternative I-A. Application of **REC-4** would reduce this impact by rescheduling construction activities within key hunting locales, such as WHMAs, outside of hunting seasons. Impacts to anglers would be primarily related to maintaining watershed quality and aquatic species habitat. Construction would result in surface disturbance and erosion and sedimentation that has potential to affect the watershed or aquatic species for which the WHMA is managed; however, total vegetation removal within the 250-foot-wide transmission line ROW comprises less than 1 percent of the WHMA and the area in which roads would be located comprises less than 1.7 percent of the WHMA. Application of **REC-2** would further minimize impacts to the resources used by anglers.

Bitter Brush SWA. Within Colorado, approximately 107 acres of the 250-foot-wide transmission line ROW and 4,921 acres of the 2-mile transmission line corridor for Alternative I-C would fall within the 8,057-acre Bitter Brush SWA. The 250-foot-wide transmission line ROW would be located within a designated utility corridor within the SWA near an existing transmission line. This area is primarily used for hunting and wildlife viewing; public access within the SWA is prohibited from January 15 through April 30. During construction, approximately 1.3 percent of the SWA would be removed from use as wildlife habitat. During peak construction, it is likely that big game would be temporarily displaced from the entire 4,921-acre portion of the 2-mile transmission line corridor located within the SWA (61 percent of the SWA) due to the avoidance response of big game (see Section 3.7, Wildlife, for a full discussion of noise impacts on wildlife). Access roads and construction staging areas also could be constructed within the 2-mile transmission line corridor, further fragmenting habitat and extending the area affected by construction noise and activity. Impacts to recreation would be similar to those described for the Red Rim-Daley WHMA under Alternative I-A. Implementation of timing restrictions would prevent disturbance to wintering big game; however, vegetation removal would still occur for transmission line and road construction. Application of **REC-2** would minimize this impact by limiting access to existing roads within the SWA and/or requiring full reclamation of any roads that are constructed. This would reduce habitat modification and fragmentation; however, 107 acres of habitat (1.5 percent of the SWA) would still have some level of vegetation maintenance during operations that could affect habitat. Construction would adversely affect the hunter and wildlife viewer user group through habitat removal, restricted access to areas undergoing construction, and by displacing wildlife in and near construction zones. Recreationists seeking wildlife watching experiences would be adversely impacted by these activities regardless of their timing. Hunters would largely be adversely impacted only if these activities were scheduled during active hunting seasons. Due to the pattern of

land ownership in the area and the large area of the SWA that would be affected by construction activity, wildlife may be displaced to areas outside the SWA that are not open to public use. Application of **REC-4** would reduce impacts to hunters. Operation of the transmission line is unlikely to affect hunting or other wildlife-dependent recreation activities. Some visitors seeking a completely natural setting (such as wildlife photographers) might choose to visit areas without transmission lines; however, the majority of the SWA would be visually undisturbed. The noise and activity associated with annual maintenance could temporarily displace wildlife. Application of **REC-1** would further minimize impacts to hunting from operations.

Yampa River SWA. Approximately 199 acres (23 percent) of the 860-acre Yampa River SWA lie within the 2-mile transmission line corridor in which roads and other construction facilities would be located; the 250-foot-wide transmission line ROW would be located to the west and outside of the SWA. This SWA is managed primarily for waterfowl hunting and river-based recreation, and includes an unimproved river access site that is part of Yampa River State Park. Construction and operation impacts to river users would be similar to those discussed for Yampa River State Park under Alternative I-A; however, this access point does not offer camping. Application of **REC-2** would minimize impacts to recreation opportunities within the SWA by limiting access to existing roads; however, waterfowl in this 199-acre portion of the SWA could still be temporarily displaced by noise and activity from nearby ROW construction, adversely affecting wildlife viewers and hunters.

Yampa River State Park. Under Alternative I-C, there would be a total of three river crossings of the Yampa River, one slightly downstream of the Yampa River SWA, one downstream of the South Beach (Pump Station) access point, and one downstream of the Juniper Mountain access point. As discussed above, any river crossings would adversely impact the setting of the river and would affect the recreational experiences of boaters and anglers in the area. These impacts constitute an adverse impact to the Yampa River State Park system as a whole, which offers recreation of statewide significance. The Juniper Mountain and South Beach access points are both within the 2-mile transmission line corridor in which roads and other construction support areas could be built. Both access points offer overnight camping. During construction, there would be adverse impacts to recreationists using those areas for camping or other forms of non-mechanized recreation due to construction noise and activity. Application of **REC-2** would minimize this impact by limiting access to existing roads in areas near the access points, but would not eliminate noise and visual impacts from the construction of the transmission line. Campers seeking to avoid impacts at the South Beach access point would need to move 32 miles downstream to the Duffy Mountain access point, or get permission to camp at Loudy Simpson Park, located 5 miles upstream. Campers seeking to avoid impacts at the Juniper Mountain access point would need to camp at the Duffy Mountain campsite (12 miles upstream), or portage the diversion dam within Juniper Canyon and continue on through advanced boating areas to the Maybell Bridge access point, located 6 miles downstream. Application of **REC-5** and **REC-6** would minimize impacts to all recreation user groups by prohibiting construction during weekends and other high use periods in areas that are adjacent to developed recreation sites and ensure continued access to developed recreation sites.

Local Recreation Areas

Juniper Hot Springs. The 2-mile transmission line corridor would encompass Juniper Hot Springs, a privately owned mineral springs and camping area located south of Maybell, Colorado, and is the only known recreational hot springs location in the area. Hot springs visitors and campers would be adversely affected by construction activity and noise. Other camping areas nearby would continue to be available during construction; however, there would be no other hot springs locations for any displaced users. Application of **REC-2** would limit access to existing roads and/or require full reclamation of any new roads. Application of **REC-5** and **REC-6** would reduce impacts to campers and hot springs users by prohibiting construction during weekends and other high use periods and maintaining access to high use areas. However, noise and visual impacts would be present during

weekdays. Section 3.17, Social and Economic Conditions, addresses the economic impacts of construction on this facility.

Scenic Byways and Backways

Within the Rawlins FO, the 2-mile transmission corridor would include 2 miles of the Battle Scenic Highway from Baggs to Encampment (WY 70) and 38 miles of the Outlaw Trail Scenic Loop (Highway 789) from Baggs to Highway 80. These are not nationally designated scenic byways, but are recommended routes for recreational drivers in the area. Scenic drivers using the roads would be subject to views of road construction near the byway and also would be able to view the transmission line (see Section 3.12, Visual Resources, for more information). Viewshed impacts from development of new access roads within the 2-mile transmission line corridor would be permanent unless fully restored. Impacts would be reduced through application of **REC-2**, which would limit access to existing roads near the highways and/or require full reclamation of any roads that are constructed. During construction, portions of the highways also could experience additional traffic on portions used for employee commute, supply delivery, etc. (see Section 3.16, Transportation).

Alternative I-D (Agency Preferred)

Alternative I-D would cross dispersed recreation areas in three FOs, one specially managed recreation area, and one wildlife area in Wyoming. Alternative I-D also would cross the Yampa River once.

BLM Dispersed Recreation Areas

The 2-mile transmission line corridor for Alternative I-D would impact 94,929 acres of dispersed recreation area in the Rawlins FO; 63,149 acres within the Little Snake FO; and 13,799 acres within the White River FO during construction. This is 2.7 percent, 5.0 percent, and less than 1 percent of total available acreage for dispersed recreation in each FO, respectively, and represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. Impacts to dispersed recreation and suggested mitigation would be the same as described under Alternative I-A, except that no designated access points to the Yampa River would be located within the 2-mile transmission line corridor.

Operations would affect 2,297 acres of the 250-foot-wide transmission line ROW within the Rawlins FO, 1,217 acres within the Little Snake FO, and 373 acres within the White River FO. This represents less than 1 percent of each FO. Impacts to dispersed recreation and suggested mitigation would be the same as described under Alternative I-A.

BLM SRMAs or Other Specially Managed Recreation Areas

CDNST SRMA. Impacts to the CDNST SRMA would be the same as described under Alternative I-A. No other SRMAs would be affected by Alternative I-D.

Dinosaur National Monument. The 2-mile transmission line corridor for Alternative I-D, including all three Tuttle Easement micro-siting options, includes 16 acres of the Dinosaur National Monument along Deerlodge Road at the road's junction with US Highway 40. One acre of the 250-foot-wide transmission line ROW for Tuttle Easement Micro-Siting Option 3 would be located within the National Monument. Deerlodge Road is the only road entrance to the eastern portion of the monument and provides access to a campground, ranger station, and the only Yampa River boat launch site in the National Monument (NPS 2013a). Construction activities within the National Monument could affect visitor access to the campground, boat launch site and ranger station due to traffic delays or temporary short-term road closures. Construction also could affect visitor's recreation experiences due to noise, delays, and visual intrusions from construction activities. Operation of the Tuttle Easement Micro-Siting Option 3 could affect recreation use and visitors to the national monument because the transmission line would cross Deerlodge Road under this option. Thus, maintenance activities could affect visitor access and recreation experiences due to traffic delays or temporary road closures.

State-managed Recreation Areas

Red Rim-Daley WHMA. Impacts to the Red Rim-Daley WHMA would be the same as described under Alternative I-A.

Yampa River State Park. Impacts to Yampa River State Park would be similar to those described under Alternative I-B.

Local Recreation Areas

There are no local recreation areas within Alternative I-D.

Scenic Byways and Backways

Impacts to the Outlaw Trail Scenic Loop Highway would be the same as described under Alternative I-A.

Alternative Connectors in Region I

There are no designated SRMAs affected by the Mexican Flats, Baggs Alternative, Fivemile Point North Alternative, or Fivemile Point South Alternative connectors. Only general recreation uses that occur on undesignated lands within the Rawlins FO would be affected. In addition, the Mexican Flats, Baggs, and Fivemile Point North alternative connectors would cross the Outlaw Trail Scenic Loop Highway. **Table 3.13-21** summarizes impacts associated with the alternative connectors in Region I.

Table 3.13-21 Summary of Region I Alternative Connector Impacts to Recreation

Alternative Connector	Analysis ¹
Mexican Flats Alternative Connector	Affects recreation on 8,686 acres of undesignated BLM lands within the 3.5 million-acre Rawlins FO. This is 0.2 percent of lands within the FO available for dispersed recreation. Would cross the Outlaw Trail Scenic Loop Highway.
Baggs Alternative Connector	Affects recreation on 20,497 acres of undesignated BLM lands within the 3.5 million-acre Rawlins FO. This is 0.6 percent of lands within the FO available for dispersed recreation. Would cross the Outlaw Trail Scenic Loop Highway.
Fivemile Point North Alternative	Affects recreation on 2,430 acres of undesignated BLM lands within the 3.5 million-acre Rawlins FO. This is 0.1 percent of lands within the FO available for dispersed recreation. Would cross the Outlaw Trail Scenic Loop Highway.
Fivemile Point South Alternative	Affects recreation on 999 acres of undesignated BLM lands within the 3.5 million-acre Rawlins FO. This is <0.1 percent of lands within the FO available for dispersed recreation.

¹ Acres represent the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity.

Alternative Ground Electrode Systems in Region I

The Shell Creek Alternative I-A, Eight Mile Basin (all alternatives), and Separation Creek (all alternatives) would have the greatest impact on recreation as they would be located near designated recreation areas. Smaller areas that are partially located on public land would have less impact on recreation, such as the Separation Flat and Little Snake East alternatives. **Table 3.13-22** provides a comparison of alternative electrode bed locations proposed near the northern terminal. Some locations might serve multiple alternative routes, while others could only be associated with a certain alternative route.

Table 3.13-22 Summary of Region I Alternative Ground Electrode System Location Impacts to Recreation

Alternative Ground Electrode System Locations	Analysis
Separation Flat – All Alternative Routes	128 acres of disturbance from construction, 39 acres from operations. Affects undesignated BLM lands. Would affect less public recreation use because only a portion of the site is publicly owned.
Shell Creek (Alternatives I-A and I-D)	223 acres of disturbance from construction, 89 acres from operations. Affects undesignated BLM lands within and west of Adobe Town DRUA. Has the greatest impact on recreation due to footprint size and distance from corridor.
Little Snake East (Alternatives I-A, I-B, and I-D)	108 acres of disturbance from construction, 29 acres from operations. Affects undesignated BLM lands. Affects less public recreation use because only a portion of the site is publicly owned.
Little Snake West (Alternative I-A)	121 acres of disturbance from construction, 37 acres from operations. Affects State lands open to public hunting (7 acres of the Little Snake SWA), as well as undesignated BLM lands.
Shell Creek (Alternative I-B)	189 acres of disturbance from construction, 71 acres from operations. Affects undesignated BLM lands west of Adobe Town DRUA. Has a greater impact on recreation because of large footprint and distance from the corridor.
Little Snake West (Alternatives I-B and I-D)	93 acres of disturbance from construction, 21 acres from operations. Affects State lands that are open to public hunting (7 acres of the Little Snake SWA), as well as undesignated BLM lands.
Eight Mile Basin – All Alternative Routes	86 acres of disturbance from construction, 18 acres from operations. Affects 406 acres of the CDNST SRMA and the Rim Lake Recreation site, as well as undesignated BLM lands.
Separation Creek – All Alternative Routes	138 acres of disturbance from construction, 48 acres from operations. Affects 3,956 acres of the Red Rim – Daley WHMA, as well as undesignated BLM lands.

Region I

Alternative I-C would affect the most federal and state-managed recreation sites of the four Region I alternatives. In comparison, Alternative I-D (Agency Preferred) would affect the fewest recreation sites, would not affect any high use sites, and would not cross the Yampa River at a developed access point. Therefore, with implementation of mitigation measures **REC-1**, **REC-2**, **REC-3**, and **REC-4**, this alternative would have the least impact on recreation use, activities, and setting. Alternative I-A (Applicant Proposed) is similar to Alternative I-D, however, Alternative I-A also would affect a high use Yampa River access point, as well as hunting in the Raftopolous Hunting Lease area, though implementation of mitigation measures **REC-2**, **REC-5**, and **REC-6** would reduce adverse impacts to recreation use and users at these two locations.

3.13.6.10 Region II

Table 3.13-23 through **Table 3.13-27** provide a summary of Region II recreation areas/sites by alternative, both within the 250-foot-wide transmission line ROW and the 2-mile transmission line corridor.

Alternative II-A (Applicant Proposed)

Alternative II-A would cross dispersed recreation areas in five FOs and two national forests (including several developed recreation sites), one specially managed recreation area, one state park, nine WMAs/units, two CWMUs, one private campground, and one reservoir. Alternative II-A also would cross three scenic byways.

Table 3.13-23 Region II BLM Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area/Site	Alternative II-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-D 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-E 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-F 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
BLM White River FO						
Dispersed, undesignated recreation areas	587 (0.04) 22,827 (1.6)	1,389 (<0.1) 57,802 (4)	1,389 (<0.1) 57,802 (4)	587 (0.04) 22,908 (1.6)	587 (0.04) 22,908 (1.6)	587 (0.04) 22,908 (1.6)
BLM Grand Junction FO						
Dispersed, undesignated recreation areas ¹	N/A	600 (0.05) 32,592 (2.5)	600 (0.05) 32,592 (2.5)	N/A	N/A	N/A
BLM Moab FO						
Dispersed, undesignated recreation areas	N/A	1,806 (0.2) 69,181 (5.8)	1,806 (0.2) 69,181 (5.8)	N/A	N/A	N/A
Labyrinth Canyon/Gemini Bridges SRMA	N/A	75 (0.02) 4,087 (1.4)	75 (0.02) 4,087 (1.4)	N/A	N/A	N/A
Utah Rims SRMA	N/A	0 925 (6.0)	0 925 (6.0)	N/A	N/A	N/A
BLM Vernal FO						
Dispersed, undesignated recreation areas	1,113 (0.07) 38,850 (2.5)	168 (0.01) 5,151 (0.3)	168 (0.01) 5,151 (0.3)	2,337 (0.2) 89,284 (5.7)	1,133 (0.07) 42,226 (2.7)	2,494 (0.2) 92,872 (6)
Fantasy Canyon SRMA	N/A	N/A	N/A	0 54 (78.3)	N/A	0 54 (78.3)
Nine Mile Canyon SRMA	N/A	N/A	N/A	0 1,456 (3.3)	N/A	0 1,453 (3.3)
BLM Price FO						
Dispersed, undesignated recreation areas	N/A	1,684 (0.1) 68,221 (5.0)	1,709 (0.1) 68,157 (5)	186 (0.01) 10,385 (0.8)	5 (0) 366 (0.03)	N/A
Labyrinth Canyon SRMA	N/A	3 (0.02) 154 (0.4)	3 (0.02) 154 (0.4)	N/A	N/A	N/A
San Rafael Swell SRMA	N/A	N/A	180 (0.02) 10,589 (1.1)	N/A	N/A	N/A

Table 3.13-23 Region II BLM Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area/Site	Alternative II-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-D 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-E 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-F 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
BLM Richfield FO						
Dispersed, undesignated recreation areas	38 (0) 1,378 (0.1)	140 (0.01) 5,821 (0.5)	436 (0.03) 16,284 (1.3)	41 (0) 1,574 (0.1)	38 (0) 1,378 (0.1)	38 (0) 1,378 (0.1)
BLM Salt Lake FO						
Dispersed, undesignated recreation areas	3 (0) 323 (0)	N/A	N/A	N/A	5 (0) 1,675 (0.05)	108 (0) 2,489 (0.08)
BLM Fillmore FO						
Dispersed, undesignated recreation areas ¹	1,257 (0.03) 49,166 (1.1)	504 (0.01) 21,815 (0.5)	523 (0.01) 18,657 (0.4)	1,261 (0.03) 48,833 (1.1)	1,261 (0.03) 48,833 (1.1)	524 (<0.01) 22,245 (0.5)
Little Sahara RA	183 (0.3) 5,974 (10)	N/A	N/A	183 (0.3) 5,974 (10)	183 (0.3) 5,974 (10)	N/A

¹ Discrepancies in percentages are due to rounding error.

Table 3.13-24 Region II USFS and Other Federal Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area ROS	Alternative II-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-D 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-E 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-F 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
Ashley National Forest						
Rural	N/A	N/A	N/A	N/A	N/A	N/A
Roaded Modified	N/A	N/A	N/A	N/A	N/A	N/A
Roaded Natural	N/A	N/A	N/A	10 (<0.01) 884 (0.2)	300 (0.07) 7,863 (1.7)	40 (<0.01) 2,118 (0.5)
Semi-Primitive Motorized	N/A	N/A	N/A	1 (0) 2,629 (0.9)	0 1,822 (0.6)	1 (0) 2,629 (0.9)
<i>SPM Within IRA</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>0</i> <i>2,263 (0.9)</i>	<i>0</i> <i>1,822 (0.6)</i>	<i>1</i> <i>2,623 (0.9)</i>

Table 3.13-24 Region II USFS and Other Federal Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area ROS	Alternative II-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-D 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-E 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-F 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
<i>Remainder in SPM ROS</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	0 6 (<0.01)	0 0	0 6 (<0.01)
Semi-Primitive Non-Motorized	N/A	N/A	N/A	0 630 (0.2)	0 5,802 (1.6)	0 649 (0.2)
<i>SPNM Within IRA</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	0 630 (0.2)	0 5,784 (1.5)	0 649 (0.2)
<i>Remainder in SPNM ROS</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	0 18 (<0.01)	<i>N/A</i>
Primitive	N/A	N/A	N/A	N/A	N/A	N/A
Unknown/Private	N/A	N/A	N/A	N/A	N/A	N/A
Total	N/A	N/A	N/A	11 acres 4,143 acres	300 acres 15,487 acres	41 acres 5,396 acres
Uinta National Forest						
Rural	0 23 (1.4)	N/A	N/A	N/A	N/A	N/A
Roaded Modified	160 (0.2) 4,475 (5.3)	N/A	N/A	0 31 (0.04)	242 (0.3) 4,929 (5.8)	242 (0.3) 4,929 (5.8)
Roaded Natural	286 (0.1) 7,904 (2.9)	N/A	N/A	0 17 (0.01)	0 648 (0.2)	31 (0.01) 1,104 (0.4)
Semi-Primitive Motorized	97 (<0.1) 11,800 (3.3)	N/A	N/A	N/A	0 4,752 (1.3)	17 (<0.01) 4,988 (1.4)
<i>SPM Within IRA</i>	0 10,102 (2.8)	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	0 3,581 (1.0)	17 (<0.01) 3,816 (1.1)
<i>Remainder in SPM ROS</i>	97 (<0.1) 1,698 (0.5)	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	0 1,172 (0.3)	0 1,172 (0.3)
Semi-Primitive Non-Motorized	N/A	N/A	N/A	N/A	N/A	N/A
Primitive	<1	N/A	N/A	N/A	N/A	N/A

Table 3.13-24 Region II USFS and Other Federal Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area ROS	Alternative II-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-D 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-E 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-F 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
Unknown/Private	2 (<0.01) 11 (<0.01)	N/A	N/A	N/A	0 20 (<0.02)	0 20 (<0.02)
Total	545 acres 24,213 acres	N/A	N/A	0 acres 48 acres	242 acres 10,349 acres	290 acres 11,021 acres
Manti-La Sal National Forest						
Rural	N/A	N/A	N/A	0 16 (2.0)	N/A	N/A
Roaded Modified	N/A	N/A	N/A	N/A	N/A	N/A
Roaded Natural	26 (0.01) 685 (0.1)	392 (<0.1) 14,379 (2.9)	N/A	173 (0.03) 7,183 (1.4)	31 (0.01) 1,266 (0.3)	31 (0.01) 1,266 (0.3)
Semi-Primitive Motorized	52 (0.01) 3,592 (0.5)	144 (0.02) 7,555 (1.0)	N/A	77 (0.01) 3,727 (0.5)	52 (0.01) 3,592 (0.5)	52 (0.01) 3,592 (0.5)
<i>SPM Within IRA</i>	26 (<0.01) 2,156 (0.3)	<1 (<0.01) 3,121 (0.4)	N/A	0 574 (0.1)	26 (<0.01) 2,156 (0.3)	26 (<0.01) 2,156 (0.3)
<i>Remainder in SPM ROS</i>	26 (<0.01) 1,436 (0.2)	144 (0.02) 4,434 (0.6)	N/A	77 (0.01) 3,153 (0.4)	26 (<0.01) 1,436 (0.2)	26 (<0.01) 1,436 (0.2)
Semi-Primitive Non-Motorized	N/A	0 10 (0.01)	N/A	0 10 (0.01)	N/A	N/A
<i>SPNM Within IRA</i>	N/A	0 10 (0.01)	N/A	N/A	N/A	N/A
<i>Remainder in SPNM ROS</i>	N/A	N/A	N/A	N/A	N/A	N/A
Primitive	N/A	N/A	N/A	N/A	N/A	N/A
Unknown/Private	N/A	N/A	N/A	<1 (0.01) 119 (0.2)	N/A	N/A
Total	78 acres 4,277 acres	536 acres 21,944 acres	N/A	250 acres 11,055 acres	83 acres 4,858 acres	83 acres 4,858 acres
Fishlake National Forest						
Rural	N/A	N/A	N/A	N/A	N/A	N/A

Table 3.13-24 Region II USFS and Other Federal Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area ROS	Alternative II-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-D 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-E 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-F 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
Roaded Modified	N/A	N/A	N/A	N/A	N/A	N/A
Roaded Natural	N/A	116 (0.02) 2,595 (0.5)	476 (0.1) 21,822 (4.2)	N/A	N/A	116 (0.2) 2,595 (0.5)
Semi-Primitive Motorized	N/A	0 1,534 (0.1)	400 (0.04) 18,887 (1.8)	N/A	N/A	0 1,534 (0.1)
<i>Within IRA</i>	<i>N/A</i>	<i>0</i> <i>0</i>	<i>0</i> <i>1,151 (0.1)</i>	<i>N/A</i>	<i>N/A</i>	<i>0</i> <i>0</i>
<i>Remainder in SPM ROS</i>	<i>N/A</i>	<i>0</i> <i>1,534 (0.1)</i>	<i>400 (0.04)</i> <i>17,736 (1.7)</i>	<i>N/A</i>	<i>N/A</i>	<i>0</i> <i>1,534 (0.1)</i>
Semi-Primitive Non-Motorized	N/A	N/A	0 111 (0.06)	N/A	N/A	N/A
<i>SPNM Within IRA</i>	<i>N/A</i>	<i>N/A</i>	<i>0</i> <i>89 (0.05)</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
<i>Remainder in SPNM ROS</i>	<i>N/A</i>	<i>N/A</i>	<i>22 (0.01)</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Primitive	N/A	N/A	N/A	N/A	N/A	N/A
Unknown/Private	N/A	N/A	<1 (0.01) 5 (0.02)	N/A	N/A	N/A
Total	N/A	116 acres 4,129 acres	876 acres 40,825 acres	N/A	N/A	116 acres 4,129 acres
Other Federal Recreation Areas						
Dinosaur National Monument	0 3 (<0.01)	N/A	N/A	0 3 (<0.01)	0 3 (<0.01)	0 3 (<0.01)

Discrepancies in percentages are due to rounding error.

Table 3.13-25 Region II State-managed Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area	Alternative II-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-D 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-E 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-F 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
Emery Farm Castle Dale WMA	N/A	N/A	0 <1 (1)	N/A	N/A	N/A
Currant Creek/Wildcat WMA	152 (0.7) 2,284 (10.7)	N/A	N/A	N/A	N/A	N/A
Nephi WMA-Nephi Unit	0 152 (100)	N/A	N/A	N/A	N/A	N/A
Fillmore WMA	N/A	N/A	0 221 (1.7)	N/A	N/A	N/A
Gordon Creek WMA	N/A	N/A	N/A	155 (0.7) 5,315 (23.4)	N/A	N/A
Indian Canyon WMA- Cottonwood Canyon Unit	N/A	N/A	N/A	N/A	46 (0.6) 1,668 (22)	N/A
North Nebo WMA/Fountain Green Unit	N/A	41 (1.8) 1,347 (58)	N/A	N/A	N/A	N/A
North Nebo WMA—Spencer Fork Unit	111 (1.7) 6,265 (96.4)	N/A	N/A	N/A	111 (1.7) 6,265 (96.4)	111 (1.7) 6,265 (96.4)
Northwest Manti WMA— Birdseye/ Lake Fork Unit	71 (1.9) 2,695 (71.9)	N/A	N/A	N/A	71 (1.9) 2,695 (71.9)	71 (1.9) 2,695 (71.9)
Northwest Manti WMA —Dairy Fork Unit	53 (1.1) 663 (13.3)	N/A	N/A	N/A	52 (1.0) 1,600 (32.2)	52 (1) 1,600 (32.2)
Northwest Manti WMA—Hilltop Conservation Easement	N/A	N/A	N/A	17 (1.6) 696 (64.8)	N/A	N/A
Northwest Manti WMA— Lasson Draw	0 16 (0.7)	N/A	N/A	N/A	0 (0) 16 (0.7)	0 (0) 16 (0.7)
Northwest Manti WMA— Starvation Unit	N/A	N/A	N/A	N/A	24 (0.4) 976 (16.9)	24 (0.4) 976 (16.9)

Table 3.13-25 Region II State-managed Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area	Alternative II-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-D 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-E 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative II-F 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
Strawberry River WMA	5 (0.2) 454 (14.8)	N/A	N/A	N/A	N/A	N/A
South Nebo WMA —Triangle Ranch Unit	29 (1) 1,855 (37.7)	42 (0.9) 2,734 (55.6)	N/A	61 (1.2) 3,584 (72.9)	61 (1.2%) 3,584 (72.9%)	61 (1.2) 3,584 (72.9)
Tabby Mountain WMA—Rabbit Gulch Unit	111 (1.2) 8,088 (89.4)	N/A	N/A	N/A	N/A	N/A
Tabby Mountain WMA—Tabby Mountain Unit	53 (0.1) 839 (2)	N/A	N/A	N/A	N/A	N/A
Starvation State Park	0 459 (6)	N/A	N/A	N/A	N/A	N/A
CWMUs:						
Double R Ranch	41/2,465 (39)	N/A	N/A	N/A	N/A	N/A
Crab Creek	0/211 (2)	N/A	N/A	N/A	0/211 (2)	0/211 (2)
Bear Mountain	N/A	82/4,515 (56)	N/A	N/A	N/A	N/A
Castle Valley Outdoors	N/A	N/A	178/6,067 (57)	N/A	N/A	N/A
Johnson Mountain Ranch	N/A	N/A	61/2,317 (17)	N/A	N/A	N/A
Oak Ranch	N/A	N/A	0/192 (4)	N/A	N/A	N/A
Old Woman Plateau	N/A	N/A	8/123 (2)	N/A	N/A	N/A
Round Valley	N/A	N/A	152/4,683 (59)	N/A	N/A	N/A
Minnie Maud Ridge	N/A	N/A	N/A	355/10,025 (63)	26/1,096 (7)	0/130 (<1)
Emma Park	N/A	N/A	N/A	0/227 (1)	232/7,267 (32)	95/2,684 (12)
Antelope Creek	N/A	N/A	N/A	N/A	129/5,817 (18)	N/A
Scofield Canyons	N/A	N/A	N/A	N/A	0/556 (4)	0/556 (4)
Soldier Summit	N/A	N/A	N/A	N/A	263/9,969 (38)	193/5,477 (21)

Discrepancies in percentages are due to rounding error.

Table 3.13-26 Region II Local Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)
Big Mountain Campground	0 15 (100)	N/A	N/A	0 15 (100)	0 15 (100)	0 15 (100)
Bottle Hollow Reservoir	0 101 (24)	N/A	N/A	N/A	0 101 (24)	N/A
Brough Reservoir	0 <1	N/A	N/A	N/A	N/A	N/A
Cedar Ridges Golf Course	N/A	0 Entire site	0 Entire site	N/A	N/A	N/A
Bear Creek Campground	N/A	0 18 (100)	N/A	N/A	N/A	N/A
Camp Timberlane	N/A	N/A	N/A	N/A	37 (5.1) 381 (53)	31 (4.3) 337 (47)

Table 3.13-27 Region II Scenic Byways and Backway Crossings within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)	250-foot-wide ROW (crossings) 2-mile Corridor (miles)
Dinosaur Diamond Prehistoric Byway	2 crossings 5 miles	3 crossings 88 miles	3 crossings 76 miles	2 crossings 13 miles**	4 crossings 10 miles**	2 crossings 5 miles
White River /Strawberry Road Scenic Backway	1 crossing 3 miles	N/A	N/A	N/A	N/A	N/A
Nebo Loop Scenic Byway	0 crossings <1 mile	N/A	N/A	0 crossings <1 mile	0 crossings <1 mile	0 crossings <1 mile

Table 3.13-27 Region II Scenic Byways and Backway Crossings within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area	Alternative II-A 250-foot-wide ROW (crossings) 2-mile Corridor (miles)	Alternative II-B 250-foot-wide ROW (crossings) 2-mile Corridor (miles)	Alternative II-C 250-foot-wide ROW (crossings) 2-mile Corridor (miles)	Alternative II-D 250-foot-wide ROW (crossings) 2-mile Corridor (miles)	Alternative II-E 250-foot-wide ROW (crossings) 2-mile Corridor (miles)	Alternative II-F 250-foot-wide ROW (crossings) 2-mile Corridor (miles)
Energy Loop: Huntington/Eccles Canyons National Scenic Byway	N/A	1 crossing 4 miles	N/A	7 crossings 17 miles	1 crossing <2 miles	N/A
Skyline Drive Scenic Backway	N/A	1 crossing 3 miles	N/A	1 crossing 4 miles	0 crossings <1 mile	0 crossings <1 mile
Wedge Overlook/Buckhorn Drive Scenic Backway	N/A	N/A	5 crossings 9 miles	N/A	N/A	N/A
Gooseberry/Fremont Road Scenic Backway	N/A	N/A	1 crossing 2 miles	N/A	N/A	N/A
Indian Canyon Scenic Byway	N/A	N/A	N/A	1 crossing 7 miles**	1 crossing <2 miles**	1 crossing 3 miles**
Nine Mile Canyon Scenic Backway	N/A	N/A	N/A	1 crossing 2 miles	N/A	1 crossing 2 miles
Reservation Ridge Scenic Backway	N/A	N/A	N/A	N/A	N/A	6 crossings 13 miles

** Indian Canyon Scenic Byway shares the same route with Dinosaur Diamond Prehistoric Byway in this portion of the Byway, therefore the acreage identified under the Indian Canyon route also is included in the Dinosaur Diamond route.

BLM Dispersed Recreation Areas

Within Region II, the 250-foot-wide transmission line ROW for Alternative II-A would impact 587 acres of dispersed recreation area in the White River FO, 1,113 acres within the Vernal FO, 38 acres within the Richfield FO, 3 acres within the Salt Lake FO, and 1,257 acres within Fillmore FO. The 2-mile transmission line corridor for Alternative II-A, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass the following acreages of dispersed recreation area within each FO:

- White River FO: 22,827 acres (1.6 percent of total available acreage for dispersed recreation within the FO).
- Vernal FO: 38,850 acres (2.5 percent of total available acreage for dispersed recreation within the FO).
- Richfield FO: 1,378 acres (0.1 percent of total available acreage for dispersed recreation within the FO).
- Salt Lake FO: 323 acres (0.0 percent of total available acreage for dispersed recreation within the FO).
- Fillmore FO: 49,166 acres (1.1 percent of total available acreage for dispersed recreation within the FO).

Construction activities associated with Alternative II-A could temporarily affect the ability of visitors to participate in non-motorized recreation such as hiking or camping by displacing visitors due to noise or visual presence of construction, or making the area inhospitable for wildlife (i.e., would affect wildlife viewing, hunting, and fishing, see Section 3.13.6). Construction is assumed to affect motorized recreation to a lesser degree unless access is restricted to trails. There are no identified high use areas identified within the 2-mile transmission line corridor for the White River, Fillmore, Richfield, and Salt Lake FOs. Construction would affect recreation use, particularly on the weekends (Saturdays; there will be no construction on Sundays) and during the summer at higher elevation areas, and during the spring and fall at lower elevations. In general, there are other nearby locations that visitors could temporarily go during construction activities that offer the same recreation opportunities in a similar environment as are provided in Alternative II-A recreation areas. Operation of the transmission line could affect the visual setting of dispersed recreational opportunities, though in general, the line follows existing transmission lines. Maintenance activities could displace wildlife, affecting hunting or wildlife viewing activities.

Within the Vernal FO, the portion of the transmission line between Starvation State Park and Fort Duchesne would be located near the edge of two deer hunting units (9A and 11). During construction, wildlife may be displaced to areas that are not within the unit. Application of **REC-5**, which would limit construction during the opening of big game seasons in areas near developed recreation sites, would assist in limiting impacts, but would not fully eliminate this risk along the entire portion of the route.

BLM SRMAs or Other Specially Managed Recreation Areas

Little Sahara RA. Within the Fillmore FO, the 250-foot-wide transmission line ROW would cross 183 acres of the 60,000 Little Sahara RA. The 2-mile transmission line corridor, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 5,974 acres of the RA. These acreages comprise 0.3 percent and 10 percent of the RA, respectively. The majority of the area that would be affected is outside the boundary fence and therefore likely receives little use (BLM 2011d). The 2-mile transmission line corridor is well away from designated camping areas. As a result, minimal impacts are expected to recreation from construction. As discussed in Section 3.13.6, some presence of human-constructed structures would be acceptable to the motorized driver user group, the key user

group for the RA. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility and compliance with visual objectives for the RA.

USFS Recreation Areas

Within Region II, the 250-foot-wide transmission line ROW for Alternative II-A would impact 545 acres of dispersed recreation area in the Uinta National Forest and 78 acres within the Manti-La Sal National Forest.

Uinta National Forest. Within the Uinta National Forest, over 80 percent of the 250-foot-wide ROW would fall primarily within the roaded modified and roaded natural ROS classes. These types of areas are managed for recreation in ways that allow for readily evident to moderate evidence of the sights and sounds of human activity. The sights and sounds of construction would be in conformance with area management, though they would cause temporary adverse impacts to scenic drivers, hikers, campers and other non-motorized user groups identified in Section 3.13.6.

Areas classified as semi-primitive motorized, while having some evidence of other users and motorized use, have a low concentration of users, and a predominantly natural or natural-appearing environment. Approximately 11,800 acres of the 2-mile transmission line corridor would be in areas classified as semi-primitive motorized. This is 49 percent of the total acreage of the 2-mile transmission line corridor located within the Uinta National Forest (24,213 acres) and 3.3 percent of all semi-primitive motorized ROS acreage within the Uinta National Forest. The total 2-mile transmission line corridor acreage represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. The sights and sounds of construction and presence of large construction crews and construction traffic would not be consistent with the recreation goals for the semi-primitive motorized areas. Over 85 percent of this acreage (or 10,102 acres) would be located within one or more IRAs. Construction within IRAs would use roadless construction methods identified in **Appendix D**, including helicopter construction, overland travel smaller ROW, selective vegetation management, etc. This would reduce some impacts to semi-primitive motorized areas by eliminating road construction; however, helicopter construction and/or overland travel itself also likely would be a temporary adverse impact to recreationists in these areas. Please see Section 3.15, Special Designation Areas, for additional impacts to IRAs. The remaining 1,698 acres of semi-primitive motorized areas would not have roadless construction restrictions. This area comprises approximately 0.5 percent of all semi-primitive motorized acreage within the Uinta National Forest.

As discussed in Section 3.13.6, construction would adversely affect the hunters and wildlife viewer user groups through habitat removal, restricted access to areas undergoing construction, and by displacing wildlife in and near construction zones. Recreationists seeking wildlife watching experiences or natural settings would be adversely impacted by these activities regardless of their timing. Hunters would be adversely impacted only if these activities were scheduled during active hunting seasons. Additionally, the 2-mile transmission line corridor would be partially located in areas where adjacent deer hunting units abut (units 17A and 17V and units 16A and 12/16B/16C).

High use/developed areas within the Uinta National Forest identified within the 2-mile transmission line corridor include Long Hollow Trail, Teats Mountain Trail, Strawberry River Day Use Area, Aspen Grove Campground and Marina near Strawberry Reservoir, Sheep Creek Snowmobile Area, and Forest Service Road 090 (Sheep Creek Road) that largely parallels the transmission line, is a part of the Strawberry ATV System, and provides access to the Great Western Trail. Construction would adversely affect the non-mechanized user group (hikers, campers, and equestrians) that recreate on the trails listed above through construction activity and noise. Campers, day use area users, and boaters also would be adversely affected by construction activity and noise. Motorized drivers also would be adversely affected by construction if access to the trails listed above was altered. Use of the

trails and facilities may be altered if recreationists choose to visit other locations due to construction activities nearby.

During construction, wildlife may be displaced to areas that are not within the unit for which hunters are licensed. Construction would affect recreation use at these sites particularly on the weekends (Saturdays; there will be no construction on Sundays) and during the summer at higher elevation areas, and during the spring and fall at lower elevations. With the exception of hunters, who may not be able to follow wildlife to adjoining units, there are other nearby locations that visitors could temporarily go during construction activities that offer the same recreation opportunities in a similar environment. Application of **REC-5** and **REC-6** would reduce impacts to campers and day use area users by limiting construction on weekends and prohibiting activities on holidays or other key use times (such as the opening of big game seasons) near developed recreation sites and ensuring continued access to high use areas and trails.

Operation of the transmission line would affect the visual setting of recreational opportunities around the Aspen Grove Campground, the Strawberry River Day Use Area, and the trails listed above, as well as the access roads to these facilities. Non-motorized user groups such as hikers, campers, and picnickers may be affected by the presence of the transmission line; however, OHV user groups are not expected to be adversely affected by the presence of a transmission line (see Section 3.13.6). Project roads near the high use/developed areas listed above could result in unauthorized OHV use (and associated resource damage, noise, etc.) as well as permanent visual impacts. Please see Section 3.13.6.8 regarding potential impacts from Project access roads. Implementation of **REC-2** would limit impacts from new access roads. Maintenance activities could displace wildlife, thus affecting hunting or wildlife viewing activities. Application of **REC-1** would reduce this impact by scheduling maintenance activities outside of hunting seasons. Section 3.12, Visual Resources and **Appendix I** provide additional detail regarding visibility from the Uinta National Forest, as well as from the boat launch and campground areas, which are a KOP (V-34) used for visual analysis. The Strawberry IRA and Cedar Knoll IRA micro-siting options would not substantially affect the impact analysis for recreation.

Manti-La Sal National Forest. Within the Manti-La Sal National Forest, over 52 acres (67 percent) of the 250-foot-wide transmission line ROW and 3,592 acres (84 percent) of the 2-mile transmission line corridor would be located in areas classified as semi-primitive motorized. These acreages comprise 0.01 and 0.5 percent of all semi-primitive motorized areas within the Manti-La Sal National Forest, respectively. The sights and sounds of construction and presence of large construction crews and construction traffic would not be consistent with the recreation goals for these areas. Construction would adversely affect recreationists in these areas as described above. Approximately 2,156 acres of the semi-primitive motorized area within the 2-mile transmission line corridor would be located in IRAs. Using roadless construction methods would reduce some impacts to semi-primitive motorized areas by eliminating road construction; however, helicopter construction and/or overland travel itself also likely would result in a temporary adverse impact to recreationists in these areas. The remaining 1,436 acres of semi-primitive motorized area within the 2-mile transmission line corridor would be outside IRAs and comprise 0.2 percent of all areas classified as semi-primitive motorized within the Manti-La Sal National Forest.

Additionally, the route for the proposed 2-mile transmission line corridor would be partially located near the border of deer hunting units 16A and 12/16B/16C. During construction, wildlife may be displaced to areas that are not within the unit for which hunters are licensed. Construction would affect recreation use particularly on the weekends (Saturdays; there will be no construction on Sundays). Application of **REC-5** would reduce impacts to campers and hunters by prohibiting construction on weekends and on holidays or other key use times, such as opening days of hunting seasons, near developed recreation sites. Operation of the transmission line is not expected to affect recreational opportunities because, in general, the proposed transmission line would follow existing transmission lines. Maintenance

activities could displace wildlife, affecting hunting or wildlife viewing activities. Application of **REC-1** would reduce this impact by scheduling maintenance activities outside of hunting seasons.

Other Federal Recreation Areas

Dinosaur National Monument. The 2-mile transmission line corridor for Alternative II-A encompasses 3 acres of the Dinosaur National Monument on the south side of Highway 40 across from Harpers Corner Road, which is the main entrance to the monument. The monument's visitor center and other facilities are located on the north side of Highway 40 on Harpers Corner Road, outside of the 2-mile transmission line corridor. Given that park facilities are located across the highway and up Harpers Corner Road, and the majority of the monument is located much further north, it is unlikely that any recreation use occurs south of Highway 40 and therefore impacts to recreation within the monument are unlikely.

State-managed Recreation Areas

WMAs. The 250-foot-wide transmission line ROW for Alternative II-A would cross eight WMAs/units; the 2-mile transmission line corridor also would include acreage in an additional two WMAs. All ten WMAs primarily are managed for big game and protection of big game winter habitat. Substantial portions of five WMAs would be within the 2-mile transmission line corridor:

- Tabby Mountain WMA—Rabbit Gulch Unit: 8,088 acres (89 percent) of the WMA;
- North Nebo WMA—Spencer Fork Unit: 6,265 acres (96 percent) of the WMA;
- Northwest Manti WMA—Birdseye/Lake Fork Unit: 2,695 acres (72 percent) of the WMA;
- South Nebo WMA—Triangle Ranch Unit: 1,855 acres (38 percent) of the WMA; and
- Nephi WMA—Nephi Unit: 152 acres (100 percent) of the WMA.

Ten to 15 percent of the Northwest Manti WMA – Dairy Fork Unit, Currant Creek/Wildcat WMA, and Strawberry River WMA would be within the 2-mile transmission line corridor.

Two percent or less of the remaining two WMAs (Tabby Mountain WMA – Tabby Mountain Unit and Northwest Manti WMA – Lasson Draw) would be within the 2-mile transmission line corridor.

The acreage within the 2-mile transmission corridor represents the maximum area that could be temporarily removed from use as wildlife habitat and quality hunting area due to surface disturbance, increased noise, and human activity, and would encompass substantial portions of five WMAs. With the exception of the Currant Creek/Wildcat, Nephi, and Strawberry River WMAs, all of these units are closed to public access in winter and spring to protect wintering wildlife. Adherence to timing restrictions during both construction and operation phases would prevent disturbance to wintering big game; however, there would still be some loss of big game habitat through vegetation removal, noise and human activity. These impacts within the WMAs primarily would affect hunting and wildlife watching recreation opportunities.

Agreements for four of these WMAs contain language that could prohibit development of a transmission line and/or access roads if impacts are not sufficiently mitigated. The conservation agreement language for the North Nebo WMA—Spencer Fork Unit specifically precludes industrial, commercial, or other development that is not consistent with the conservation values and purpose of the WMA. The South Nebo WMA—Triangle Ranch Unit contains a reversionary clause on some parcels if land use changes from “big game management.” As CUP mitigation properties, the Currant Creek/Wildcat and Strawberry River WMAs, also have reversionary clauses that require them to manage the properties for the purposes for which they were acquired. Additionally, the Tabby Mountain WMA is adjoined by a private conservation easement area (Sand Wash/Sink Draw) that prohibits development of overhead transmission lines (see Section 3.14, Land Use). Development of a

transmission line or access roads within these WMAs would therefore not be in conformance with area management.

Habitat loss would be minimized through application of **REC-2**, which would limit access to existing roads within the WMA and/or require full reclamation of any roads that are constructed. Application of **REC-4** would reduce recreation impacts by rescheduling construction activities within key hunting locales, such as WMAs, outside of hunting seasons. During operations, the 250-foot-wide transmission line ROW would still have some level of vegetation maintenance during operations that could affect wildlife habitat, and maintenance-related noise could temporarily affect adjacent hunting and wildlife viewing opportunities by making the area less hospitable for wildlife. Application of **REC-1** (scheduling vegetation maintenance outside of big game hunting seasons where practicable) would further minimize impacts to hunting and wildlife viewing.

CWMUs. The 250-foot-wide transmission line ROW for Alternative II-A also would cross the 6,390-acre Double R Ranch CWMU. Approximately 40 acres would be within the 250-foot-wide transmission line ROW; the 2-mile transmission line corridor would encompass 2,465 acres (40 percent) of the CWMU. Approximately 200 acres of the 2-mile transmission line corridor also would be within the 10,409-acre Crab Ranch CWMU. Impacts to hunting within the 2-mile transmission line corridor area would be similar to those described above. Decisions regarding road construction and timing of construction would be up to the private landowner.

Starvation State Park. The 2-mile transmission line corridor crosses approximately 459 acres of the 7,324-acre Starvation State Park. This park offers boating and other water sports at Starvation Reservoir and features a developed camping area as well as undeveloped camping areas. The 2-mile transmission line corridor would be located on the reservoir side that is opposite of the developed camping areas, but would be near the Rabbit Gulch primitive camping area. Campers in this area would be most disturbed by the sights and sounds of construction. There are other primitive camping areas located around the reservoir that could be used by any displaced campers from Rabbit Gulch. Scenic views are not anticipated to be highly affected as the area is already disturbed by oil and gas wells and the existing steel lattice structures of an existing transmission line. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility.

Local Recreation Areas

Big Mountain Campground. The 2-mile transmission line corridor would encompass approximately 15 acres of the Big Mountain Campground (the entire site), a private campground off Highway 132 in Nephi. Construction would affect camping in this area through noise and visual disturbances. There would be many other camping areas on nearby NFS lands that would not be affected and would continue to be available for use during construction. Section 3.17, Social and Economic Conditions, addresses the economic impacts of construction on this facility. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility from a key observation point (KOP) F-2, which is located near the campground.

Application of **REC-2** would limit access to existing roads and/or require full reclamation of any new roads. Application of **REC-5** and **REC-6** would reduce impacts to campers by prohibiting construction during weekends and other high use periods and maintaining access to high use areas.

Bottle Hollow and Brough Reservoirs. The 2-mile transmission line corridor also would cross Brough Reservoir, a blue ribbon trout fishing area, and Bottle Hollow Reservoir, a reservoir managed by the Uintah and Ouray Indian Reservation. Construction is not expected to impact fishing in these areas; however, restricted access would be an adverse impact to recreational users.

Application of **REC-6** would be effective in reducing impacts to the users of these areas by ensuring continued access, though there could be some traffic delays accessing recreational areas. Section

3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility from KOP V-21, which is located near Bottle Hollow Reservoir.

Scenic Backways and Byways

Dinosaur Diamond Prehistoric Byway. Within Region II, the 250-foot-wide transmission line ROW for Alternative II-A would cross the 480-mile Dinosaur Diamond Prehistoric Byway (Highway 40/191) south of Roosevelt, Utah and again near Dinosaur, Colorado. Approximately five miles of the Byway would be located within the 2-mile transmission line corridor in which roads and other construction facilities would be located. During construction, scenic drivers would be adversely affected by construction activities near the highway. Other impacts would include temporary traffic delays due to construction during key construction times (such as stringing of the lines). No impacts from operation are expected because the area near Roosevelt, in which the transmission line would be visible from the Byway, is a rural area where transmission lines and other manmade structures are already visible; and the portion of the 2-mile transmission line corridor near Dinosaur, Colorado would follow an existing transmission line. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility along the Byway.

White River/Strawberry Road Scenic Backway. Within the Uinta National Forest, the 250-foot-wide transmission line ROW would cross the 28-mile White River/Strawberry Road Scenic Backway near Strawberry Reservoir. Approximately three miles of the Backway would be within the 2-mile transmission line corridor in which roads and other construction facilities would be located. The visual disturbances created by the transmission line itself would permanently alter the recreation setting for scenic driving on portions of the Scenic Backway nearest to the 250-foot-wide transmission line ROW; scenic drivers using the Backway also could be subject to views of road construction within the 2-mile transmission line corridor (see Section 3.12, Visual Resources, for more information). Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility along the backway.

Nebo Loop Scenic Byway. East of Nephi, the transmission line would be located on the south side of Highway 132, opposite the turnoff for the 37-mile Nebo Loop Scenic Byway (Salt Creek Canyon Road). Less than 1 mile of the Byway would be within the 2-mile transmission line corridor; scenic drivers would see construction areas as they enter/leave the Byway. Section 3.12, Visual Resources, and Appendix I provide additional detail regarding visibility along the Byway and conformance with visual objectives in this area. East of the Byway, the transmission line would cross Highway 132, potentially causing some traffic delays for those accessing the Byway during key construction periods.

Alternative II-B

Alternative II-B would cross dispersed recreation areas in seven FOs and two national forests (including several developed recreation sites), three specially managed recreation areas, and two WMAs. Alternative II-B also would affect three scenic byways.

BLM Dispersed Recreation Areas

Within Region II, the 250-foot-wide transmission line ROW for Alternative II-B would impact seven FOs. The 2-mile transmission line corridor for Alternative II-B, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass the following acreages of dispersed area within each FO:

- White River FO: 57,802 acres (4.0 percent of total available acreage for dispersed recreation within the FO).
- Grand Junction: 32,592 acres (2.5 percent of total available acreage for dispersed recreation within the FO).

- Vernal FO: 5,151 acres (0.3 percent of total available acreage for dispersed recreation within the FO).
- Moab FO: 69,151 acres (5.8 percent of total available acreage for dispersed recreation within the FO).
- Price FO: 68,221 acres (5.0 percent of total available acreage for dispersed recreation within the FO).
- Richfield FO: 5,821 acres (0.5 percent of total available acreage for dispersed recreation within the FO).
- Fillmore FO: 21,815 acres (0.5 percent of total available acreage for dispersed recreation within the FO).

Construction impacts within the White River, Vernal, Richfield, and Fillmore FOs would be similar to those identified under Alternative II-A, but would vary in intensity based on acreage and would affect different portions of the FO. There are no areas of high use identified within the dispersed recreation areas for these FOs and there are public lands adjacent to the affected areas that can accommodate any displaced dispersed recreation activities. Within the Grand Junction and Price FOs, recreation use within the 2-mile transmission line corridor is likely to include OHV use, hunting, recreational shooting, and other dispersed recreation activities. There are no identified high use areas within these portions of the FOs.

Within the Moab FO, acreage within the 2-mile transmission line corridor primarily would be along the Highway 70/6/50 corridor. With the exception of scenic driving, this is not a high use recreation area, and there are public lands adjacent to affected areas that can accommodate any displaced recreation activities. The 250-foot-wide transmission line ROW would be partially in a designated utility corridor and partially within ROW avoidance areas, and would cross the highway once. Construction of the transmission line (and accompanying roads or construction support areas) would alter the scenic quality and recreation setting for scenic drivers on the highway. Wire installation across the highway would cause temporary delays in traffic. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility from Highway 70.

BLM SRMAs or Other Specially Managed Recreation Areas

Labyrinth Canyon/Gemini Bridges SRMA. Within the Moab FO, approximately 75 acres of the 250-foot-wide transmission line ROW and 4,807 acres of the 2-mile transmission line corridor would fall within the 300,600-acre Labyrinth Canyon/Gemini Bridges SRMA. These acreages comprise 0.02 percent and 1.4 percent of the SRMA, respectively. This SRMA is managed to provide destination recreation including river running, camping, mountain biking and other recreation opportunities. Within the SRMA, the transmission line would be within a designated utility corridor and in conformance with area management. The portion of the SRMA impacted by the transmission line is the far northern end, near Highway 6/50, and would not be expected to be a high use area for hiking, camping, and other non-motorized activities. However, any construction activity would be an adverse impact to river users entering the SRMA in this area.

Labyrinth Canyon SRMA. Within the Price FO, approximately 154 acres of the Labyrinth Canyon SRMA (less than 0.5 percent of the SRMA) would be within the 2-mile transmission line corridor. Impacts to recreation within this area would be similar to those described for the Labyrinth Canyon/Gemini Bridges SRMA due to its location along the Green River.

Utah Rims SRMA. Approximately 925 acres of the 2-mile transmission line corridor would fall within the 15,424-acre Utah Rims SRMA. This acreage comprises 6.0 percent of the SRMA. The SRMA is managed to provide a variety of community-based dispersed, motorized recreation opportunities (primarily OHV use). It is assumed that the aesthetic impacts from construction or operation of the

transmission line would not substantively affect recreational use of the OHV trails, due to the noise of the motorized vehicles used on the trail system; however, other user groups such as campers located within the 2-mile transmission line corridor would be adversely affected by the construction noise and activity. Restricted access to the trail system during construction would be an adverse impact for recreational users in this area. Application of **REC-6** would reduce impacts to recreational users in this area by allowing users continued access to all or part of the trail system.

USFS Recreation Areas

Within Region II, Alternative II-B would impact dispersed recreation areas in the Manti-La Sal National Forest and the Fishlake National Forest.

Manti-La Sal National Forest. Approximately 536 acres of the 250-foot-wide transmission line ROW and 21,944 acres of the 2-mile transmission line corridor would fall within the Manti-La Sal National Forest. Over 70 percent of the acreage within the 250-foot-wide transmission line ROW would fall exclusively within areas classified as roaded natural. These types of areas are managed for recreation in ways that allow for readily evident to moderate evidence of the sights and sounds of human activity. The sights and sounds of construction would be in conformance with area management, though they would cause temporary adverse impacts to scenic viewers, hikers, campers and other non-motorized user groups identified in Section 3.13.6. Areas classified as semi-primitive motorized, while having some evidence of other users and motorized use, have a low concentration of users and a predominantly natural or natural-appearing environment. Approximately 7,555 acres within the 2-mile transmission line corridor would be classified as semi-primitive motorized. This is 34 percent of the total acreage of the 2-mile transmission line corridor located within the Manti-La Sal National Forest (26,584 acres) and 1.0 percent of all semi-primitive motorized acreage within the Manti-La Sal National Forest. The total acreage within the 2-mile transmission line corridor represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. Approximately 10 acres (0.1 percent) of the total acreage of the 2-mile transmission line corridor would be within areas classified as semi-primitive non-motorized. This acreage comprises 0.01 percent of all semi-primitive non-motorized ROS acreage within the Manti-La Sal National Forest. The sights and sounds of construction and presence of large construction crews and construction traffic would not be consistent with the recreation goals for these areas. Over 40 percent of acreage within the 2-mile transmission line corridor in areas classified as semi-primitive motorized (or 3,121 acres) and all of the acreage within semi-primitive non-motorized areas would be located within IRAs. Construction within IRAs would use roadless construction methods identified in **Appendix D**. This would reduce some impacts to semi-primitive motorized and non-motorized areas by eliminating road construction; however, helicopter construction and/or overland travel itself also likely would be a temporary adverse impact to recreationists in these areas. The remaining 4,434 acres of semi-primitive motorized area within the 2-mile transmission line corridor would be outside IRAs and comprise 0.6 percent of all areas classified as semi-primitive motorized within the Manti-La Sal National Forest.

As discussed in Section 3.13.6, construction would adversely affect the hunter and wildlife viewer user group through habitat removal, restricted access to areas undergoing construction, and by displacing wildlife in and near construction zones. Construction also would adversely affect the non-mechanized user group (hikers, campers, and equestrians) through construction activity and noise. During construction, wildlife may be displaced to areas that are not within the unit for which hunters are licensed. Hunters would be adversely impacted only if these activities were scheduled during active hunting seasons. The majority of this route is well within Hunt Unit 12 and therefore not likely to affect hunters' ability to track displaced game. Recreationists seeking wildlife watching experiences or natural settings would be adversely impacted by construction activities regardless of their timing.

Within the Manti-La Sal National Forest, Alternative II-B would cross several high use/developed areas, including the Arapeen ATV Trail System area, Indian Creek Group Campground, and Potters

Pond Campground. Alternative II-B would cross almost all of the OHV routes within the northern part of the Arapeen ATV Trail System, including the Great Western Trail. The Great Western Trail is one of the few long distance north/south trails in this area. Restricted access to the trail during the summer would be a substantial, but temporary adverse impact to both motorized and non-motorized user groups. Application of **REC-6** would allow access to the trail to continue, although there could be delays in use during key construction times. Use of other OHV routes also would be affected from construction activities potentially altering the ability of users to drive on the route through construction areas. However, use of mainly small loop routes would be affected; routes of similar difficulty and length would be available for use in the southern part of the trail system (USFS 2010a). Construction activities related to Alternative II-B also would affect use of the Indian Creek Group Campground and Potter's Pond Campground as campers may choose alternate locations to avoid construction activities and noise. Other nearby dispersed campsites on Miller Flat Road would continue to be available for use during construction activities. Application of **REC-5** and **REC-6** would reduce impacts to campers by limiting construction on weekends and prohibiting activities on holidays or other key use times near developed recreation sites and ensuring continued access to high use areas.

Operation of the transmission line also would affect the visual setting of recreation opportunities and access roads, although in general, the line follows an existing high voltage wooden H-frame transmission line. Non-motorized users such as hikers may be affected by presence of the transmission line; however, OHV users are not expected to be adversely affected by the presence of the transmission line (see Section 3.13.6). Project roads near the high use/developed areas listed above could result in unauthorized OHV use (and associated resource damage, noise, etc.) as well as permanent visual impacts. Please see Section 3.13.6.8 regarding potential impacts from Project access roads. Implementation of **REC-2** would limit impacts from new access roads. Maintenance activities could displace wildlife, thus affecting hunting or wildlife viewing activities. Application of **REC-1** would reduce this impact by scheduling maintenance activities outside of hunting seasons. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility from KOPs P-16 and P-17, which are located at the Indian Creek and Potter's Pond campgrounds. Operation and maintenance noise and activities could displace wildlife, affecting hunting or wildlife viewing activities. Application of **REC-1** would reduce this impact, by scheduling maintenance activities outside of hunting seasons.

Fishlake National Forest. Approximately 116 acres of the 250-foot-wide transmission line ROW would fall within areas classified as roaded natural within the Fishlake National Forest. The 2-mile transmission line corridor for Alternative II-B, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 4,129 acres of the Fishlake National Forest. Thirty-seven percent of this acreage (1,534 acres) would be within areas classified as semi-primitive motorized. This acreage, which comprises 0.1 percent of all semi-primitive motorized acreage within the Fishlake National Forest, would not be in conformance with recreation goals for this ROS classification. None of this acreage would be within IRAs. Impacts to recreation within the Fishlake National Forest from construction would be similar to those discussed for national forests under Alternative II-A, and above. There are no identified high use areas within this portion of the Fishlake National Forest; however, the proposed 2-mile transmission line corridor would be partially located near the northern edge of a UDWR limited entry hunt unit (16A). Construction during hunting season within or near this unit would adversely affect hunters through habitat removal, restricted access to areas undergoing construction, and by displacing wildlife in and near construction zones. Hunters may not be able to easily move to other areas to follow wildlife movement, and wildlife may be displaced to areas that are not within the unit. Additionally, the limited entry nature of this unit is such that it would be difficult to find a substitute hunting opportunity. Application of mitigation measures **REC-1**, **REC-2**, **REC-4**, and **REC-5** would assist in reducing impacts within the hunting unit during both construction and operation. Operation of the transmission line also would affect the visual setting of dispersed recreational opportunities although in general, the line follows existing transmission lines.

State-managed Recreation Areas

WMAs. The 250-foot-wide transmission line ROW for Alternative II-B would cross the South Nebo WMA – Triangle Ranch Unit and the Moroni subunit of the North Nebo WMA – Fountain Green Unit. Both WMAs are managed to protect big game winter range. Impacts to the South Nebo WMA – Triangle Ranch Unit would be similar to those identified under Alternative II-A, but would affect a greater portion of the WMA (the 2-mile transmission line corridor would encompass approximately 2,734 acres or 56 percent of the WMA). Approximately 41 acres of the 250-foot-wide transmission line ROW and 1,347 acres of the 2-mile transmission line corridor would fall within the North Nebo – Fountain Green Unit. This comprises 2 percent and 58 percent of the WMA, respectively. The unit is closed to public access in winter and spring to protect wintering wildlife. Adherence to timing restrictions during both construction and operation phases would prevent disturbance to wintering big game; however, there would still be some loss of big game habitat through vegetation removal, noise, and human activity that would affect hunting and wildlife watching recreation opportunities.

The South Nebo WMA —Triangle Ranch Unit contains reversionary clauses on some parcels if land use changes from “big game management.” Development of a transmission line or access roads within these parcels would not be in conformance with area management. Habitat loss would be minimized through application of **REC-2**, which would limit access to existing roads within the WMA and/or require full reclamation of any roads that are constructed. Application of **REC-4** would reduce recreational impacts by rescheduling construction activities within key hunting locales, such as WMAs, outside of hunting seasons. During operations, the 250-foot-wide transmission line ROW would still have some level of vegetation maintenance during operations that could affect wildlife habitat, and maintenance-related noise could temporarily affect adjacent hunting and wildlife viewing opportunities by making the area less hospitable for wildlife. Application of **REC-1** (scheduling vegetation maintenance outside of big game hunting seasons where practicable) would further minimize impacts to hunting and wildlife viewing.

CWMUs. The 250-foot-wide transmission line ROW for Alternative II-B also would cross the 8,037-acre Bear Mountain CWMU. Approximately 82 acres would be within the 250-foot-wide ROW; the 2-mile transmission line corridor would encompass 4,515 acres (56 percent) of the CWMU. Impacts to hunting within the 2-mile transmission line corridor area would be similar to those described above. Decisions regarding road construction and timing of construction would be up to the private landowner.

Local Recreation Areas

Bear Creek Campground. Approximately 18 acres of Emery County's Bear Creek Campground (the entire site) would be located within the 2-mile transmission line corridor; the campground would not be located within the 250-foot-wide transmission line ROW. Construction within the 2-mile transmission line corridor would adversely affect campers, particularly during summer weekends, due to construction activity and noise. Recreation use of the campground also may be affected if campers are displaced to nearby campgrounds in the Manti-La Sal National Forest. Application of **REC-2** would limit access to existing roads and/or require full reclamation of any new roads. Application of **REC-5** and **REC-6** would reduce impacts to campers by prohibiting construction during weekends and other high use periods and maintaining access to high use recreation areas. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility from KOP P-32, which is located near the campground.

Cedar Ridges Golf Course. The entire Cedar Ridges Golf Course near Rangely, Colorado would be located within the 2-mile transmission line corridor; however, the golf course would not be located within the 250-foot-wide transmission line ROW. Construction activity and noise within the 2-mile transmission line corridor would adversely affect golfers, as well as use of the golf course, particularly during the summer, if golfers are displaced to another location. Application of **REC-2** would limit access to existing roads and/or require full reclamation of any new roads. Application of **REC-5** and

REC-6 would reduce impacts to golfers by prohibiting construction during weekends and other high use periods and maintaining access to high use recreation areas.

Scenic Backways and Byways

Dinosaur Diamond Prehistoric Byway. Under Alternative II-B, the 250-foot-wide transmission line ROW for Alternative II-B would largely parallel the 480-mile Dinosaur Diamond Prehistoric Byway along the Highway 70/6/50 corridor between the McInnis NCA and Green River, Utah and along Highway 6 between Green River and Price. Over 88 miles of the Byway would fall within the 2-mile transmission line corridor in which roads and other construction facilities would be located. Impacts would include temporary traffic delays due to construction during key construction times (such as stringing of the lines), and alteration of the recreation setting for scenic drivers along these portions of the Byway. However, both affected portions of the Byway have existing transmission lines adjacent to the highway. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility along the Byway.

Energy Loop: Huntington/Eccles Canyons Scenic Byway. West of Huntington, the 250-foot-wide transmission line ROW would cross the 83-mile Energy Loop: Huntington/Eccles Canyons Scenic Byway (SR-31), and generally would parallel the Byway for about 4 miles, although the 250-foot-wide transmission line ROW would be located about 1.5 miles to the south of SR 31. Approximately 4 miles of the Byway would fall within the 2-mile transmission line corridor; about 1 mile of the Byway would fall within the 250-foot-wide transmission line ROW. Construction activity at the crossing or road construction within the portion of the 2-mile transmission line corridor adjoining the Byway would adversely affect the scenic view of the Byway. Visual disturbances from construction of new roads would be permanent unless fully restored. During construction, portions of the Byway also could experience additional traffic on segments used for employee commute, supply delivery, etc. (see Section 3.16, Transportation). Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility along the Byway.

Skyline Drive Scenic Backway. Southwest of Mt. Pleasant, the 250-foot-wide transmission line ROW would cross Skyline Drive Scenic Backway; approximately 3 miles of the Backway would be within the 2-mile transmission line corridor. There are existing transmission lines in this area. Scenic drivers using the Backway could be subject to views of road construction within the 2-mile transmission line corridor (see Section 3.12, Visual Resources, and **Appendix I** for more information on visual impacts to the Backway). Visual disturbances from construction of new roads would be permanent unless fully restored. During construction, portions of the Backway also could experience additional traffic on segments used for employee commute, supply delivery, etc. (see Section 3.16, Transportation and Access).

Alternative II-C

Alternative II-C would cross dispersed recreation areas in seven FOs and one national forest (including several developed recreation sites), four specially managed recreation areas and two WMAs. Alternative II-C also would affect three scenic backways/byways.

BLM Dispersed Recreation Areas

Under Alternative II-C, impacts to the White River, Grand Junction, Moab, and Vernal FOs would be the same as under Alternative II-B. Impacts within the Price and Fillmore FOs would affect similar amounts of dispersed recreation area as Alternative II-B, although in different locations. There are no high use areas identified within the analysis area for this alternative.

The Richfield FO would have 436 acres (0.03 percent) of dispersed recreation area within the 250-foot-wide transmission line ROW and 16,289 acres within the 2-mile transmission line corridor. There are no identified high use areas within this acreage.

BLM SRMAs or Other Specially Managed Recreation Areas

Within the Moab FO, impacts to the Utah Rims and Labyrinth/Gemini Bridges SRMAs would be the same as under Alternative II-B. Within the Price FO, impacts to the Labyrinth SRMA would be the same as under Alternative II-B.

San Rafael Swell SRMA. Within the Price FO, approximately 180 acres of the 250-foot-wide transmission line ROW and 10,589 acres of the 2-mile transmission line corridor would fall within the 938,500-acre San Rafael Swell SRMA. These acreages comprise 0.02 percent and 1.1 percent of the SRMA, respectively. This SRMA is managed to provide sightseeing, OHV use, mountain biking, horseback riding, hiking, wildlife viewing, visiting cultural sites, camping, picnicking, photography, rock hounding, snowmobiling, and hunting opportunities. Most of the SRMA, including the more popular areas to the south, would not be affected and other day use sites and OHV routes would continue to be available during construction activities (BLM 2011e,f).

USFS Recreation Areas

Fishlake National Forest. Under Alternative II-C, 476 acres of the 250-foot-wide transmission line ROW would fall within areas classified as roaded natural within the Fishlake National Forest. The sights and sounds of construction would be in conformance with area management, though it would cause temporary adverse impacts to scenic viewers, hikers, campers and other non-motorized users identified in Section 3.13.6. Areas classified as semi-primitive motorized, while having some evidence of other users and motorized use, have a low concentration of users, and a predominantly natural or natural-appearing environment. Approximately 400 acres of the 250-foot-wide transmission line ROW and 18,887 acres of the 2-mile transmission line corridor would be located in areas classified as semi-primitive motorized. This is 46 percent of the total acreage of 2-mile transmission line corridor located within the Fishlake National Forest (40,825 acres) and 1.8 percent of all areas classified as semi-primitive motorized within the Fishlake National Forest. The total acreage within the 2-mile transmission line corridor represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. Approximately 111 acres of the 2-mile transmission line corridor would be within areas classified as semi-primitive non-motorized. This is 0.06 percent of all semi-primitive non-motorized acreage within the Fishlake National Forest. The sights and sounds of construction and presence of large construction crews and construction traffic would not be consistent with the recreation goals for this ROS classification. Approximately 1,151 acres of the 18,887 acres within semi-primitive motorized areas within the 2-mile transmission line corridor and 89 acres of the 111 acres within semi-primitive non-motorized areas would be located within IRAs. Roadless construction methods (see **Appendix D**) would reduce some impacts to semi-primitive motorized and non-motorized areas by eliminating road construction, but could cause a temporary adverse impact to recreationists through helicopter noise and other disturbances. The remaining 17,736 acres of semi-primitive motorized area within the 2-mile transmission line corridor would be outside the IRAs and comprises approximately 1.7 percent of all semi-primitive motorized acreage within the Fishlake National Forest. The remaining 21 acres of semi-primitive non-motorized area within the 2-mile transmission line corridor would be less than 0.01 percent of all semi-primitive non-motorized areas within the Fishlake National Forest.

Impacts to recreation in national forests from construction would be similar to those discussed under Alternative II-A. Identified high use areas within the Fishlake National Forest in Alternative II-C include the Great Western Trail, Gooseberry ATV Trail, Gooseberry-Fishlake Trail, and Great Western/Paiute ATV Trail, which is rated one of the top OHV trails in the country (Utah.com 2011b). The Great Western Trail is one of the few long distance north/south trails in this area. Temporary closure of the Great Western/Paiute ATV Trail during the summer would cause significant, inconvenient bypassing of the closures and would limit north/south travel on two of the long distance north/south trails in this area during the recreation season. Restricted access to the trail during the summer would be a substantial, but temporary adverse impact to both motorized and non-motorized user groups. Although other OHV routes would be affected in the three sections of the National Forest, there are many other similar

routes that would continue to be available for use in the National Forest during construction (USFS 2010b). Application of **REC-6** would allow access to the Great Western/Paiute Trail to continue, although there could be delays in use during key construction times.

Construction activities related to Alternative II-C would affect use of the Maple Grove picnic area and campground, which are located near the analysis area; the transmission line corridor would cross the access road to the campground. Application of **REC-6** would allow access to the Maple Grove sites to continue, although picnickers and campers may experience some delays in accessing the Maple Grove sites during key construction times. Section 3.12, Visual Resources, and **Appendix I** identify visual impacts to the area that can be viewed from the campground (KOP F-23). Application of **REC-5** would reduce impacts to campers by limiting construction on weekends and prohibiting activities on holidays or other key use times near developed recreation sites.

Project roads near the high use/developed areas listed above could result in unauthorized OHV use (and associated resource damage, noise, etc.) as well as permanent visual impacts. Please see Section 3.13.6.8 regarding potential impacts from Project access roads. Implementation of **REC-2** would limit impacts from new access roads. Operations and maintenance activities could displace wildlife, thus affecting hunting or wildlife viewing activities. Application of **REC-1** would reduce this impact by scheduling maintenance activities outside of hunting seasons. Operation of the transmission line also would affect the visual setting of recreation opportunities, although in general the line follows existing transmission lines.

State-managed Recreation Areas

WMAs. Under Alternative II-C, approximately 221 acres of the 2-mile transmission line corridor would fall within the Fillmore WMA. This comprises 1.7 percent of the WMA. The Fillmore WMA is composed of several fenced parcels managed to provide protection to big game winter range. The area is closed in winter and spring to protect wintering big game habitat. Impacts would be similar to those identified under other WMAs and would be fully eliminated or minimized through avoidance of the WMA for road construction and support area placement (**REC-2**). If road construction could not be avoided, application of **REC-4** would reduce recreation impacts by rescheduling construction activities within key hunting locales, such as WMAs, to be outside of hunting seasons.

Additionally, there is a very small portion (less than 1 acre) of the 2-mile transmission line corridor that is located within the 80-acre Emery Farm Castle Dale WMA. Impacts would be fully eliminated or minimized through avoidance of the WMA for road construction and support area placement (**REC-2**).

CWMUs. The 250-foot-wide transmission line ROW for Alternative II-C also would cross five CWMUs. The 2-mile transmission line corridor would encompass over 50 percent of the 10,558-acre Castle Valley Outdoors CWMU and the 7,975-acre Round Valley CWMU and approximately 17 percent of the 13,330-acre Johnson Mountain Ranch CWMU. Between 2 and 4 percent of the 4,670-acre Oak Ranch CWMU and the 8,165-acre Old Woman Plateau CWMU also would be within the 2-mile transmission line corridor. Impacts to hunting within the 2-mile transmission line corridor would be similar to those described above. Decisions regarding road construction and timing of construction would be up to the private landowner.

Local Recreation Areas

Cedar Ridges Golf Course. Impacts for Alternative II-C would be the same as those described under Alternative II-B for the Cedar Ridges Golf Course.

Scenic Backways and Byways

Wedge Overlook/Buckhorn Drive Scenic Backway. The 250-foot-wide transmission line ROW for Alternative II-C would parallel several portions of the Wedge Overlook/Buckhorn Drive Scenic

Backway, crossing the Backway five times. Approximately nine miles of the Backway would be within the 2-mile transmission line corridor. The visual disturbances created by the transmission line itself would permanently alter the recreation setting for scenic driving on portions of the Backway. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility along the Backway (KOPs P-9 and P-10). During construction, scenic drivers using the Backway would be subject to views of transmission line and access road construction and could experience traffic delays on portions of the Backway used for employee commute. Wire installation across the road would cause temporary delays in traffic.

Gooseberry-Fremont Road Scenic Backway. The 250-foot-wide transmission line ROW for Alternative II-C also would cross the Gooseberry-Fremont Road Scenic Backway about 3 miles south of its terminus at US 70/SR 6 and would parallel an existing transmission line. Approximately 2 miles of the Backway would be within the 2-mile transmission line corridor. During construction, scenic drivers using the Backway would be subject to views of transmission line and access road construction. Drivers also could experience additional traffic on portions of the Backway used for employee commute. Wire installation across the road would cause temporary delays in traffic. Operation of the transmission line could affect the visual setting for scenic drivers, although there is an existing transmission line along this portion of the Backway. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility along the Backway (KOPs Rich-14 and Rich-15).

Dinosaur Diamond Prehistoric Byway. Impacts to the Dinosaur Diamond Prehistoric Byway would be similar to those described under Alternative II-B because the two alternatives largely share the same route.

Section 3.12, Visual Resources, contains additional information regarding impacts to Scenic Byways and Backways.

Alternative II-D

Alternative II-D would cross dispersed recreation areas in five FOs and three national forests (including several developed recreation sites), three specially managed recreation areas, and three WMAs. Alternative II-D also would affect four scenic byways and two backways.

BLM Dispersed Recreation Areas

Within the White River and Fillmore FOs, the route for Alternative II-D largely shares the same corridor as Alternative II-A. Impacts to dispersed recreation within these two FOs would be similar to those described under Alternative II-A. Acreages are shown on **Table 3.13-23**.

Within the Vernal FO, the 250-foot-wide transmission line ROW for Alternative II-D would impact 2,337 acres of dispersed recreation area. The 2-mile transmission line corridor, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 89,284 acres of dispersed recreation area. These figures comprise 0.2 percent and 5.7 percent of acreage available for dispersed recreation in the FO, respectively. Within the Price FO, the 250-foot-wide transmission line ROW for Alternative II-D would impact 186 acres of dispersed recreation area and the 2-mile transmission line corridor would encompass 10,385 acres of dispersed recreation area. These figures comprise 0.01 percent and 0.8 percent of acreage available for dispersed recreation in the FO, respectively. Alternative II-D would cross the Green River at a location that has been identified as suitable for inclusion as “scenic” into the WSR system (see Section 3.15, Special Designations, for more information about compatibility with this designation). However, the more popular area for river recreation is the Desolation Canyon area, located downstream. Other high use recreational areas include Nine Mile Canyon and vacation home areas near Argyle Canyon. Within the Richfield FO, the 250-foot-wide transmission line ROW for Alternative II-D would impact 41 acres of dispersed

recreation area and the 2-mile transmission line corridor would encompass 1,574 acres of dispersed recreation activities (0.1 percent of the dispersed recreation area within the FO). Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility along the access road to Sand Wash, the boating put-in for Desolation Canyon (KOP V-44), Nine Mile Canyon (V-45) and Argyle Canyon (V-46).

BLM SRMAs or Other Specially Managed Recreation Areas

Fantasy Canyon and Nine Mile Canyon SRMAs. Within the Vernal FO, the 2-mile transmission line corridor would cross approximately 54 acres of the 69-acre Fantasy Canyon SRMA. This area, which comprises 78 percent of the SRMA, represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. Construction would adversely affect self-guided tours and hiking areas within the SRMA. The 2-mile transmission line corridor would cross approximately 1,456 acres of the 44,168-acre Nine Mile Canyon SRMA. This area, which comprises 3 percent of the SRMA, is managed to protect high-value cultural tourism and high scenic quality for user groups such as recreational drivers and hikers. The 2-mile transmission line corridor would be located up above the rim, within oil and gas development areas and away from highly scenic areas and cultural resources; however, hikers and sightseers travelling through this area or recreating in this area would still be temporarily adversely affected by noise from construction activity within the 250-foot-wide transmission line ROW. Application of **REC-2** within these SRMAs would minimize this impact by limiting access to existing roads within the SRMA and/or requiring full reclamation of any roads that are constructed.

Little Sahara RA. Within the Fillmore FO, impacts to the Little Sahara RA would be the same as described under Alternative II-A.

USFS Recreation Areas

Ashley National Forest. Under Alternative II-D, approximately 11 acres of the 250-foot-wide transmission line ROW and 4,143 acres of the 2-mile transmission line corridor would fall within the Ashley National Forest. Over 90 percent of the 250-foot-wide transmission line ROW would fall exclusively within areas classified as roaded natural. These types of areas are managed for recreation in ways that allow for readily evident to moderate evidence of the sights and sounds of human activity. The sights and sounds of construction would be in conformance with area management, though construction would cause temporary adverse impacts to scenic viewers, hikers, campers and other non-motorized users identified in Section 3.13.6.

Approximately 2,629 acres within the 2-mile transmission line corridor would be located in areas classified as semi-primitive motorized. This is 64 percent of the total acreage of the 2-mile transmission line corridor located within the Ashley National Forest (4,143 acres) and comprises 0.9 percent of all semi-primitive motorized acreage within the Ashley National Forest. The total acreage within the 2-mile transmission line corridor represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. Approximately 630 acres of the 2-mile transmission line corridor would be within areas classified as semi-primitive non-motorized. This acreage comprises 0.2 percent of all semi-primitive non-motorized acreage within the Ashley National Forest. The sights and sounds of construction and presence of large construction crews and construction traffic would not be consistent with the recreation goals for these areas. Over 99 percent of the 2-mile transmission line corridor acreage within semi-primitive motorized areas (or 2,623 acres) and 100 percent of the 630 acres within semi-primitive non-motorized areas would be located within IRAs. Roadless construction methods (see **Appendix D**) would reduce some impacts to semi-primitive motorized and non-motorized areas by eliminating road construction, but could cause a temporary adverse impact to recreationists through additional noise and disturbances. The remaining 5 acres of semi-primitive motorized areas within the 2-mile transmission line corridor would not be located in IRAs and comprises approximately less than 0.01 percent of all semi-primitive motorized acreage within the Ashley National Forest.

As discussed in Section 3.13.6, construction would adversely affect hunters and wildlife watcher user groups through habitat removal, restricted access to areas undergoing construction, and by displacing wildlife in and near construction zones. Construction also would adversely affect the non-mechanized user group (hikers, campers, and equestrians) that recreate in this area through construction activity and noise. The 2-mile transmission line corridor would cross areas where adjacent UDWR deer hunting units abut (units 10 and 11). During construction, wildlife may be displaced to areas that are not within the unit for which hunters are licensed. Unit 10 is a limited entry unit. The limited entry nature of this unit is such that it would be difficult to find a substitute hunting opportunity if wildlife were displaced from the unit. Application of mitigation measures **REC-2**, **REC-4**, and **REC-5** would assist in reducing impacts within this hunting unit during both construction and operation.

Construction would affect recreation use particularly on Saturdays (there will be no construction on Sundays) and during the summer at higher elevation areas, and during the spring and fall at lower elevations. Hunters would be adversely impacted only if construction activities were scheduled during active hunting seasons. Recreationists seeking wildlife watching experiences or natural settings would be adversely impacted by these activities regardless of their timing. There are no identified high use recreational areas within the portions of the Ashley National Forest affected by Alternative II-D and in general, there are other nearby locations that visitors could temporarily go during construction activities that offer the same recreation opportunities in a similar environment. Operation of the transmission line could affect the visual setting of dispersed recreation opportunities, but in general the transmission line follows existing transmission lines. Operation and maintenance activities could displace wildlife, affecting hunting or wildlife viewing activities. Application of mitigation measure **REC-1** would assist in reducing impacts to hunting by scheduling vegetation maintenance activities outside of big game hunting seasons.

Manti-La Sal National Forest. Under Alternative II-D, approximately 173 acres of the 250-foot-wide transmission line ROW would fall within areas classified as roaded natural within the Manti-La Sal National Forest. The sights and sounds of construction would be in conformance with management goals of these areas, though construction would cause temporary adverse impacts to scenic viewers, hikers, campers and other non-motorized users identified in Section 3.13.6. Approximately 77 acres of the 250-foot-wide transmission line ROW would be located in areas classified as semi-primitive motorized. The 2-mile transmission line corridor for Alternative II-D, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 11,055 acres within the Ashley National Forest, 34 percent of which (3,727 acres) would be located in areas classified as semi-primitive motorized. This acreage comprises 0.5 percent of all semi-primitive motorized acreage within the Manti-La Sal National Forest. The sights and sounds of construction and presence of large construction crews and construction traffic would not be consistent with the recreation goals for these areas. Approximately 15 percent (or 574 acres) of the acreage in semi-primitive motorized areas would be located within IRAs. Roadless construction methods (see **Appendix D**) would reduce some impacts to semi-primitive motorized areas by eliminating road construction, but could cause a temporary adverse impact to recreationists through additional noise and disturbances. The remaining 3,153 acres of semi-primitive motorized areas would not be located in IRAs and comprises approximately 0.4 percent of all semi-primitive motorized acreage within the Manti-La Sal National Forest.

Impacts to recreation from construction would be similar to those discussed under Alternative II-A. Identified high use areas within the Manti-La Sal National Forest include the North Skyline Winter Staging Area, the Gooseberry Campground, Flat Canyon Campground, Boulger Reservoir, Electric Lake Reservoir, and Wasatch Academy. The North Skyline Winter Staging Area and Gooseberry Campground would be located within the 2-mile transmission line corridor and less than 0.5 miles from the 250-foot-wide transmission line ROW. The Wasatch Academy would be about a mile from the 250-foot-wide transmission line ROW. Small portions of Flat Canyon Campground, Boulger Reservoir, and Electric Lake Reservoir areas would be within the 2-mile transmission line corridor. Use of all of these

sites would be affected by construction noise and activities as visitors may choose to visit other locations or different portions of the reservoirs to avoid construction activities. Non-motorized users, including campers and hikers would be affected by construction noise and activities. Wasatch Academy is used year-round, but is most heavily used in the spring and fall when students participate in activities such as hiking, biking, skiing, snowboarding, snowshoeing, and other activities. Academy students and use of the Academy facilities would adversely be affected by construction noise and activities and Academy students would not have a substitute building location to use for Academy activities.

Operation of the transmission line would affect the visual setting of dispersed recreation opportunities. Project roads near the high use/developed areas listed above could result in unauthorized OHV use (and associated resource damage, noise, etc.) as well as permanent visual impacts. Please see Section 3.13.6.8 regarding potential impacts from Project access roads. Application of **REC-2**, **REC-5**, and **REC-6** would assist in reducing impacts to use of these high use areas and impacts to non-motorized users from construction and operation by limiting access to existing roads, closing or rehabilitating new access roads, limiting construction times, and ensuring access to high use areas and trails is not impeded. Operations and maintenance activities could displace wildlife, thus affecting hunting or wildlife viewing activities. Application of **REC-1** would reduce this impact by scheduling maintenance activities outside of hunting seasons. Application of **REC-7** would reduce impacts to the Academy by scheduling construction to minimize disturbance to students:

REC-7: *Construction shall be scheduled to occur when the fewest students are at Wasatch Academy.*

Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility in this area (KOPs Rich-22—26, P-49 and P-50).

Uinta National Forest. Approximately 48 acres of the 2-mile transmission line corridor would fall exclusively within areas classified as roaded modified and roaded natural within the Uinta National Forest. These types of areas are managed for recreation in ways that allow for readily evident to moderate evidence of the sights and sounds of human activity. The sights and sounds of construction would be in conformance with area management, though construction would cause temporary adverse impacts to scenic viewers, hikers, campers and other non-motorized users identified in Section 3.13.6. In general, there are other nearby locations that visitors could temporarily go during construction activities that offer the same recreation opportunities in a similar environment. Operation of the transmission line could affect the visual setting of dispersed recreational opportunities, but in general the line follows existing transmission lines. Maintenance activities could displace wildlife, affecting hunting or wildlife viewing activities. Outside of scenic byways (discussed separately, below), there are no identified high use areas identified within the 2-mile transmission line corridor in Uinta National Forest.

Other Federal Recreation Areas

Impacts to the Dinosaur National Monument from Alternative II-D would be the same as those described under Alternative II-A.

State-managed Recreation Areas

WMAs. The 250-foot-wide transmission line ROW for Alternative II-D would cross the Gordon Creek WMA, Northwest Manti WMA – Hilltop Unit and the South Nebo WMA – Triangle Ranch Unit, affecting 155 acres, 17 acres and 61 acres in these WMAs, respectively. These acreages vary between 0.7 and 1.6 percent of the WMAs total acreages. These WMAs are managed for the protection of critical big game winter range. The Northwest Manti WMA – Hilltop Unit and South Nebo WMA – Triangle Ranch Unit are closed to public access in winter and spring to protect wintering wildlife. Adherence to timing restrictions during both construction and operation phases would prevent disturbance to wintering big game; however, there would still be some loss of big game habitat through vegetation removal, noise

and human activity. Alternative II-D within the WMAs primarily would affect hunting and wildlife watching recreation opportunities. The 2-mile transmission line corridor, which represents the maximum area that could be temporarily removed from use as wildlife habitat or hunting activities due to surface disturbance, increased noise, and human activity, would encompass substantial portions of the WMAs:

- Gordon Creek WMA: 5,315 acres (23.4 percent of total WMA acreage);
- Northwest Manti WMA – Hilltop Unit: 696 acres (64.8 percent of total WMA acreage); and
- South Nebo WMA – Triangle Ranch Unit: 3,584 acres (72.9 percent of total WMA acreage).

Agreements for the Gordon Creek WMA and South Nebo WMA – Triangle Ranch Unit contain reversionary clauses on some parcels if land use changes from “big game management.” The Northwest Manti WMA – Hilltop Unit prohibits utilities, unless such structures or systems are necessary for permitted ranching operations or residential use. Development of a transmission line or access roads within these WMAs would not be in conformance with area management. Due to the conservation easement, application of mitigation measure **REC-8** would eliminate ground disturbance within the Hilltop Unit.

REC-8: *Due to the conservation easement, there should be no ground disturbance within the Northwest Manti WMA-Hilltop Unit.*

Habitat loss would be minimized through application of **REC-2**, which would limit access to existing roads within the WMA and/or require full reclamation of any roads that are constructed. Application of **REC-4** would reduce recreation impacts by rescheduling construction activities within key hunting locales, such as WMAs, to be outside of hunting seasons. During operations, the 250-foot-wide transmission line ROW would still have some level of vegetation maintenance during operations that could affect wildlife habitat, and maintenance-related noise could temporarily affect adjacent hunting and wildlife viewing opportunities by making the area less hospitable to wildlife. Application of **REC-1** (scheduling vegetation maintenance outside of big game hunting seasons where practicable) would further minimize impacts to hunting and wildlife viewing.

CWMUs. The 250-foot-wide transmission line ROW for Alternative II-D also would cross 63 percent (10,025 acres) of the 16,030-acre Minnie Maud Ridge CWMU and 1 percent (227 acres) of the 22,471-acre Emma Park CWMU. Impacts to hunting within the 2-mile transmission corridor area would be similar to those described above. Decisions regarding road construction and timing of construction would be up to the private landowner.

Local Recreation Areas

Big Mountain Campground. Impacts for Alternative II-D would be the same as those described under Alternative II-A for the Big Mountain Campground.

Scenic Backways and Byways

Dinosaur Diamond Prehistoric Byway and Indian Canyon Scenic Byway. The 250-foot-wide transmission line ROW for Alternative II-D would cross the Dinosaur Diamond Prehistoric Byway near Helper, Utah and again near Dinosaur, Colorado. Impacts to the Byway from the 5-mile portion of the transmission line route near Dinosaur would be the same as under Alternative II-A because the routes are the same. The route of the transmission line near Helper would largely parallel the Byway (SR 191) north of Helper; approximately 8 miles of the Byway would fall within the 2-mile transmission line corridor. This includes the portion of the area where the Bamberger roadside monument and Castle Gate Park are located. During construction, scenic drivers using the Byway would be subject to views of transmission line and access road construction. Drivers also could experience additional traffic on portions of the Byway used for employee commute; wire installation across the road would

cause temporary delays in traffic. Operation of the line is not expected to adversely affect scenic drivers as there are already existing transmission lines along this portion of the Byway. This portion of SR 191 also is part of the Indian Canyon Scenic Byway. Impacts to the Indian Canyon Scenic Byway would be the same as described above. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visual impacts to the Byway.

Nine Mile Canyon Scenic Backway. The 250-foot-wide transmission line ROW for Alternative II-D would cross the Nine Mile Canyon Scenic Backway. Approximately 2 miles of the Backway would be within the 2-mile transmission line corridor. The crossing would be above the rim of the canyon, away from the scenic views and petroglyphs located within the canyon. There are currently no existing transmission lines in the area. Visual disturbances created by the transmission line itself would permanently alter the recreation setting for scenic driving on portions of the Backway nearest to the 250-foot-wide transmission line ROW; however, the proposed transmission line crossing would be located in an area of considerable oil and gas development (see Section 3.12, Visual Resources, and **Appendix I** for more information).

Energy Loop: Huntington/Eccles Canyons Scenic Byway. West of Fairview, the 250-foot-wide transmission line ROW would cross the 83-mile Energy Loop: Huntington/Eccles Canyons Scenic Byway (SR-31) several times. The route of the transmission line would largely parallel the Byway in the portion between these crossings. Approximately 17 miles of Byway would fall within the 2-mile transmission line corridor. Less than 1 mile of the Byway would fall within the 250-foot-wide transmission line ROW. There are no existing transmission lines in these areas and the 250-foot-wide transmission line ROW would not be located within any designated utility corridors. The visual disturbances created by the transmission line itself would permanently alter the recreation setting for scenic driving on portions of the Scenic Byway nearest to the 250-foot-wide transmission line ROW. Scenic drivers using the Byway also could be subject to views of road construction within the 2-mile transmission line corridor (see Section 3.12, Visual Resources, and **Appendix I** for more information). Visual disturbances from construction of new roads would be permanent unless fully restored. During construction, portions of the Byway also could experience additional traffic on segments used for employee commute, supply delivery, etc. (see Section 3.16, Transportation).

Skyline Drive Scenic Backway. The 250-foot-wide transmission line ROW for Alternative II-D would cross the 86-mile Skyline Drive Scenic Backway in the same area where it crosses the Energy Loop: Huntington/Eccles Canyons Scenic Byway. About 4 miles of the Backway would fall within the 2-mile transmission line corridor. Impacts would be similar to those described above. Section 3.12, Visual Resources and **Appendix I** provide additional detail regarding visibility in this area.

Nebo Loop Scenic Byway. Impacts to the Nebo Loop Scenic Byway would be the same as those described under Alternative II-A.

Alternative II-E

Alternative II-E would cross dispersed recreation areas in six FOs and three national forests (including several developed recreation sites), one specially managed recreation area, seven WMAs, and would affect small portions of several scenic byways and backways.

BLM Dispersed Recreation Areas

The route for Alternative II-E largely shares the same corridor as Alternative II-A, with the exception of the middle portion of Region II, where Alternative II-E crosses the Ashley National Forest and Manti La-Sal National Forest. On BLM lands, impacts would be similar to those described under Alternative II-A, except that the Salt Lake FO would have more acreage within the 2-mile transmission line corridor under Alternative II-E, and Alternative II-E would cross a small portion of the Price FO. There are no identified high use areas within these portions of the FOs. Acreages are shown in **Table 3.13-23**.

BLM SRMAs or Other Specially Managed Recreation Areas

Little Sahara RA. Within the Fillmore FO, impacts to the Little Sahara RA would be the same as those described under Alternative II-A.

USFS Recreation Areas

Ashley National Forest. Under Alternative II-E, 100 percent of the 250-foot-wide transmission line ROW (300 acres) within the Ashley National Forest would fall within areas classified as roaded natural. These types of areas are managed for recreation in ways that allow for readily evident to moderate evidence of the sights and sounds of human activity. The sights and sounds of construction would be in conformance with area management, though construction would cause temporary adverse impacts to scenic viewers, hikers, campers and other non-motorized users identified in Section 3.13.6. The 2-mile transmission line corridor for Alternative II-E, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 15,487 acres within Ashley National Forest. Twelve percent of this acreage (1,822 acres) would be located in areas classified as semi-primitive motorized and 5,802 acres (37 percent) would be within semi-primitive non-motorized areas. This comprises 0.6 percent and 1.6 percent of all semi-primitive motorized and semi-primitive non-motorized areas within the Ashley National Forest, respectively. The sights and sounds of construction and presence of large construction crews and construction traffic would not be consistent with the recreation goals for these areas.

Approximately 100 percent (or 1,822 acres) of the semi-primitive motorized acreage and 99 percent (5,784 acres) of the semi-primitive non-motorized acreage within the 2-mile transmission line corridor would be located within IRAs. Roadless construction methods (see **Appendix D**) would reduce some impacts to semi-primitive motorized and non-motorized areas by eliminating road construction, but could cause a temporary adverse impact to recreationists through additional noise and disturbances. The remaining 18 acres of semi-primitive non-motorized area within the 2-mile transmission line corridor would be located outside IRAs and comprises less than 0.01 percent of all semi-primitive non-motorized acreage within the Ashley National Forest.

As discussed in Section 3.13.6, construction would adversely affect the hunter and wildlife viewer user group through habitat removal, restricted access to areas undergoing construction, and by displacing wildlife in and near construction zones. Construction also would adversely affect the non-mechanized users (hikers, campers, and equestrians) that recreate in this area through construction activity and noise. Recreationists seeking wildlife watching experiences or natural settings would be adversely impacted by construction activities regardless of their timing. Hunters would be adversely impacted only if these activities were scheduled during active hunting seasons. The majority of this route is well within the Hunt Unit 11 and therefore hunters' ability to track displaced game should not be affected. There are no identified high use recreational areas within the 2-mile transmission line corridor in the Ashley National Forest and in general, there are other nearby locations that visitors could temporarily go during construction activities that offer the same recreation opportunities in a similar environment. Operation of the transmission line would affect the visual setting of dispersed recreational opportunities, although in general, the line follows an existing transmission line. Operation and maintenance activities could displace wildlife, affecting hunting or wildlife viewing activities.

Uinta National Forest. Under Alternative II-E, approximately 247 acres of the 250-foot-wide transmission line ROW would fall within areas classified as roaded modified within the Uinta National Forest. The sights and sounds of construction would be in conformance with area management. The 2-mile transmission line corridor for Alternative II-E, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 10,349 acres within the Uinta National Forest. Forty-six percent of this acreage (4,752 acres) would be located in areas classified as semi-primitive motorized. This is 1.3 percent of all semi-primitive motorized acreage within the Uinta National Forest. Construction in

these areas would not be in conformance with recreation goals. Impacts to recreation from construction would be similar to those discussed under Alternative II-A. Approximately 3,581 acres of the 4,752 acres within semi-primitive motorized areas within the 2-mile transmission line corridor would be located within IRAs. Roadless construction methods (see **Appendix D**) would reduce some impacts to semi-primitive motorized areas by eliminating road construction, but could cause a temporary adverse impact to recreationists through additional noise and disturbance. The remaining 1,171 acres of semi-primitive motorized area within the 2-mile transmission line corridor would not be located in IRAs and comprises approximately 0.3 percent of the total acreage of all semi-primitive motorized areas within the Uinta National Forest. Impacts to dispersed recreation and high use areas from construction and operation would be similar to those discussed under Alternative II-A, as the route through the Uinta National Forest would be largely the same for both alternatives. The Strawberry IRA and Cedar Knoll IRA micro-siting adjustments would not substantially affect the impact analysis for recreation.

Manti-La Sal National Forest. Under Alternative II-E, approximately 30 acres of the 250-foot-wide transmission line ROW would fall within areas classified as roaded natural within the Manti-La Sal National Forest, and approximately 50 acres would be located in areas classified as semi-primitive motorized. The 2-mile transmission line corridor for Alternative II-E, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 4,859 acres within the Manti-La Sal National Forest. Of the total acreage within the 2-mile transmission line corridor, 74 percent (3,592 acres) would be located in areas classified as semi-primitive motorized, which comprises 0.5 percent of all semi-primitive motorized acreage within the Manti-La Sal National Forest. The sights and sounds of construction and presence of large construction crews and construction traffic would not be consistent with the recreation goals for these areas. Approximately 60 percent of the semi-primitive motorized acreage in the 2-mile transmission line corridor (or 2,156 acres) would be located within IRAs. Roadless construction methods (see **Appendix D**) would reduce some impacts to semi-primitive motorized areas by eliminating road construction, but could cause a temporary adverse impact to recreationists through additional noise and disturbance. The remaining 1,436 acres of semi-primitive motorized area within the 2-mile transmission line corridor would not be located in IRAs and would comprise approximately 0.2 percent of all semi-primitive motorized area within the Manti-La Sal National Forest. Impacts to dispersed recreation and high use areas from construction and operation would be similar to those discussed under Alternative II-A, as the route through the Manti-La Sal National Forest would be largely the same for both alternatives.

Other Federal Recreation Areas

Impacts to the Dinosaur National Monument from Alternative II-E would be the same as those described under Alternative II-A.

State-managed Recreation Areas

WMAs. Alternative II-E would cross seven WMAs. Impacts to the North Nebo WMA – Spencer Fork Unit, Northwest Manti WMA – Birdseye/Lake Fork Unit, and Northwest Manti WMA – Lasso Draw Unit would be the same as those described under Alternative II-A. Impacts to the South Nebo WMA – Triangle Ranch Unit would be the same as those described under Alternative II-D. Additionally, the 2-mile transmission line corridor would encompass portions of the following WMAs:

- Indian Canyon WMA – Cottonwood Canyon Unit: 1,668 acres (22 percent of total WMA acreage);
- Northwest Manti WMA – Starvation Unit: 976 acres (16.9 percent of total WMA acreage); and
- Northwest Manti WMA – Dairy Fork Unit: 1,600 acres (32.2 percent of total WMA acreage).

The Indian Canyon WMA and Northwest Manti – Dairy Fork Unit are managed for big game. Hunting is a popular activity in the Indian Canyon WMA in winter, though winter vehicular use in the WMA is not encouraged. The Northwest Manti WMA—Starvation Unit is used for big game hunting and fishing and both the Starvation and Dairy Fork units are closed to public access in winter and spring to protect wintering wildlife.

Adherence to timing restrictions during both construction and operation phases would prevent disturbance to wintering big game; however, there still would be some loss of big game habitat through vegetation removal, noise and human activity. Habitat loss would be minimized through application of **REC-2**, which would limit access to existing roads within the WMA and/or require full reclamation of any roads that are constructed. Application of **REC-4** would reduce recreational impacts by rescheduling construction activities within key hunting locales, such as WMAs, to be outside of hunting seasons. During operations, the 250-foot-wide transmission line ROW would still have some level of vegetation maintenance during operations that could affect wildlife habitat, and maintenance-related noise could temporarily affect adjacent hunting, fishing, and wildlife viewing opportunities by making the area less hospitable. Application of **REC-1** (scheduling vegetation maintenance outside of big game hunting seasons where practicable) would further minimize impacts to hunting and wildlife viewing.

CWMUs. The 2-mile transmission line corridor for Alternative II-E also would cross six CWMUs. Impacts to the Crab Creek CWMU would be the same as those described under Alternative II-A. The 2-mile transmission line corridor would encompass approximately 7 percent of the 16,030-acre Minnie Maud Ridge CWMU; 32 percent of the 22,471-acre Emma Park CWMU; 38 percent of the 26,127-acre Soldier Summit CWMU; 18 percent of the 3,853-acre Antelope Creek CWMU; and less than 5 percent of the Scofield Canyons CWMU. Impacts to hunting within the CWMUs in the 2-mile corridor would be similar to those described above. Decisions regarding road construction and timing of construction would be up to the private landowner.

Local Recreation Areas

Big Mountain Campground and Bottle Hollow Reservoir. Impacts for Alternative II-E would be the same as those described under Alternative II-A for the Big Mountain Campground and Bottle Hollow Reservoir.

Camp Timberlane. The 250-foot-wide transmission line ROW would encompass 37 acres of the Church of Jesus Christ of Latter Day Saints' Camp Timberlane, while the 2-mile transmission line would encompass 381 acres or 53 percent of the site. Construction noise, activities, and visual disturbances would affect camping at this site during the summer when the camp is available. Groups, families, and individuals that use the camp may be displaced to either other campgrounds in the area or other facilities owned by the church. The camp can hold over 1,000 people and large groups may have difficulty finding a suitable substitute facility nearby. Application of **REC-2** would limit access to existing roads and/or require full reclamation of any new roads. Application of **REC-5** and **REC-6** would reduce impacts to campers by prohibiting construction during weekends and other high use periods and maintaining access to high use areas. However, construction noise and visual impacts would be present during weekdays. In addition, operation of the transmission line would permanently affect the visual setting of recreation opportunities within the camp area and maintenance operations could temporarily affect access to camp facilities and disrupt camp visitors. Section 3.17, Social and Economic Conditions, addresses the economic impacts of construction on this facility.

Scenic Backways and Byways

Under Alternative II-E, the proposed transmission line would parallel Highway 6 and existing transmission lines between Helper, Utah and Thistle, Utah. In this area, the 250-foot-wide transmission line ROW would cross the entrance to the Huntington/Eccles Canyons Scenic Byway but would be located across the highway from the entrance to the Skyline Drive Scenic Backway and the

Reservation Ridge Scenic Backway. Construction activities could cause temporary adverse effects for scenic drivers; however, byways users would quickly leave the construction area and head away from the Highway 6 corridor. Alternative II-E also would cross the Indian Canyon Scenic Byway (US191) within the Uintah and Ouray Indian Reservation; less than 2 miles of the Byway would be within the 2-mile transmission line corridor. The route would not parallel an existing transmission line in this area. Construction and operation activities would cause adverse impacts to the viewshed of the area. Impacts to the Dinosaur Diamond Prehistoric Byway would be the same as those described above for the Indian Canyon Scenic Byway portion plus those described for the 5-mile section described under Alternative II-A. Impacts to the Nebo Loop Scenic Byway would be the same as those described under Alternative II-A.

Alternative II-F (Agency Preferred)

Alternative II-F would cross dispersed recreation areas in five FOs and four national forests (including several developed recreation sites), two specially managed recreation areas, and six WMAs. Alternative II-B also would affect portions of several scenic byways.

BLM Dispersed Recreation Areas

Impacts for Alternative II-F would be the same as those discussed under Alternative II-E for the White River and Richfield FOs. Impacts for Alternative II-F would be similar to those described under Alternative II-B for the Fillmore FO and Alternative II-D for the Vernal FO; slightly more acreage would be included within the 250-foot-wide transmission line ROW and the 2-mile transmission line corridor under Alternative II-F than the other alternatives. Impacts to dispersed recreation within the Salt Lake FO would be similar to those described for Alternative II-E; however, Alternative II-F would include more acreage within the 250-foot-wide transmission line ROW and the 2-mile transmission line corridor. There are no high use areas identified within the analysis area for the Salt Lake FO.

BLM SRMAs or Other Specially Managed Recreation Areas

Fantasy Canyon and Nine Mile Canyon SRMAs. Impacts for Alternative II-F would be the same as those discussed under Alternative II-D for the Fantasy Canyon and Nine Mile Canyon SRMAs. These are the only two SRMAs impacted by Alternative II-F.

USFS Recreation Areas

Impacts for Alternative II-F would be the same as those discussed under Alternative II-E for the Manti-LaSal National Forest and the same as those discussed under Alternative II-B for the Fishlake National Forest. Impacts to the Ashley National Forest would be similar to those discussed under Alternative II-D, though slightly more acreage would be located within areas classified as roaded natural and semi-primitive non-motorized under Alternative II-F. Additional acreage within areas classified as semi-primitive non-motorized also would be located within IRAs. Impacts to the Uinta National Forest would be similar to those discussed under Alternative II-E though slightly more acreage would be included within areas classified as roaded natural and semi-primitive motorized under Alternative II-F. Additional acreage within areas classified as semi-primitive motorized also would be located within IRAs.

Other Federal Recreation Areas

Impacts to the Dinosaur National Monument from Alternative II-F would be the same as those described under Alternative II-A.

State-Managed Recreation Areas

WMAs. Impacts for Alternative II-F would be the same as those described under Alternative II-E for the following WMAs, which are the only ones affected by Alternative II-F:

- North Nebo WMA–Spencer Fork Unit (96.4 percent of total WMA acreage);
- Northwest Manti WMA–Birdseye/Lake Fork Unit (71.9 percent of total WMA acreage);
- Northwest Manti WMA–Dairy Fork Unit (32.2 percent of total WMA acreage);
- Northwest Manti WMA–Lasson Draw Unit (0.7 percent of total WMA acreage);
- Northwest Manti WMA–Starvation Unit (16.9 percent of total WMA acreage); and
- South Nebo WMA–Triangle Ranch Unit (72.9 percent of total WMA acreage).

CWMUs. The 2-mile transmission line corridor for Alternative II-F also would cross five CWMUs. Impacts to the Crab Creek and Scofield Canyons CWMUs would be the same as those described under Alternative II-E. The 2-mile transmission line corridor would encompass approximately 4 percent of the 16,030-acre Minnie Maud Ridge CWMU, 12 percent of the 22,471-acre Emma Park CWMU, and 21 percent of the 26,127-acre Solider Summit CWMU. Impacts to hunting within the CWMUs in the 2-mile transmission line corridor would be similar to those described above. Decisions regarding road construction and timing of construction would be up to the private landowner.

Local Recreation Areas

Big Mountain Campground and Camp Timberlane. Impacts for Alternative II-F would be the same as those described under Alternative II-A for the Big Mountain Campground and Alternative II-E for Camp Timberlane, though slightly less acreage would be within the 250-foot-wide transmission line ROW and the 2-mile transmission line corridor under Alternative II-F for Camp Timberlane.

Scenic Backways and Byways

Impacts for Alternative II-F would be the same as those described under Alternative II-E for the Indian Canyon Scenic Byway, Nebo Loop Scenic Byway, and Skyline Drive Scenic Backway. Impacts for Alternative II-F also would be the same as those described under Alternative II-A for the Dinosaur Diamond Prehistoric Byway and the same as those described under Alternative II-D for the Nine Mile Canyon Scenic Backway.

Reservation Ridge Scenic Backway. The 2-mile transmission line corridor for Alternative II-F would encompass 13 miles or approximately 29 percent of the Reservation Ridge Scenic Backway west of Highway 191. Less than 2 miles of the 250-foot-wide transmission line ROW would include this Backway. During construction, scenic drivers using the Backway would be subject to views of transmission line and access road construction. Wire installation across the road would cause temporary delays in traffic. The visual disturbances created by the transmission line itself would permanently alter the recreation setting for scenic driving on portions of the Backway. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility along the Backway.

Alternative Variations

Emma Park Alternative Variation

Table 3.13-28 summarizes impacts associated with the use of the Emma Park Alternative Variation in Region II.

Table 3.13-28 Summary of Region II Alternative Variation Impacts to Recreation

Alternative Variation	Analysis
Emma Park Alternative Variation	Under this variation, the 2-mile transmission line corridor would affect 1,874 acres of undesignated BLM lands within the Price FO; 2,789 acres within the Salt Lake FO; and 503 acres within the Vernal FO. This is 0.1 percent or less of BLM-managed lands within each FO available for dispersed recreation. The 2-mile transmission line corridor would encompass 3 acres of the Nine Mile Canyon SRMA within the BLM Vernal FO area, approximately 0.01 percent of the SRMA area. The 2-mile transmission line corridor also would affect 2 acres within the Uinta National Forest; 62 percent of the 16,030-acre Minnie Maud Ridge CWMU; 37 percent of the 22,471-acre Emma Park CWMU; and 14 percent of the 26,127-acre Soldier Summit CWMU. Less than 1 mile of the Dinosaur Diamond Prehistoric Byway and Indian Canyon Scenic Byway (along the same route) would be encompassed by the 2-mile transmission line corridor and the variation would cross the byways once at Highway 191.

Alternative Connectors in Region II

Table 3.13-29 summarizes the impacts associated with the alternative connectors in Region II. Although the Highway 191 connector would not affect any BLM or NFS lands, it would affect two scenic byways and one CWMU. The IPP East connector would impact the fewest acres of BLM lands.

Table 3.13-29 Summary of Region II Alternative Connector Impacts to Recreation

Alternative Connector	Analysis
Lynndyl Alternative Connector	Affects recreation on 11,107 acres of undesignated BLM lands within the Fillmore FO. This is 0.3 percent of BLM-managed lands within the FO available for dispersed recreation. No SRMAs are located within this connector. Also would affect 1,101 acres within the Fishlake National Forest, mostly within the Semi-primitive Motorized ROS class (0.01 percent of total acres within this class). Would affect several very short out-and-back OHV routes in the Fishlake National Forest.
IPP East Alternative Connector	Affects recreation on 1,843 acres of undesignated BLM lands within the Fillmore FO. This is 0.04 percent of BLM-managed lands within the FO available for dispersed recreation. No special recreation management areas are located within this connector.
Castle Dale Alternative Connector	Affects recreation on 2,456 acres of undesignated BLM lands within the Price FO. This is 0.2 percent of BLM-managed lands within the FO available for dispersed recreation. No special recreation management areas are located within this connector. Also would affect less than 2 miles of the Wedge Overlook/Buckhorn Drive Scenic Backway.
Price Alternative Connector	Affects recreation on 6,399 acres of undesignated BLM lands within the Price FO. This is 0.5 percent of BLM-managed lands within the FO available for dispersed recreation. No SRMAs are located within this connector. Would affect 659 acres of the 15,355-acre Hiawatha CWMU and 3,017 acres within the Gordon Creek WMA.
Highway 191 Alternative Connector	Affects 3 miles of the Dinosaur Diamond Prehistoric Byway and Indian Canyon Scenic Byway and 77 acres of the Emma Park CWMU. The connector would cross the byways once (are on the same route).

Region II Conclusion

In Region II, Alternative II-A (Applicant Proposed) would affect the fewest BLM recreation areas and least amount of dispersed recreation area acreage. Alternative II-A also would affect the fewest miles of scenic byways/backways and the least amount of acreage within CWMUs, but would affect the most WMAs and a state park. All alternatives would affect some developed recreation sites within at least one national forest; Alternative II-D affects the least amount of acreage within national forests. Alternative II-C affects the least amount of acreage within WMAs.

3.13.6.11 Region III

Table 3.13-30 provides a summary of Region III recreation areas/sites by alternative, both within the 250-foot-wide transmission line ROW and 2-mile transmission corridor.

Table 3.13-30 Region III Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area/Site	Alternative III-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative III-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative III-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
BLM Fillmore FO			
Dispersed, undesignated recreation areas	2,126 (0.05%) 96,673 (2.2%)	2,096 (0.05%) 101,464 (2.3%)	2,091 (0.05%) 101,450 (2.3%)
BLM Cedar City FO			
Dispersed, undesignated recreation areas	1,256 (0.06%) 57,249 (2.7%)	1,122 (0.05%) 53,732 (2.6%)	1,122 (0.05%) 53,616 (2.5%)
BLM St. George FO			
Dispersed, undesignated recreation areas	747 (0.2%) 32,409 (6.4%)	N/A	N/A
BLM Caliente FO			
Dispersed, undesignated recreation areas	651 (0.02%) 25,917 (0.7%)	2,032 (0.06%) 81,729 (2.3%)	2,739 (0.08%) 114,595 (3.2%)
Chief Mountain SRMA	N/A	N/A	488 (0.4%) 18,618 (2%)
North Delamar SRMA	N/A	N/A	0 <1
BLM Las Vegas FO			
Dispersed, undesignated recreation areas	1,518 (0.08%) 57,488 (3.1%)	1,123 (0.06%) 38,488 (2.1%)	1,237 (0.07%) 44,147 (2.4%)
Muddy Mountains SRMA	72 (0.1%) 4,202 (3.4%)	N/A	N/A
Nellis Dunes SRMA*	N/A	N/A	0 142 (1%)
USFS Dixie National Forest			
Rural	N/A	N/A	N/A
Roaded Modified	N/A	N/A	N/A
Roaded Natural	184 (0.3%) 4,396 (8.0%)	N/A	N/A
Semi-Primitive Motorized	332 (0.3%) 9,076 (7.8%)	N/A	N/A
<i>SPM Within IRA</i>	19 (0.02%) 3,826 (3.3%)	N/A	N/A
<i>Remainder in SPM ROS</i>	313 (0.3%) 5,250 (4.5%)	N/A	N/A
Semi-Primitive Non-Motorized	15 (<0.01%) 10,331 (4.6%)	N/A	N/A

Table 3.13-30 Region III Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area/Site	Alternative III-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative III-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative III-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
<i>SPNM Within IRA</i>	5 (<0.01%) 9,717 (4.3%)	N/A	N/A
<i>Remainder in SPNM ROS</i>	10 (<0.01%) 614 (0.3%)	N/A	N/A
Private/Other	1 (<0.01%) 20 (<0.01%)	N/A	N/A
Total	531 acres 23,803 acres	N/A	N/A
State Recreation Areas			
Zane CWMU	N/A	195/5,468 (55%)	195/5,468 (55%)
Scenic Byways and Backways			
Rainbow Canyon Backcountry Byway	N/A	2 crossings/5 miles	1 crossing/5 miles
Highway 93 Scenic Byway	N/A	N/A	2 crossings/15 miles
Bitter Springs Backcountry Byway	1 crossing/2 miles	N/A	N/A
Local Recreation Areas			
Newcastle Reservoir	0 40 (26%)	N/A	N/A

* Nellis Dunes SRMA is located in both Region III and Region IV. Within Region IV, there are 183 acres of this SRMA within the 2-mile transmission line corridor under all alternatives. See Region IV analysis for more information.

Alternative III-A (Applicant Proposed)

Under Alternative III-A, the 250-foot-wide transmission line ROW and the 2-mile transmission line corridor would cross dispersed recreation areas within five FOs, one national forest, and one SRMA. A portion of the 2-mile transmission line corridor also would cross one privately managed public recreation area. Areas affected by Alternative III-A include a popular ATV area, a nationwide hiking trail, and one backcountry byway.

BLM Dispersed Recreation Areas

General construction impacts to dispersed recreation activities are described in Section 3.13.6 and include displacing visitors due to area closures, noise, or visual presence of construction, or making the area inhospitable for wildlife. Within Region III, the 250-foot-wide transmission line ROW for Alternative III-A would impact 2,126 acres of dispersed recreation area in the Fillmore FO; 1,256 acres in the Cedar City FO; 747 acres in the St. George FO; 651 acres in the Caliente FO; and 1,518 acres in the Las Vegas FO.

The 2-mile transmission line corridor for Alternative III-A, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass the following acreages of dispersed recreation area within each FO:

- Fillmore FO: 96,673 acres (2.2 percent of total available acreage for dispersed recreation within the FO).
- Cedar City FO: 57,249 (2.7 percent of total available acreage for dispersed recreation within the FO).
- St. George FO: 32,409 (6.4 percent of total available acreage for dispersed recreation within the FO).
- Caliente FO: 25,917 (0.7 percent of total available acreage for dispersed recreation within the FO).
- Las Vegas FO: 57,488 (3.1 percent of total available acreage for dispersed recreation within the FO).

As discussed in Section 3.13.6, construction impacts would have temporary adverse impacts to the hunters and wildlife viewer user groups and to non-mechanized users such as hikers or backpackers due to the direct loss of habitat from vegetation removal within the 250-foot-wide transmission line ROW and aesthetic impacts within the 2-mile transmission line corridor that would make recreation experiences in those areas undesirable or cause wildlife to leave the area. Construction would affect recreation use particularly on Saturdays (there will be no construction on Sundays), during the spring and fall when general recreation use peaks in this area, during hunting seasons, and during competitive OHV events. However, the areas affected comprise a small percentage of the FO areas and there are public lands adjacent to affected areas that can accommodate these recreation activities; except for competitive OHV events.

Within the Fillmore FO, the 250-foot-wide transmission line ROW would cross three of the four Cricket Mountain ATV trail system access roads, as well as several of the trails within the trail system. Within the Cedar City FO, Alternative III-A also would cross the American Discovery Trail (ADT) just west of Milford. The 250-foot-wide transmission line ROW would largely be within a designated utility corridor and would parallel an existing transmission line in these areas. Restricted access to the Cricket Mountain ATV trail system or the ADT during construction would be an adverse impact for recreational users of these trails. Per the PDTR (see **Appendix D**), guard structures or other safety measures would be used in areas where power lines cross railroads, roads or other public access ways during wire installation; fencing also may be used to restrict public access to work areas. Application of **REC-6** would reduce impacts to recreational users by allowing users continued access to all or part of the Cricket Mountain ATV trail system and the ADT; however, the noise and visual impacts from construction activities would still constitute an adverse effect to the recreational experience of those using the ADT. It is assumed that these construction activities would not substantively affect motorized drivers in the Cricket Mountain ATV trail system due to the noise of the motorized vehicles used on the trail system.

Alternative III-A would cross popular OHV routes near and within the Beaver Dam Wash NCA and would affect two trailheads (BLM 2011g). However, other trailheads would be available and most of the NCA would not be affected, likewise for the Beaver Dam Slope and Mormon Mesa ACECs (see Section 3.15, Special Designation Areas). Alternative III-A also would cross the Old Spanish Trail once east of Moapa and cross and parallel the trail near Highway 18 in Dixie National Forest, in addition to crossing the trail at the end of Region III (see Section 3.11, Cultural Resources and Native American Concerns, and Section 3.15, Special Designation Areas).

Within the Las Vegas FO, Alternative III-A would cross lands used for competitive OHV events on BLM land east of Nellis Dunes and southwest of the Muddy Mountains SRMA. It is assumed that impacts from noise or visual disturbances would not substantively affect recreational use of these areas or motorized drivers; however, restricted access to these areas during competitive events would be an adverse impact for recreational users in this area. The following mitigation is recommended to reduce impacts to specially permitted events:

REC-9: *The applicant shall plan construction activities to occur outside of specially permitted event areas or times; or work with organizers to ensure adequate access and use if feasible given notice of permit timing.*

Application of this measure would successfully reduce conflicts with special events and also could result in some benefits to both parties (shared bathroom facilities, parking areas, etc.).

BLM SRMAs or Other Specially Managed Recreation Areas

Muddy Mountains SRMA. Within the Las Vegas FO, approximately 2 miles of Alternative III-A would cross the Muddy Mountains SRMA. Approximately 72 acres of the 250-foot-wide transmission line ROW and 4,202 acres of the 2-mile transmission line corridor would fall within the 123,400-acre Muddy Mountains SRMA. These acreages comprise 0.1 percent and 3.4 percent of the SRMA, respectively. This SRMA is managed to provide integrated management of wildlife habitat, cultural resources, and other recreational uses and contains both semi-primitive motorized and non-motorized (wilderness) areas. Placement of the 250-foot-wide transmission line ROW would be within the designated utility corridor and therefore consistent with recreational management goals; however, portions of the 2-mile transmission line corridor, which would contain roads and other construction facilities, would extend slightly beyond the designated utility corridor. Construction and operation of the transmission line would remove wildlife habitat and permanently alter the semi-primitive recreational setting within nearby portions of the SRMA, adversely impacting those user groups seeking a natural-appearing environment with little evidence of disturbance. Additionally, during peak construction, construction activity and noise would affect recreationists within the entire 2-mile transmission line corridor, extending the area affected to about 3.4 percent of the SRMA. Application of **REC-2** would minimize impacts by limiting access to existing roads within the SRMA and/or requiring full reclamation of any roads that are constructed. This would reduce habitat modification and fragmentation; however, 72 acres of habitat (0.1 percent of the SRMA) would still have some level of vegetation maintenance during operations that could affect hunting and wildlife viewing and result in visual impacts despite mitigation.

USFS Recreation Areas

Dixie National Forest. Under Alternative III-A, approximately 184 acres of the 250-foot-wide transmission line ROW would fall within areas classified as roaded natural within the Dixie National Forest. These types of areas are managed for recreation in ways that allow for readily evident to moderate evidence of the sights and sounds of human activity. The sights and sounds of construction would be in conformance with area management, though construction would cause temporary adverse impacts to scenic viewers, hikers, campers and other non-motorized users identified in Section 3.13.6. Areas classified as semi-primitive motorized, while having some evidence of other users and motorized use, have a low concentration of users, and a predominantly natural or natural-appearing environment. Approximately 9,076 acres within the 2-mile transmission line corridor would be located in areas classified as semi-primitive motorized. This is 38 percent of the total acreage of the 2-mile transmission line corridor within the Dixie National Forest (23,803 acres) and 7.8 percent of all semi-primitive motorized acreage within the Dixie National Forest. The total acreage within the 2-mile transmission line corridor represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity. Approximately 10,331 acres (43 percent) within the 2-mile transmission line corridor would be within areas classified as semi-primitive non-motorized. The sights and sounds of construction and presence of large construction crews and construction traffic would not be consistent with the recreation goals for this area, which comprises 4.6 percent of all semi-primitive non-motorized acreage within the Dixie National Forest. Over 42 percent of semi-primitive motorized areas (or 3,826 acres) and 94 percent (9,717 acres) of the semi-primitive non-motorized areas within the 2-mile transmission line corridor would be located within IRAs. Construction within IRAs would use roadless construction methods identified in **Appendix D**. This would reduce some impacts to semi-primitive motorized and non-motorized areas by eliminating road construction; however, helicopter construction and/or

overland travel itself also likely would be a temporary adverse impact to recreationists in these areas. The remaining 5,250 acres of semi-primitive motorized area within the 2-mile transmission line corridor would not be within IRAs and comprises approximately 4.5 percent of all semi-primitive motorized area within the Dixie National Forest. The remaining 614 acres of semi-primitive non-motorized area within the 2-mile transmission line corridor would comprise approximately 0.3 percent of all semi-primitive non-motorized area within the Dixie National Forest. Impacts to IRAs are discussed in more detail in Section 3.15, Special Designation Areas.

As discussed in Section 3.13.6, construction would adversely affect the hunters and wildlife viewer user group through habitat removal, restricted access to areas undergoing construction, and by displacing wildlife in and near construction zones. Construction would adversely affect the non-mechanized user group (hikers, campers, and equestrians) that recreate in this area due to construction activity and noise. During construction, wildlife may be displaced to areas that are not within the unit for which hunters are licensed. Hunters would be adversely impacted only if these activities were scheduled during active hunting seasons; recreationists seeking wildlife watching experiences or natural settings would be adversely impacted by construction activities regardless of their timing. Impacts would be greatest during summer and during hunting seasons. Application of **REC-1**, and **REC-2** would assist in reducing impacts to hunters and wildlife watchers, as well as reduce scenic impacts from access road construction.

High use areas within the Dixie National Forest include the area along Highway 18 near the Mountain Meadows Massacre site. Construction activities for Alternative III-A would adversely impact scenic driving along this segment of Highway 18 and visitors at this historic site would experience construction noise and visual disturbances. These impacts plus vegetation removal within the 250-foot-wide transmission line ROW would not meet the partial retention visual objectives for this area without mitigation (see Section 3.12, Visual Resources and **Appendix I** for a discussion of impacts and suggested mitigation). Application of **REC-5** would minimize impacts to recreational drivers and visitors to these sites by prohibiting construction during weekends and other high use periods in areas that are adjacent to developed recreation sites. Operation of the transmission line would have less adverse impacts to recreation users because the line would be located parallel to an existing transmission line and because the 250-foot-wide transmission line ROW would be reclaimed (see mitigation measures identified in Section 3.12, Visual Resources). Outside of this area, the area affected in the Dixie National Forest comprises a small percentage of the Dixie National Forest and there are public lands directly adjacent to affected areas that would be able accommodate the same recreation activities. Project roads could result in unauthorized OHV use (and associated resource damage, noise, etc.) as well as permanent visual impacts within dispersed recreation areas. Please see Section 3.13.6.8 regarding potential impacts from Project access roads.

State-managed Recreation Areas

There are no state-managed recreation areas within Alternative III-A.

Local Recreation Areas

Newcastle Reservoir. The 250-foot-wide transmission line ROW would cross E. Pinto Canyon Road, which is used to access Newcastle Reservoir, a popular area for fishing. TWE's guard structures and other safety measures would allow continued use of this road and access to this recreational area, although there could be some delays in traffic during peak construction times. Operation of the line is not expected to substantively affect recreational use of the reservoir because the 250-foot-wide transmission line ROW would parallel an existing transmission line in this area, resulting in minimal visual impacts to recreation users. Additionally, BMPs and other stipulations would be utilized to reduce erosion and resulting sedimentation that could affect water quality (and therefore fishing success) within the reservoir. A monument to the Jefferson Hunt party of 1849, located on Bench Road, would be within the 2-mile transmission line corridor.

Scenic Backways and Byways

Bitter Springs Backcountry Byway. The 250-foot-wide transmission line ROW for Alternative III-A would cross the Bitter Springs Backcountry Byway in the Muddy Mountains SRMA. Approximately 2 miles of the Byway would be within the 2-mile transmission line corridor. There are currently no existing transmission lines in the area; however, the transmission line would be located within a designated utility corridor. Visual disturbances created by the transmission line itself would permanently alter the recreation setting for scenic driving for a portion of the Byway nearest to the 250-foot-wide transmission line ROW. In addition, scenic drivers using the Byway also would be subject to views of construction within the 2-mile transmission line corridor. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility in this area.

Alternative III-B (Agency Preferred)

Under Alternative III-B, the 250-foot-wide transmission line ROW and 2-mile transmission line corridor would cross dispersed recreation areas within four BLM FOs, but would not cross any SRMAs. One backcountry byway also would be affected by Alternative III-B.

BLM Dispersed Recreation Areas

Within Region III, the 250-foot-wide transmission line ROW for Alternative III-B would impact 2,096 acres of dispersed recreation area in the Fillmore FO, 1,122 acres within the Cedar City FO, 2,032 acres within the Caliente FO, and 1,123 acres within the Las Vegas FO. Alternative III-B would not enter the St. George FO or the Dixie National Forest.

The 2-mile transmission line corridor for Alternative III-B, which represents the maximum area that could be temporarily removed from recreation use during construction due to surface disturbance, increased noise, and human activity, would encompass the following acreages of dispersed recreation area within each FO:

- Fillmore FO: 101,464 acres (2.3 percent of total available acreage for dispersed recreation within the FO).
- Cedar City FO: 53,732 acres (2.6 percent of total available acreage for dispersed recreation within the FO).
- Caliente FO: 81,729 acres (2.3 percent of total available acreage for dispersed recreation within the FO).
- Las Vegas FO: 38,488 acres (2.1 percent of total available acreage for dispersed recreation within the FO).

Impacts to dispersed recreation in the Fillmore, Cedar City, and Las Vegas FOs would be the similar to those described under Alternative III-A.

Within the Caliente FO, Alternative III-B would pass through dispersed recreation areas currently containing no existing utility lines, although the route would be partially within an existing designated corridor. Construction and operation of the transmission line would be an adverse impact to those seeking primitive recreation experiences in these portions of the FO, which includes the Clover Mountain Wilderness Area (see Section 3.15, Special Designation Areas).

BLM SRMAs or Other Specially Managed Recreation Areas

There are no SRMAs within the 2-mile transmission line corridor for Alternative III-B.

USFS Recreation Areas

There are no NFS lands within the 2-mile transmission line corridor in Alternative III-B.

State-managed Recreation Areas

Zane CWMU. The 250-foot-wide transmission line ROW for Alternative III-B would encompass about 195 acres (2 percent) of the 9,779-acre Zane CWMU. Impacts to hunting in these areas would be the same as discussed for WMAs and CWMUs within Region II. Impacts to hunting within the 2-mile transmission line corridor area would be similar to those described in Region II and would encompass over 50 percent of the CWMU. Decisions regarding road construction and timing of construction would be up to the private landowner.

Local Recreation Areas

There are no local recreation areas within Alternative III-B.

Scenic Backways and Byways

Rainbow Canyon Backcountry Byway. The 250-foot-wide transmission line ROW for Alternative III-B would cross the Rainbow Canyon Backcountry Byway twice, once on the eastern portion of the loop and once on the southern portion of the loop. Approximately 5 miles of the Byway would be within the 2-mile transmission line corridor. There currently are no existing transmission lines in the area; however, the transmission line would be located within a designated utility corridor at the farthest west Byway crossing. Visual disturbances created by the transmission line itself would permanently alter the recreation setting for scenic driving for a portion of the Byway nearest to the 250-foot-wide transmission line ROW. In addition, scenic drivers using the Byway also would be subject to views of construction within the 2-mile transmission line corridor. Wire installation across the road would cause temporary delays in traffic. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility in this area.

Alternative III-C

Under Alternative III-C, the 250-foot-wide transmission line ROW and the 2-mile transmission line corridor would cross dispersed recreation areas within four FOs and one SRMA. Portions of the 2-mile transmission line corridor also would cross two additional SRMAs. Alternative III-C also would affect one scenic byway and one backcountry byway.

BLM Dispersed Recreation Areas

Within Region III, the 250-foot-wide transmission line ROW for Alternative III-C would impact 2,091 acres of dispersed recreation area in the Fillmore FO; 1,122 acres within the Cedar City FO; 2,739 acres within the Caliente FO; and 1,237 acres within the Las Vegas FO. Alternative III-C would not enter the St. George FO or the Dixie National Forest.

The 2-mile transmission line corridor for Alternative III-C, which represents the maximum area that could be temporarily removed from recreation use during construction due to surface disturbance, increased noise, and human activity, would encompass the following acreages of dispersed recreation area within each FO:

- Fillmore FO: 101,450 acres (2.3 percent of total available acreage for dispersed recreation within the FO).
- Cedar City FO: 53,616 acres (2.5 percent of total available acreage for dispersed recreation within the FO).
- Caliente FO: 114,595 acres (3.2 percent of total available acreage for dispersed recreation within the FO).
- Las Vegas FO: 44,147 acres (2.4 percent of total available acreage for dispersed recreation within the FO).

Impacts to dispersed recreation in the Fillmore, Cedar City, and Las Vegas FOs would be the same as those described under Alternative III-A.

Alternative III-C would pass through dispersed recreation areas within the Caliente FO near Caliente and south along Highway 93 and the Delamar Mountains wilderness area. Much of the affected area contains an existing transmission line. Construction and operation of the transmission line would have an adverse impact to those seeking primitive recreation experiences in these portions of the FO; especially near the Delamar Mountains wilderness area (see Section 3.15, Special Designation Areas).

BLM SRMAs or Other Specially Managed Recreation Areas

Chief Mountain SRMA. Within the Caliente FO, approximately 16 miles of Alternative III-C would cross the 111,181-acre Chief Mountain SRMA. The SRMA is managed for a variety of recreation opportunities, including rock hounding, trilobite collecting, camping, hunting, and both event-organized and casual OHV riding. The SRMA contains 413 miles of roads, OHV routes, and trails, including 39 miles of the Silver State Trail. During construction, approximately 488 acres (0.2 percent of the SRMA) would be subject to vegetation removal and other surface disturbing activities associated with transmission line construction within the 250-foot-wide transmission line ROW. The 250-foot-wide transmission line ROW would not be located within a designated utility corridor within the SRMA, nor collocated with existing transmission lines and would cross several existing OHV trails, including a portion of the Silver State Trail. Restricted access to the trail system or the Silver State Trail during construction would be an adverse impact to recreational use of the trails and to motorized drivers in this area. Other access points in the SRMA and to the Silver State Trail would remain unaffected by construction (BLM 2011h). Application of **REC-6** would reduce impacts to recreational use of the trails and to motorized drivers in this area by allowing users continued access to all or part of the trail system. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility along the Silver State Trail, trailhead, and parking area.

A total of 18,618 acres (16.7 percent of the SRMA) would be located within the 2-mile transmission line corridor. This area would include road construction and represents the maximum area that could be temporarily removed from recreation use during construction due to surface disturbance, increased noise, and human activity. It is assumed that aesthetic impacts from construction or operation of the transmission line would not substantively affect recreational use of the OHV trails or motorized drivers, due to the noise of the motorized vehicles used on the trail system; however, other user groups such as rock hounders or trilobite collectors would be adversely affected by the noise and activity. The Oak Springs trilobite site would be less than one mile from the corridor; recreationists using the picnic facilities in this area would be temporarily adversely affected by the sights and sounds of construction. Development of additional access roads within the 2-mile transmission line corridor would be an adverse impact if they restricted access to the recreational roads and trails already present in the area and also could lead to unauthorized OHV use in the area if not fully reclaimed. Application of **REC-2** would reduce the impact from road construction by limiting access within the SRMA to existing roads or requiring closure or reclamation in consultation with the BLM; however, it also is important to note that use of existing roads would be an adverse impact to recreation if construction use of the roads conflicted with recreational use of the area.

North Delamar SRMA. Less than 1 acre of the 2-mile transmission line corridor, in which roads and construction support areas could be constructed, would be located within the North Delamar SRMA. The corridor would cross near the western border of the SRMA where the route follows a designated utility corridor and existing transmission line. Application of **REC-2** and **REC-3** would eliminate impacts to this area by limiting any access within the SRMA to existing roads or requiring any new roads to be located within the existing corridor.

Nellis Dunes SRMA. Within the Las Vegas FO, approximately 142 acres of the 2-mile transmission line corridor would be located within the Nellis Dunes SRMA. As an area of intensive OHV use, construction and operation of a transmission line is not expected to impact recreational use in this area unless access for recreation or recreational events was restricted. Application of **REC-6** and **REC-9** would reduce impacts to recreation by keeping trails open or directing users to comparable trails and scheduling construction outside of specially permitted events.

Impacts to NWRs are discussed in Section 3.15, Special Designations.

USFS Recreation Areas

There are no NFS lands within the 2-mile transmission line corridor for Alternative III-C.

State-managed Recreation Areas

Impacts to CWMUs would be the same as those described under Alternative III-B.

Local Recreation Areas

There are no local recreation areas within Alternative III-C.

Scenic Backways and Byways

Rainbow Canyon Backcountry Byway. The 250-foot-wide transmission line ROW for Alternative III-C would cross the Rainbow Canyon Backcountry Byway once near Caliente, Nevada. Approximately 5 miles of the Byway would be within the 2-mile transmission line corridor. There currently are no existing transmission lines in the area. Visual disturbances created by the transmission line itself would permanently alter the recreation setting for scenic driving for a portion of the Byway nearest to the 250-foot-wide transmission line ROW. In addition, scenic drivers using the Byway also would be subject to views of construction within the 2-mile transmission line corridor. Wire installation across the road would cause temporary delays in traffic. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility in this area.

Highway 93 Scenic Byway. The 250-foot-wide transmission line ROW would cross the Highway 93 Scenic Byway twice west of Caliente, Nevada, within the Chief Mountain SRMA. Approximately 15 miles of the Byway would be within the 2-mile transmission line corridor. There currently are no existing transmission lines in the area. Visual disturbances created by the transmission line itself would permanently alter the recreation setting for scenic driving for a portion of the Byway nearest to the 250-foot-wide transmission line ROW. In addition, scenic drivers using the Byway also would be subject to views of construction within the 2-mile transmission line corridor. Wire installation across the road would cause temporary delays in traffic. Section 3.12, Visual Resources, and **Appendix I** provide additional detail regarding visibility in this area.

West of Caliente, the 250-foot-wide transmission line ROW would cross the Silver State Backcountry Byway within the Chief Mountain SRMA. Impacts to this Byway (the Silver State Trail) are included in Chief Mountain SRMA analysis.

Alternative Variations in Region III

Table 3.13-31 provides a comparison of impacts associated with the alternative variations in Region III.

Table 3.13-31 Summary of Region III Alternative Variation Impacts to Recreation

Alternative Variation	Analysis
Ox Valley East Alternative Variation (Alternative III-A)	250-foot-wide transmission line ROW would cross 205 acres of NFS lands; 2-mile transmission line corridor would cross 6,526 acres of NFS lands. Avoids Alternative III-A impacts to scenic driving and viewing the Mountain Meadows Massacre site along Highway 18 in Dixie National Forest and would reduce crossings of the Old Spanish Trail; however, this variation would cross several trails within the Ox Valley ATV Trail system and would largely parallel route FS 007. Restricted access to the trail system would be an adverse impact to motorized drivers in this area and would affect use of the trail; application of REC-6 would reduce this impact.
Ox Valley West Alternative Variation (Alternative III-A)	250-foot-wide transmission line ROW would cross 15 acres of BLM lands, 196 acres of NFS lands; 2-mile transmission line corridor would cross 29 acres of BLM lands and 2,233 acres of NFS lands. Avoids Alternative III-A impacts to scenic driving and viewing the Mountain Meadows Massacre site along Highway 18 in Dixie National Forest and would reduce crossings of the Old Spanish Trail; however, this variation would cross several trails within the Ox Valley ATV Trail system and would largely parallel route FS 007. Restricted access to the trail system would be an adverse impact to motorized drivers in this area and would affect use of the trail; application of REC-6 would reduce this impact.
Pinto Variation (Alternative III-A)	250-foot-wide transmission line ROW would cross 628 acres of NFS lands and 205 acres of BLM land; 2-mile transmission line corridor would cross 25,296 acres of NFS lands and 5,506 acres of BLM land. Avoids impacts to scenic driving and viewing the Mountain Meadows Massacre site along Highway 18 in Dixie National Forest and would reduce crossings of the Old Spanish Trail. Avoids crossing the access road to Newcastle Reservoir, but 2-mile transmission line corridor would encompass 111 acres near the southern and western portions of the reservoir. The route would cross FR 009 and/or parallel FR 011 along Pinto Creek, with permanent adverse impacts to the scenic viewshed of visitors driving recreationally on this route, recreating near the community of Pinto or those that have vacation or second homes in the area. The Pinto Variation also would impact fishing use of and anglers at the Baker Dam (BLM) and Santa Clara River (USFS) Fishing Access recreation sites. Application of REC-5 would minimize impacts to the community of Pinto and anglers at the two fishing access sites by prohibiting construction during weekends and other high use periods.

Alternative Connectors in Region III

Table 3.13-32 provides a comparison of impacts associated with alternative connectors in Region III. Both connectors would affect recreation on undesignated BLM lands, primarily OHV use.

Table 3.13-32 Summary of Region III Alternative Connector Impacts to Recreation

Alternative Connector	Analysis
Avon Alternative Connector	Affects recreation on 4,383 acres of undesignated BLM lands within the Cedar City FO. This is 0.2 percent of BLM-managed lands within the FO available for dispersed recreation. No special recreation management areas are located within this connector.
Moapa Alternative Connector	Affects recreation on 11,538 acres of undesignated BLM lands within the Las Vegas FO. This is 0.6 percent of BLM-managed lands within the FO available for dispersed recreation. No special recreation management areas are located within this connector.

Alternative Ground Electrode Systems in Region III

All seven alternative configurations for the ground electrode system would affect undesignated BLM lands adjacent to the Mormon Mesa ACEC. The Meadow Valley II alternative would have the greatest

impact on dispersed recreation opportunities such as hunting, camping and OHV use because of the distance from the corridor compared to the other alternatives that have shorter transmission line lengths and smaller site footprints. The Mormon Mesa-Carp Elgin Road, Halfway Wash-Virgin River, and Halfway Wash East alternatives would impact dispersed recreation uses, including very popular OHV trails, and would reduce OHV trail mileage available for use by the public during construction and operation. **Table 3.13-33** provides a comparison of impacts to recreation for each alternative electrode facility location proposed near the southern terminal. Some locations might serve multiple alternative routes, while others could only be associated with a certain alternative route.

Table 3.13-33 Summary of Region III Alternative Ground Electrode System Location Impacts to Recreation

Alternative Ground Electrode System Location	Analysis
Mormon Mesa-Carp Elgin Road (Alternative III-A)	91 acres of disturbance from construction, 19 acres from operations. Affects undesignated BLM lands adjacent to the Las Vegas FO Mormon Mesa ACEC, including very popular OHV trails.
Mormon Mesa-Carp Elgin Road (Alternative III-B)	103 acres of disturbance from construction, 26 acres from operations. Affects undesignated BLM lands adjacent to the Las Vegas FO Mormon Mesa ACEC, including very popular OHV trails.
Halfway Wash-Virgin River (Alternative III-A)	84 acres of disturbance from construction, 16 acres from operations. Affects undesignated BLM lands adjacent to the Las Vegas FO Mormon Mesa ACEC, including very popular OHV trails.
Halfway Wash-Virgin River (Alternative III-B)	93 acres of disturbance from construction, 20 acres from operations. Affects undesignated BLM lands adjacent to the Las Vegas FO Mormon Mesa ACEC, including very popular OHV trails.
Halfway Wash East (Alternative III-A)	104 acres of disturbance from construction, 26 acres from operations. Affects undesignated BLM lands adjacent to the Las Vegas FO Mormon Mesa ACEC, including very popular OHV trails.
Halfway Wash East (Alternative III-B)	102 acres of disturbance from construction, 25 acres from operations. Affects undesignated BLM lands adjacent to the Las Vegas FO Mormon Mesa ACEC, including very popular OHV trails.
Meadow Valley 2 (Alternative III-C)	174 acres of disturbance from construction, 66 acres from operations. Affects undesignated BLM lands adjacent to the Mormon Mesa ACEC as well as <1 acre within the ACEC. Impacts OHV use. This alternative affects more dispersed recreation than the other alternatives due to the longer transmission line length.

Region III Conclusion

Within Region III, Alternative III-C would affect the most recreation areas and scenic byways/backways. Alternative III-B (Agency Preferred) would affect the fewest recreation areas. However, Alternative III-B could affect competitive events near Nellis Dunes SRMA and access to the Cricket Mountains ATV trail system and ADT; implementation of mitigation measures **REC-6** through **REC-9** would reduce impacts by maintaining access to trails and scheduling construction around specially permitted event areas or times. Therefore, with implementation of mitigation measures **REC-6** through **REC-9**, this alternative would have the least impact on recreation use, activities, and settings. In comparison, Alternative III-A (Applicant Proposed) would affect additional recreation areas, including Dixie National Forest, and would affect recreation within a popular OHV area in the St. George FO.

3.13.6.12 Region IV

Table 3.13-34 provides a summary of Region IV recreation areas/sites by alternative, both within the 250-foot-wide transmission line ROW and the 2-mile transmission line corridor.

Table 3.13-34 Region IV Recreation Areas within the 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Recreation Area/Site	Alternative IV-A 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative IV-B 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)	Alternative IV-C 250-foot-wide ROW 2-mile Corridor Acres (% of Total Area)
BLM Las Vegas FO			
Dispersed, undesignated recreation areas	213 (0.01) 6,990 (0.4)	190 (0.01) 6,765 (0.4)	190 (0.01) 6,765 (0.4)
Nellis Dunes SRMA	0 183 (1.2)	0 183 (1.2)	0 183 (1.2)
Sunrise Mountain SRMA	330 (0.9) 11,155 (29.7)	43 (0.1) 1,825 (4.9)	43 (0.1) 1,825 (4.9)
Las Vegas Valley SRMA	296 (0.2) 8,209 (4.2)	12 (<0.01) 535 (0.3)	N/A
Nelson/Eldorado SRMA	151 (0.2) 7,871 (8.6)	107 (0.1) 3,498 (3.8)	0 29 (<0.1)
Other Federally Managed Recreation Areas			
Sloan Canyon NCA	0 2,684 (6)	N/A	N/A
Lake Mead NRA (NPS)	0 25 (<0.01)	427 (0.03) 12,871 (<1)	414 (0.03) 14,482 (<1)
Local Recreation Areas			
Clark County Wetlands Park	18 (0.6) 376 (13)	N/A	N/A
Cascata Golf Course	N/A	0 229 (53)	N/A
Bootleg Canyon	N/A	66 (2.9) 1,627 (70)	N/A
River Mountains Loop Trail	4 crossings/8 miles	8 crossings/11.2 miles	6 crossings/10.7 miles

Alternative IV-A (Applicant Proposed and Agency Preferred)

Alternative IV-A would cross dispersed recreation areas within the Las Vegas FO and Sloan Canyon NCA, four SRMAs, the Clark County Wetlands Park, and the Lake Mead NRA.

BLM Dispersed Recreation Areas

General construction impacts to dispersed recreation activities are described in Section 3.13.6 and would affect recreationists by displacing visitors due to area closures, noise or visual presence of construction, or making the area inhospitable for wildlife. Within Region IV, the 250-foot-wide transmission line ROW for Alternative IV-A would impact 213 acres of dispersed recreation acreage in the Las Vegas FO. The 2-mile transmission line corridor, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 6,990 acres of dispersed recreation areas within the Las Vegas FO. These figures represent 0.01 percent and 0.04 percent of the acreage available for dispersed recreation in the FO, respectively. Construction would affect recreation use particularly on the weekends (Saturdays; there will be no construction on Sundays) and during the spring and fall when the weather is cooler and recreation use generally is higher in this area.

Key recreation opportunities within these dispersed recreation areas include equestrian trails in the area west of River Mountains ACEC (on city trails and the western portion of the River Mountains Loop Trail), which would be subject to noise and visual disturbances during construction and could have restricted access during peak construction times. Application of **REC-5** and **REC-6** would minimize impacts to trail users by prohibiting construction during weekends and other high use periods in areas that are adjacent to developed recreation sites and allowing users continued access to all or part of the trail system during construction. Operation of the line is expected to have little impact to recreation users because the line would be located parallel to an existing transmission line and therefore compatible with the existing viewshed. In general, within undesignated areas of the FO, there are other nearby locations that visitors could temporarily go during construction activities that offer the same recreation opportunities in a similar environment as are provided in dispersed recreation areas affected by Alternative IV-A.

BLM SRMAs or Other Specially Managed Recreation Areas

Both the 250-foot-wide transmission line ROW and 2-mile transmission line corridor for Alternative IV-A would cross three SRMAs, affecting a maximum acreage of 11,155 acres within the 37,620-acre Sunrise Mountain SRMA (29.7 percent of the SRMA), 8,209 acres within the 197,300-acre Las Vegas Valley SRMA (4.2 percent of the SRMA) and 7,871 acres within the 91,600-acre Nelson/Eldorado SRMA (8.6 percent of the SRMA). The 2-mile transmission line corridor also would encompass 183 acres (1.2 percent) of the 10,000-acre Nellis Dunes SRMA. There are no identified high use areas in the analysis area within the Las Vegas Valley and Sunrise Mountain SRMAs; impacts would be similar to those described for dispersed recreation above. The Nellis Dunes and Nelson/Eldorado SRMAs offer high use OHV areas and specially permitted competitive OHV events. As areas of mostly motorized recreation, construction and operation of a transmission line is not expected to impact recreational use in these areas unless access to trails or use areas is restricted during key use times or specially permitted events. Application of **REC-2** would reduce the impact from road construction by limiting access within the SRMAs to existing roads or requiring closure or reclamation in consultation with the BLM. Application of **REC-5**, **REC-6**, and **REC-9** would reduce impacts to recreation by prohibiting construction during high use times, keeping trails open or directing users to comparable trails, and scheduling construction outside of specially permitted events. Operation of the line is expected to have little impact to recreation users because there are already several existing transmission lines through affected portions of these SRMAs.

Other Federally Managed Recreation Areas

Lake Mead NRA. Approximately 25 acres of the 2-mile transmission line corridor for Alternative IV-A would be within the Lake Mead NRA. The Lake Mead NRA offers year-round recreational opportunities for boating, fishing, hiking, photography, picnicking and sightseeing. The portion within the 2-mile corridor is in the far northwest corner of the NRA well away from these recreational opportunities and would not affect recreational experiences within the NRA.

Sloan Canyon NCA. Impacts to the 48,000-acre Sloan Canyon NCA are discussed in Section 3.15, Special Designation Areas; however, in general, the affected portions of the NCA within the 2-mile transmission line corridor (2,684 acres or 6 percent of the NCA) would be within areas managed for semi-primitive, non-motorized recreation and are classified as VRM Class II. Construction of roads would not be consistent with recreation management goals for this area. Application of **REC-2** would eliminate road construction within the NCA; however, recreation uses and users in the area closest to the 250-foot-wide transmission line ROW would still be temporarily affected by construction noise and activity. Application of **REC-5** and **REC-6** would minimize impacts to recreational drivers and visitors to the site by prohibiting construction during weekends and other high use periods in areas that are adjacent to developed recreation sites and allowing users continued access to all or part of the trail system during construction.

Local Recreation Areas

Clark County Wetlands Park. The 250-foot-wide transmission line ROW for Alternative IV-A would cross the Las Vegas Wash and impact 18 acres within the far-east portion of Clark County Wetlands Park, a nature and wildlife habitat viewing area. The 2-mile transmission line corridor also would encompass a total of 376 acres, or about 13 percent of the 2,900 acre park. Construction noise and visual disturbances would adversely affect wildlife watchers or other user groups seeking a natural environment and could affect use of trails in this affected portion of the park. Application of **REC-6** would reduce impacts by maintaining access to the majority of the trails in this area and/or redirecting users to other nearby trails where access is not restricted.

River Mountains Loop Trail. Alternative IV-A would cross the River Mountains Loop Trail 4 times; 3 times near Lake Mead Parkway and once at Highway 93 southeast of Henderson. Eight miles of this National Recreation Trail would be located within the 2-mile transmission line corridor. Trail users (hikers, bikers, equestrians) would be adversely affected by construction noise and activity along the trail, particularly in the spring and fall when the weather is cooler and recreation use is typically higher in this area. Use of the western portion of the trail may be affected if visitors choose to use other trails during construction. Operation of the transmission line would affect the visual setting for this National Millennium Trail. There currently are existing transmission lines at the Lake Mead Parkway crossing and the Highway 93 crossing, as well as along the base of the River Mountains on the western portion of the trail loop. Application of **REC-2**, **REC-5**, and **REC-6** would assist in reducing impacts to the trail and impacts to non-motorized users from construction and operation by limiting access to existing roads, closing or rehabilitating new access roads, limiting construction times, and ensuring access to the trail is not impeded.

Alternative IV-B

Alternative IV-B would cross dispersed recreation areas within the Las Vegas FO, four SRMAs, the Lake Mead NRA, a private golf course, and Bootleg Canyon Recreation Area.

BLM Dispersed Recreation Areas

The 250-foot-wide transmission line ROW for Alternative IV-B would impact 190 acres of dispersed recreation area in the Las Vegas FO. The 2-mile transmission line corridor, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 6,765 acres of dispersed

recreation area within the Las Vegas FO. These figures represent 0.01 percent and 0.4 percent of the area available for dispersed recreation within the FO, respectively. Impacts to general dispersed recreation would be similar to those described under Alternative IV-A, but Alternative IV-B would impact only about a third of the acreage.

BLM SRMAs or Other Specially Managed Recreation Areas

Both the 250-foot-wide transmission line ROW and 2-mile transmission line corridor for Alternative IV-B would cross three SRMAs, affecting a maximum acreage of 1,825 acres within the 37,620-acre Sunrise Mountain SRMA (4.9 percent of the SRMA), 535 acres within the 197,300-acre Las Vegas Valley SRMA (0.3 percent of the SRMA) and 3,498 acres within the 91,600-acre Nelson/Eldorado SRMA (3.8 percent of the SRMA). The 2-mile transmission line corridor also would encompass 183 acres (1.2 percent) of the 10,000-acre Nellis Dunes SRMA. Impacts would be similar to those described under Alternative IV-A, but would affect less acreage (less than 5 percent of the Las Vegas Valley and Sunrise Mountain SRMAs and about half the acreage within the Nelson/Eldorado SRMA affected by Alternative IV-A).

Other Federally Managed Recreation Areas

Lake Mead NRA. Under Alternative IV-B, approximately 427 acres (14 miles) of the 250-foot-wide transmission line ROW and 12,871 acres of the 2-mile transmission line corridor would fall within the Lake Mead NRA. These acreages comprise less than 1 percent of the federally managed lands within the NRA, but would include developed access areas and scenic driving corridors within the Boulder Basin Zone offering year-round recreational opportunities for boating, fishing, hiking, photography, picnicking and sightseeing; primarily for day use recreation. During construction, noise and construction activities would adversely impact recreational non-motorized users in this area, such as campers, picnickers, and hikers using the Bluffs Trail, Wetlands Trail, the Historic Railroad Trail, or the River Mountains Loop Trail. The campground at Las Vegas Bay and the RV park at the Boulder Harbour/Beach would both be located within sight and earshot of construction activities. The nearest campground would be located approximately 12 miles further east, on the northern shore of the Boulder “arm.” However, camping sites are limited and this location does not have any RV hookups. Additionally, the 250-foot-wide transmission line ROW would cross the access road for the boat launch and day use parking area. Restricted access to this area also would result in adverse impacts to motorized or non-motorized water-based user groups. Construction activities and noise also may affect use of the trails, campgrounds, boat launch, and day use area if visitors are displaced from these facilities. The 250-foot-wide transmission line ROW also largely parallels Lakeshore Drive within the Boulder Basin Zone. The 250-foot-wide transmission line ROW would be located primarily on the west side of the road, away from the shoreline; however, construction would affect the aesthetic quality of the drive and also would cause delays in traffic in this area. Construction would affect recreation use particularly on Saturdays (there will be no construction on Sundays). Application of **REC-2** would reduce the impact from road construction by limiting access within the Boulder Basin Zone to existing roads or requiring closure or reclamation in consultation with the NPS. Application of **REC-5** and **REC-6** would minimize impacts to recreational drivers and visitors to the site by prohibiting construction during weekends and other high use periods in areas that are adjacent to developed recreation sites and allowing users continued access to all or part of the trail system during construction. However, the visual impacts to the Class A scenery of the area would not comply with Lake Mead NRA management objectives and would result in permanent adverse impacts to the recreation setting in the area. Section 3.12, Visual Resources and **Appendix I** provide additional detail regarding visibility along the Lake Mead Boulevard Recreation Area.

Local Recreation Areas

Cascata Golf Course. Approximately 229 acres of the 431-acre Cascata Golf Course would fall within the 2-mile transmission line corridor in which roads or construction support areas could be located. This comprises about 53 percent of the property and includes almost all of the greens as well as the

club house. During construction, noise and construction activities would adversely impact the recreational setting of the golf course. There are other golf courses in nearby Boulder City that would be available for use during the construction phase (see Section 3.17, Social and Economic Conditions, for potential economic impacts of construction to the Cascata Golf Course). Application of **REC-2** would reduce the impact from road construction by limiting construction access near the golf course to existing roads or requiring closure or reclamation in consultation with the land manager. **REC-5** would minimize impacts to recreational users in the area by prohibiting construction during weekends and other high use periods in areas adjacent to developed recreation sites, but would not mitigate the long term adverse visual impacts resulting from placement of the transmission line within the area viewshed.

Bootleg Canyon. Alternative IV-B also would affect the mountain biking trails and zip line recreation opportunities in the 2,312-acre Bootleg Canyon recreation area. During construction, the 250-foot-wide transmission line ROW would affect 66 acres within this recreational area; approximately 1,627 acres of this recreational area (about 70 percent) would fall within the 2-mile transmission line corridor in which roads or construction support areas could be located. The 250-foot-wide transmission line ROW would cross several mountain bike trails and would be located less than a few hundred feet from one of the zipline platforms. There are other mountain biking trails in the general area, but not another area dedicated to mountain biking where there are so many high quality biking trails. There is a zip line in the City of Las Vegas across Fremont Street, but no known other “natural environment” zip lining opportunities in the Las Vegas/Boulder City area. Construction activities that prevent or restrict visitor’s access to ziplining or mountain biking opportunities or degrade the experience through noise and other activities in Bootleg Canyon would cause a temporary adverse impact to recreation. Application of **REC-2** would reduce impacts by the development of new roads in this area; however, it also is important to note that use of existing roads would be an adverse impact to recreation if that use conflicted with the current mountain biking recreational use of the area. Application of **REC-5** would minimize impacts to recreational users in the area by prohibiting construction during weekends and other high use periods in areas that are adjacent to developed recreation sites. During operation, the transmission line would be viewed by zipliners and those using certain mountain biking trails. Operations are assumed to have few adverse impacts for mountain bikers because they have a variety of trails to choose from and their recreational experience is based as much on the quality of the trails as it is the naturalness of the environment. However, ziplining relies heavily upon spectacular aerial views for user satisfaction; visual impacts to the areas nearest to the zipline would result in a permanent adverse impact to this user group. Section 3.12, Visual Resources and **Appendix I** provide additional detail regarding visibility in Bootleg Canyon. The following mitigation is recommended to reduce impacts to the ziplining and mountain biking recreational experience:

REC-10: *The Applicant shall consider the view from key recreational areas in its placement of the 250-foot-wide transmission line ROW to locate the line where it best blends in with the surrounding environment, and/or is co-located with other existing transmission lines.*

Moving the reference line to minimize the number of trails affected and avoiding the zipline activity area would reduce the impact to recreation at the site, particularly if the 250-foot-wide transmission line ROW were to be located closer to the existing transmission line, which is located further down the mountain.

River Mountains Loop Trail. Alternative IV-B would cross the River Mountains Loop Trail 8 times, mostly within the Lake Mead NRA on the eastern half of the trail. Portions of the transmission line would parallel the trail in two areas. Over 11 miles of this National Recreation Trail would be located within the 2-mile transmission line corridor. Trail users (hikers, bikers, equestrians) would be adversely affected by construction noise and activity along the trail, particularly in the spring and fall when the weather is cooler and recreation use is typically higher in this area. Use of the eastern portion of the trail may be affected if visitors choose to use other trails during construction. Operation of the transmission line would affect the visual setting for this National Millennium Trail; currently, there are

only existing transmission lines in the southeastern portion of the trail loop and along Highway 93 around Boulder City. Application of **REC-2**, **REC-5**, and **REC-6** would assist in reducing impacts to the trail and impacts to non-motorized users from construction and operation by limiting access to existing roads, closing or rehabilitating new access roads, limiting construction times, and ensuring access to the trail is not impeded.

Scenic Backways and Byways

Although there are no designated National Scenic Byways or BLM-designated Scenic Byways or Backways within Region IV, the Nevada Commission on Tourism is currently facilitating the nomination of Lakeshore and Northshore Roads within Lake Mead NRA for State Scenic Byway status. The nomination is primarily honoring the scenic, cultural, and natural features found along these road corridors. Alternative IV-B would be located along Lakeshore Road within the Lake Mead NRA. Construction and operation (presence) of the transmission line would affect the scenic quality of the road and thus could affect the nomination as a Nevada Scenic Byway.

Alternative IV-C

Alternative IV-C would cross dispersed recreation areas within the Las Vegas FO, three SRMAs, and the Lake Mead NRA.

BLM Dispersed Recreation Areas

The 250-foot-wide transmission line ROW for Alternative IV-C would impact 190 acres of dispersed recreation area in the 2.4 million-acre Las Vegas FO. The 2-mile transmission line corridor, which represents the maximum area that could be temporarily removed from use during construction due to surface disturbance, increased noise, and human activity, would encompass 6,765 acres of dispersed recreation area within the Las Vegas FO. These figures represent 0.01 percent and 0.4 percent of the area available for dispersed recreation in the FO, respectively. Impacts to general dispersed recreation would be similar those described under Alternative IV-A, but Alternative IV-C would only impact about a third of the acreage of Alternative IV-A.

BLM SRMAs or Other Specially Managed Recreation Areas

Both the 250-foot-wide transmission line ROW and 2-mile transmission line corridor for Alternative IV-C would cross the Sunrise Mountain SRMA. Impacts would be the same as those described under Alternative IV-B. The 2-mile transmission line corridor also would encompass 183 acres of the Nellis Dunes SRMA. Impacts would be the same as those described under Alternative IV-A. The 2-mile transmission line corridor also would encompass approximately 29 acres of the Nelson/Eldorado SRMA. This would have minimal impact on recreation in this area, due to the small amount of acreage that would be subject to noise and construction activity.

Other Federally Managed Recreation Areas

Lake Mead NRA. Under Alternative IV-C, approximately 414 acres (14 miles) of the 250-foot-wide transmission line ROW and 14,482 acres of the 2-mile transmission line corridor would fall within the Lake Mead NRA. Impacts would be similar in context and intensity those described under Alternative IV-B.

Black Canyon. The 2-mile transmission line corridor would include almost 1,000 acres of the Black Canyon Wilderness (see Section 3.15, Special Designation Areas). Construction of roads in this portion of the 2-mile transmission line corridor would conflict with wilderness area management; roads would need to be placed outside of wilderness boundaries. During construction, the recreation setting of scenic, undeveloped, and natural areas within and near the wilderness area would be adversely affected by noise and construction activity. Operation of the transmission line also is expected to have

permanent impacts to non-motorized user groups seeking to recreate in and near natural wilderness areas because there are no existing transmission lines in the area.

Local Recreation Areas

River Mountains Loop Trail. Alternative IV-C would cross the River Mountains Loop Trail 6 times, entirely within the Lake Mead NRA on the eastern half of the trail. Portions of the transmission line would parallel the trail in two areas. Over 10 miles of this National Recreation Trail would be located within the 2-mile transmission line corridor. Trail users (hikers, bikers, equestrians) would be adversely affected by construction noise and activity along the trail, particularly in the spring and fall when the weather is cooler and recreation use is typically higher in this area. Use of the eastern portion of the trail may be affected if visitors choose to use other trails during construction. Operation of the transmission line would affect the visual setting for this National Millennium Trail; currently, there are only existing transmission lines in the southeastern portion of the trail loop. Application of **REC-2**, **REC-5**, and **REC-6** would assist in reducing impacts to the trail and impacts to non-motorized users from construction and operation by limiting access to existing roads, closing or rehabilitating new access roads, limiting construction times, and ensuring access to the trail is not impeded.

Scenic Backways and Byways

Impacts to Lakeshore Road would be the same as those described under Alternative IV-B.

Alternative Variations in Region IV

Table 3.13-33 summarizes impacts associated with the use of the Marketplace Alternative Variation in Region IV.

Table 3.13-35 Summary of Region IV Alternative Variation Impacts to Recreation

Alternative Variation	Analysis
Marketplace Alternative Variation (Alternative IV-B)	Under this variation, 94 acres of the 250-foot-wide transmission line ROW and 2,984 acres of the 2-mile transmission line corridor would fall within the Nelson/Eldorado SRMA. This variation would have more acreage within the SRMA than Alternative IV-B: 94 acres more of 250-foot-wide transmission line ROW (which does not enter the SRMA for Alternative IV-B), and 2,836 acres more of 2-mile transmission line corridor, with correspondingly larger impacts to recreation within the SRMA through surface disturbance and temporary access restrictions. Impacts would be greatest to OHV users and other motorized user groups.

Alternative Connectors in Region IV

Table 3.13-34 summarizes impacts associated with the use of the alternative connectors in Region IV. All alternative connectors, except the Railroad Pass Alternative Connector, would affect one SRMA and the Lake Mead NRA. The Sunrise Mountain Alternative Connector is the only connector that would not affect the River Mountains Loop Trail. The River Mountains Alternative Connector also would affect Bootleg Canyon and backcountry road use in the Lake Mead NRA. The Railroad Pass Alternative Connector would affect two BLM SRMAs as well as a private golf course.

Table 3.13-36 Summary of Region IV Alternative Connector Impacts to Recreation

Alternative Connector	Analysis
Sunrise Mountain Alternative Connector	<p>250-foot-wide transmission line ROW: Sunrise Mountain SRMA: 77 acres</p> <p>2-mile transmission line corridor: Sunrise Mountain SRMA: 1,284 acres Lake Mead NRA: 882 acres</p>
Lake Las Vegas Alternative Connector	<p>250-foot-wide transmission line ROW: Las Vegas Valley SRMA: 76 acres Lake Mead NRA: 42 acres</p> <p>2-mile transmission line corridor: Las Vegas Valley SRMA: 1,277 acres Lake Mead NRA: 364 acres Would affect the River Mountains Loop Trail</p>
Three Kids Mine Alternative Connector	<p>250-foot-wide transmission line ROW: Las Vegas Valley SRMA: 123 acres Lake Mead NRA: 36 acres</p> <p>2-mile transmission line corridor: Las Vegas Valley SRMA: 1,455 acres Lake Mead NRA: 441 acres Would affect the River Mountains Loop Trail</p>
River Mountains Alternative Connector	<p>250-foot-wide transmission line ROW: Las Vegas Valley SRMA: 77 acres Lake Mead NRA: 131 acres</p> <p>2-mile transmission line corridor: Las Vegas Valley SRMA: 2,143 acres Lake Mead NRA: 3,320 acres Bootleg Canyon: 291 acres Affects backcountry road use in the Lake Mead NRA and the River Mountains Loop Trail</p>
Railroad Pass Alternative Connector (Alternatives IV-A and IV-B)	<p>250-foot-wide transmission line ROW: Las Vegas Valley SRMA: 41 acres Nelson/Eldorado SRMA: 47 acres</p> <p>2-mile transmission line corridor: Cascata Golf Course: 190 acres Las Vegas SRMA: 1,009 acres Nelson/Eldorado SRMA: 1,321 acres Would affect the River Mountains Loop Trail</p>

Region IV Conclusion

Though Alternative IV-B would affect the same number of recreation areas as Alternative IV-A, Alternative IV-B would have a greater impact on the River Mountains Loop Trail with a higher number of trail crossings and miles affected. Alternative IV-C would affect the fewest recreation areas, but also would have an increased impact on the River Mountains Loop Trail from Alternative IV-A due to a higher number of trail crossings and miles affected. In addition, Alternatives IV-B and IV-C would permanently affect the recreation setting of the trail in an area with no existing transmission lines. In comparison to Alternative IV-C, Alternative IV-A (Applicant Proposed, Agency Preferred) would affect additional BLM recreation areas and the Clark County Wetlands Park, would affect less NRA acreage,

and would have a lesser impact on the River Mountains Loop Trail as fewer miles would be impacted, there would be fewer trail crossings, and there are existing transmission lines along much of the trail portion that would be affected by Alternative IV-A.

3.13.6.13 Impacts to Recreation from the No Action Alternative

Under the No Action Alternative, the Project would not be constructed and current management across the analysis area would be maintained. Therefore, no construction, operation, or decommissioning impacts to recreation would occur from the Project and recreation opportunities and experiences would continue as is throughout the analysis area.

3.13.6.14 Residual Effects

Mitigation related to construction activities would reduce impacts to dispersed recreation and recreation at designated sites by maintaining public access to key recreational areas, scheduling construction around key recreational events or high use times or seasons, limiting new access road locations, and scheduling vegetation maintenance outside of big game hunting season. Residual effects from construction would consist of temporary disruption of recreation activities through noise and construction activity, and travel or access delays, particularly during non-high use times or within non-high use areas. Residual effects from operation of the transmission line itself would be the same as those described under each action alternative and would consist primarily of visual impacts from the line itself. There would be no residual effects to designated recreation areas from road development if mitigation limiting access to existing roads is applied. In cases where access road development is not fully avoided, but rather limited to existing corridors and/or subject to closure/rehabilitation, residential impacts would include wildlife habitat loss, visual impacts, and potential for unauthorized OHV use. Mitigation related to maintenance activities would reduce impacts to key hunting areas during big game hunting seasons, but would not reduce impacts to other recreational activities occurring during the rest of the year. Impacts would consist of noise and human activity that would interfere with recreational activities, especially activities relying on quiet or solitude.

3.13.6.15 Irreversible and Irrecoverable Commitments of Resources

All operational impacts to recreation described above would be irretrievable until transmission line decommissioning, after which time the recreational values of the transmission line area would be fully reclaimed.

3.13.6.16 Relationship Between Local Short-term Uses and Long-term Productivity

Implementation of the project would result in the conversion of some project lands from existing recreational uses to use as ROW corridors. Long-term productivity of project lands for recreation would be largely unaffected except for areas of high visual quality. In these areas, long term productivity of lands for recreation would be impacted if the surrounding land use shifted to a more industrial use as a result of the transmission line placement.

3.14 Land Use

This section describes the existing and planned land use in the Project analysis area and provides baseline and impact information for land use, including land use plans and policies, minerals and mining, agriculture and livestock grazing, and analyzes the impacts from the construction, operation, maintenance, and decommissioning of the transmission line.

3.14.1 Regulatory Background

The Project crosses or is located near many land use types, including federal land managed by the USFS, BLM, NPS, DOE, DOD, and Bureau of Reclamation; state land; county and city land; tribal land; and private land. Depending on the specific project location, a variety of land use plans may be applicable to a given portion of the Project. The regulations that guide land development and use on public and private lands are discussed in the following section.

3.14.1.1 Land Use Plans and Policies

Based on the current locations of Project reference lines, the Project crosses 4 states, 5 national forests, 15 BLM FOs, 24 counties, and 56 communities. The BLM FOs, national forests, and counties crossed are identified in **Table 3.14-1**.

Table 3.14-1 BLM Field Offices, National Forests, and Counties Crossed by State

Land Manager	Name
Wyoming	
BLM FOs	Rawlins, Rock Springs
Counties	Carbon, Sweetwater
Colorado	
BLM FOs	Grand Junction, Little Snake, White River
Counties	Garfield, Mesa, Moffat, Rio Blanco, Routt
Communities	Craig, Carbonera
Utah	
BLM FOs	Cedar City, Fillmore, Moab, Price, Richfield, Salt Lake, St. George, Vernal
National Forests	Ashley, Dixie, Fishlake, Manti-La Sal, Uinta-Wasatch-Cache
Counties	Beaver, Carbon, Daggett, Duchesne, Emery, Grand, Iron, Juab, Millard, Sanpete, Sevier, Uintah, Utah, Wasatch, Washington
Communities	Ioka, Upalco, Pines, Rio, Thistle, Gypsum Mill, Champlin, Thompson Springs, Deseret, Elba, Floy, Sagers, Vista, Cedar, Woodside, Emery, Moore, Harding, McCornick, Red Wash, Squaw Crossing, Martin, Helper, Heiner, Wildcat, Coal City, Clear Creek, Milburn, Colton, Gilluly, Kyune, Mt. Pleasant, Mill Fork, Nephi, Sky View, Soldier Summit, Tucker, Bridgeland, Modena, Beryl, Heist, Yale Crossing, Zane
Nevada	
BLM FOs	Caliente, Las Vegas
Counties	Clark, Lincoln
Communities	Jackman, Yoacham, Horseshoe Bend, Acoma, Beaverdam, Brown, Moapa, Henderson, North Las Vegas, Boulder City, Glendale

Each of the BLM FOs, national forests, and counties listed in **Table 3.14-1** has a guiding plan or document that sets forth allowable land uses within each designated area under the jurisdiction of the governing agency. BLM RMPs applicable to the Project are listed in **Table 1-3**. National forest LRMPs applicable to the Project are listed in **Table 1-4**. For the counties and cities, the guiding land use documents include the county Master Plan, Comprehensive Plan, Land Use Plan, and/or Zoning Plan. Applicable county planning documents are listed in **Table 3.14-2**. Planning documents for the affected cities will be added once the Project reference lines have been finalized. Allowable land uses within the area covered by each RMP, LRMP, county, or city plan are typically identified within each of those plans. For proposed projects that are not compatible with current allowable uses laid out in the BLM RMPs or national forest LRMPs, it may be necessary to request a plan amendment to allow the proposed action to proceed. For proposed projects that are not compatible with county or city zoning or land use plans, a variance may be required.

Table 3.14-2 County Planning Documents

State	County	Plan Name
Wyoming	Carbon	Carbon County Comprehensive Land Use Plan (2012) Carbon County Zoning Resolution of 2003 (Amended April 2011)
	Sweetwater	Sweetwater County Comprehensive Plan (2002) Sweetwater County Zoning Resolution (2011) Sweetwater County Conservation District Land and Resource Plan and Policy (2011) Little Snake River Conservation District Land, Water and Natural Resource Management Plan (Undated)
Colorado	Garfield	Garfield County Comprehensive Plan and Land Use Map (2010)
	Mesa	Mesa County Master Plan (2011)
	Moffat	Moffat County Master Plan (2003)
	Rio Blanco	Rio Blanco County Master Plan (2011)
	Routt	Routt County Master Plan (2003) Routt County Open Lands Plan (1995)
Utah	Beaver	Beaver County General Plan (1998) Beaver County Zoning Ordinance (1993)
	Carbon	Carbon County Master Plan (1997) Natural Resource Use and Management Plan (2010) Carbon County Zoning Ordinance (2011)
	Daggett	Daggett County General Plan (2008) Daggett County Zoning Ordinance (2011)
	Duchesne	Duchesne County General Plan (2005) Duchesne County Zoning Ordinance (2012)
	Emery	Emery County General Plan (1999) Emery County Zoning Ordinance (2009)
	Grand	Grand County General Plan (2012) Grand County Land Use Code (2008)

Table 3.14-2 County Planning Documents

State	County	Plan Name
Utah (Continued)	Iron	Iron County Zoning Ordinance (2009)
	Juab	Juab County General Plan (1996) Juab County Land Use Code (2007)
	Millard	Millard County General Plan (1998) Millard County Zoning Ordinance (2011) Millard County Major Utility Corridor Map (2009a)
	Sanpete	Sanpete County General Plan (2010a) Sanpete County Land Use Ordinance (2010b) Sanpete County Resource Management Plan (2012a) Sanpete County Zoning Map (2012b)
	Sevier	Sevier County General Plan (1998) Sevier County Zoning Ordinance (2010a) Sevier County Zoning Map (2010b)
	Uintah	Uintah County General Plan (2005) Uintah County Zoning (2005)
	Utah	Utah County Land Use Plan (2010) Utah County Land Use Ordinance (2005)
	Wasatch	Wasatch County General Plan Wasatch County Land Use and Development Code (2012)
	Washington	Washington County General Plan (2012a) Washington County Zoning Code (2012b)
Nevada	Clark	Clark County Comprehensive Plan (2010) Clark County Multiple Species Habitat Conservation Plan (2000) Clark County Wetlands Master Plan Boulder City Conservation Easement Agreement (1995) Boulder City Master Plan (2009)
	Lincoln	Lincoln County Master Plan (2007) Lincoln County Public Land Plan (2010a) Lincoln County Open Space Plan (2011) Southeast Lincoln County Habitat Conservation Plan (2010b) City of Caliente Land Use Plan (2011)

3.14.1.2 Mining and Minerals

Leasable minerals are those minerals that are leased to individuals for exploration and development. The leasable minerals are sub-divided into two classes: fluids and solid. Fluid minerals include oil and gas, geothermal resources and associated by-products, oil shale, native asphalt, oil impregnated sands and any other material in which oil is recoverable only by special treatment after the deposit is mined or quarried. Solid leasable minerals are specific minerals such as coal and phosphates. Leasable minerals are

associated with the following laws: Mineral Leasing Act of 1920, as amended and supplemented; Mineral Leasing Act for Acquired Lands of 1947, as amended; and the Geothermal Steam Act of 1970, as amended (American Geological Institute [AGI] 1997). Leasable minerals are acquired by applying to the federal government for a lease to explore and develop the minerals. Additional information on mining and mineral resources is found in Section 3.2, Geology.

3.14.1.3 Land Use Authorizations (Energy and ROWs)

For projects crossing state or federal land, the applicant would need to obtain a ROW grant, special use permit (SUP), easement, or other authorization. RMPs and LRMPs will commonly designate linear corridors within the boundary of the planning area for the location of existing or future transportation or utility ROWs. In addition, these planning documents often identify constrained areas where future utility ROWs will be discouraged (avoidance areas) or denied (exclusion areas). Applications for linear ROWs outside of designated corridors may require a plan amendment to expand the designated corridor to accommodate the requested ROWs. Applications for linear ROWs within BLM or USFS avoidance areas would be processed if it can be demonstrated that the proposed project and associated mitigation measures would meet the BLM RMP goals and objectives or USFS LRMP standards and guidelines for the various resources within the designated areas. Applications for linear ROWs within BLM or USFS exclusion areas would typically not be processed due to the statutory prohibitions applicable to the area in question.

In addition to the general planning documents identified above for each BLM FO or national forest, certain areas referred to as “special designation areas” (discussed in Section 3.15) also may have specific plans that pertain to the designated area. State land management agencies also may identify special designation areas. Due to the presence of sensitive resources typically present within a special designation area, the allowable land uses within these areas may be more restrictive than allowable uses in non-designated areas.

For projects that cross county or city land, the applicant would need to comply with local planning and zoning requirements and may need to apply for and obtain a conditional use permit (CUP), SUP or other permit that may be required by the local jurisdiction. For projects that cross private land, terms of the easement would need to be negotiated with each of the private land owners.

3.14.1.4 Agriculture

The Farmland Protection Policy Act (FPPA) of 1981 is intended to minimize the impact of federal programs on the conversion of farmland to nonagricultural uses. It ensures that—to the extent possible—federal programs are administered to be compatible with state and local units of government, and private programs and policies to protect farmland (NRCS 2006). Pursuant to the FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland.

3.14.1.5 Livestock Grazing

The Taylor Grazing Act of 1934 (43 USC 315) authorized the establishment of grazing districts and grazing privileges based on grazing capacities and priorities of use (BLM 2010, 2008). The Division of Grazing was created to administer the 142 million acres of public lands that were delineated as grazing districts. In 1946, the Division of Grazing was merged with the General Land Office to form the BLM. Section 3 of the Taylor Grazing Act gave leasing preference for grazing permits on public lands within the grazing districts to landowners and homesteaders in or adjacent to grazing district lands. Section 15 of the Taylor Grazing Act authorized leasing of public lands outside the original grazing district boundaries. In 1968, the Section 15 public lands were placed under multiple use management (43 CFR 4125.1-1). The Federal Land Policy and Management Act of 1976 (FLPMA) established policy for managing BLM-administered public lands including authorizing 10-year grazing permits, a 2-year notice of cancellation, and the development of allotment management plans.

In 1995, new livestock grazing regulations became effective that required each state BLM Director to develop standards for public land health and guidelines for livestock management (BLM 2011, 2010, 2008). While each BLM State Office developed their own standards and guidelines appropriate for the lands under their jurisdiction, the standards and guidelines focus on the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR 4180.1):

- 1) Watersheds are functioning properly;
- 2) Cycling of water, nutrients, and energy in the ecosystem is occurring properly;
- 3) Water quality meets State standards; and
- 4) Special status species habitat is protected (BLM 2011).

There are six standards, primarily in terms of the physical and biological features of the landscape, which represent the minimum acceptable conditions for the rangelands. The standards are used to enhance sustainable livestock grazing and wildlife habitats while protecting watersheds and riparian ecosystems. They are observed on a landscape scale and can be measured using appropriate indicators. There are 10 guidelines that are observed on the grazing allotment and watershed level. The guidelines guide the development of management actions to protect and promote healthy rangelands. Healthy rangeland standards and guidelines apply to all multiple uses on BLM lands, including ROW reclamation.

Forest reserves were created in 1891 but with little regulation to guide their use. In 1894, in reaction to overgrazing and the deterioration of grazing lands, grazing was banned on forest reserve lands. Illegal grazing continued to occur, until 1898, when regulated grazing was permitted to occur on the forest reserves (USDA 2008). The Organic Administration Act of 1897 established that the purpose of the forest reserves was for watershed protection and timber production, and authorized grazing if it was “compatible with the safe utilization of resources” (Prevedel and Johnson 2005).

The development of a grazing permit system first occurred under the Department of the Interior in 1900 (USDA 2008). The management of the forest reserves was transferred to the Department of Agriculture and the newly created Forest Service in 1905. The permit system continued under the Forest Service management, but fees were imposed in 1906, and new allotments were established with set start and stop dates for grazing in the forest reserves. The authority of the Forest Service to issue grazing permits and charge fees was reauthorized under the Granger-Thye Act of 1950 (USDA 2008, USFS 2011). In addition, the Granger-Thye Act authorized the use of grazing receipts for range improvements and provided direction on the establishment of local grazing advisory boards (USFS 2011).

The Public Rangelands Improvement Act of 1978 provided further direction on the management of public rangeland by such measures as requiring a continuing inventory of rangeland conditions and trends, requiring that public rangeland be managed in accordance with the rangeland management objectives established through the land use planning process prescribed in FLPMA, and requiring the management of rangeland in accordance with the Taylor Grazing Act, FLPMA, and other applicable law consistent with the Act (H.R.10587). The Rescission Act of 1995 (Public Law 104-19) requires that NEPA analyses and decisions on all grazing allotments be completed on an established schedule and within a 15 year period (USFS 2011). Additional regulations concerning grazing on USFS grazing allotments are found in the main regulations and laws that direct the management of the USFS lands including the Multiple Use and Sustained Yield Act of 1960; the Forest Rangeland Resources Planning Act of 1974; and the National Forest Management Act of 1976. Regulations pertaining to grazing are outlined in Code of Federal Regulations (36 CFR 222) and include the terms and fees for a grazing permit. The Forest Service Rangeland Management Directives covers USFS policies and guidelines on rangeland management (FSM 2200 – Range Management).

3.14.1.6 Special Designation Areas

Special designation areas are units of land managed by federal or state agencies for the protection and enhancement of specific resource values. The project analysis area includes designated wilderness, WSAs, ACECs, and other special management areas (e.g., national wildlife refuges [NWRs] and national conservation areas [NCAs]). These areas, as well as IRAs and undeveloped/unroaded areas, are discussed in Section 3.15, Special Designations. Section 201 of the FLPMA also requires the BLM to maintain, on a continuing basis, an inventory of all public lands and their resources and other values, which includes wilderness characteristics. Lands with wilderness characteristics are discussed in Section 3.15, Special Designations.

3.14.2 Data Sources

Information regarding land use resources within the analysis area was obtained from a review of existing published sources, RMPs, LRMPs and applicable county land use plans. Current land use information was obtained from available GIS data, topographic maps, and internet-based tools including GoogleEarth™. A list of the land use plans that were used in the development of this section are presented in the references section. Vegetation species nomenclature is consistent with the NRCS Plants Database (NRCS 2010), unless otherwise specified.

Data sources include published maps and reports and internet websites of the USGS and UGS. Other data sources included academic and professional journals and publications. Livestock grazing allotment information was provided by the BLM FOs and USFS national forests crossed by the proposed route.

3.14.3 Analysis Area

The analysis area for land use is defined as the 2-mile transmission line corridor. Unless otherwise specified, land uses within the 250-foot-wide transmission line ROW and 2-mile transmission line corridor are described.

3.14.4 Baseline Description

The land use baseline includes an overview of existing and planned land uses, land use authorizations, agriculture, livestock grazing, and USFS management areas.

3.14.4.1 Existing and Planned Land Uses

Federal lands in the land use analysis area are managed by multiple agencies, including BLM, USFS, NPS, DOE, DOD, and Bureau of Reclamation. Major uses of Federal land include oil and gas production, military operations, forestry, agriculture, grazing, research, and recreation. Utility corridors also have been designated on Federal land throughout the analysis area. Tribal lands in the analysis area include portions of the Uinta and Ouray Indian Reservation, and the Moapa Indian Reservation. **Table 3.14-3** provides the general breakdown of land ownership within the land use analysis area; the Regional Summary found in Section 3.14.5 contains additional information.

Table 3.14-3 General Land Ownership Within the Analysis Area

Federal	Tribal	State	Private
62.7%	0.6%	5.7%	31.0%

Impacts to active areas of mineral extraction crossed by the analysis area are identified in Section 3.2, Geological, Paleontological, and Mineral Resources. Impacts to prime and unique farmland areas are described and analyzed in Section 3.3, Soils.

3.14.4.2 Land Use Authorizations (Renewable Energy and ROWs)

Projects that cross federal land must obtain ROWs and easements from the federal land manager. The Programmatic EIS for the Designation of Energy Corridors on Federal Land in the 11 Western States (DOE and BLM 2008) identified potential energy corridors (known as West-wide Energy Corridors or WWEC Corridors) on federal land for oil, gas, and hydrogen pipelines, and electricity transmission and distribution facilities. Many of the Project reference lines are located within, or parallel to, these federal energy corridors (see **Figures 2-4** through **2-7**). In areas of co-location, individual counties and BLM FOs would be consulted to ensure that the reference line will be sited as efficiently as possible to avoid the preclusion of other facilities. In addition to the WWEC corridors, additional corridors have been identified in individual BLM FO RMPs and national forest LRMPs. These locally designated corridors are considered in Section 3.14.6, Impacts to Land Use.

3.14.4.3 Agriculture

Due to the semi-arid and arid climates present in the analysis area, agricultural production is generally limited to irrigated land along the larger river valleys or in areas where sufficient supplies of groundwater are available for irrigation.

Due to the arid climate and limited water availability of the desert southwest, there is limited agricultural production within Nevada; however, the Mohawk Valley Wash north of Caliente, Nevada contains an area of irrigated pasture along the east side of U.S. Highway 93. There also are some small irrigated agricultural fields near Moapa, Nevada along the Muddy River and Meadow Valley Wash.

3.14.4.4 Livestock Grazing

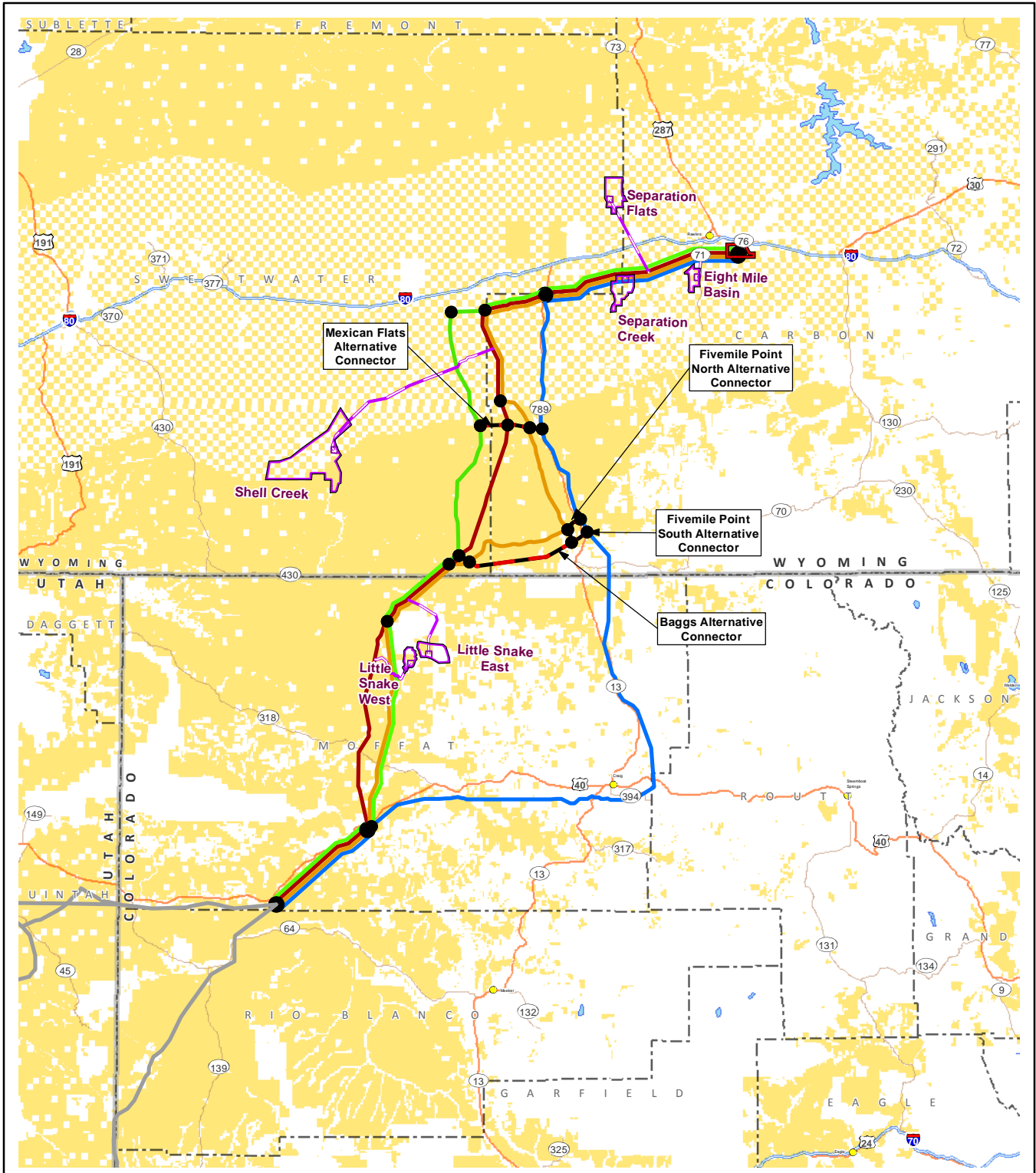
There are 454 BLM grazing allotments, and 96 USFS grazing allotments within the analysis area. Lands with grazing allotments crossed by the Project are shown on **Figures 3.14-1** through **3.14-4**. The majority of the allotments are for cattle with fewer used for sheep and a few allotments used for horses. **Table 3.14-4** shows the total acreage of grazing allotments in the analysis area broken down by state and BLM/USFS district office.

The grazing allotments are categorized into one of three management categories: Improve (I), Maintain (M), or Custodial (C). These categories are based on present conditions, potential for improvement, other resource conflicts, and opportunities for positive economic return on public investments. An allotment can be reassigned to a different management category if resource conditions in the allotment change, or new and/or better data becomes available. The highest priority for management are allotments assigned to the "I" category.

Current management, through the implementation of the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management, strives to prevent overgrazing, promote riparian areas, and prevent a downward trend on all grazing allotments. Actions to improve soils, vegetation, or water conditions on the allotment may include changing livestock numbers, distribution, or season of use; vegetation treatments; noxious weed control; range improvements; and implementation of livestock grazing systems such as pasture rotation or rest.

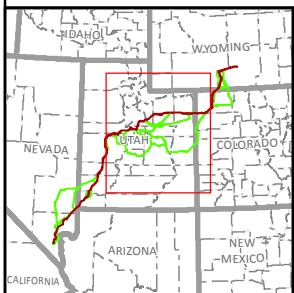
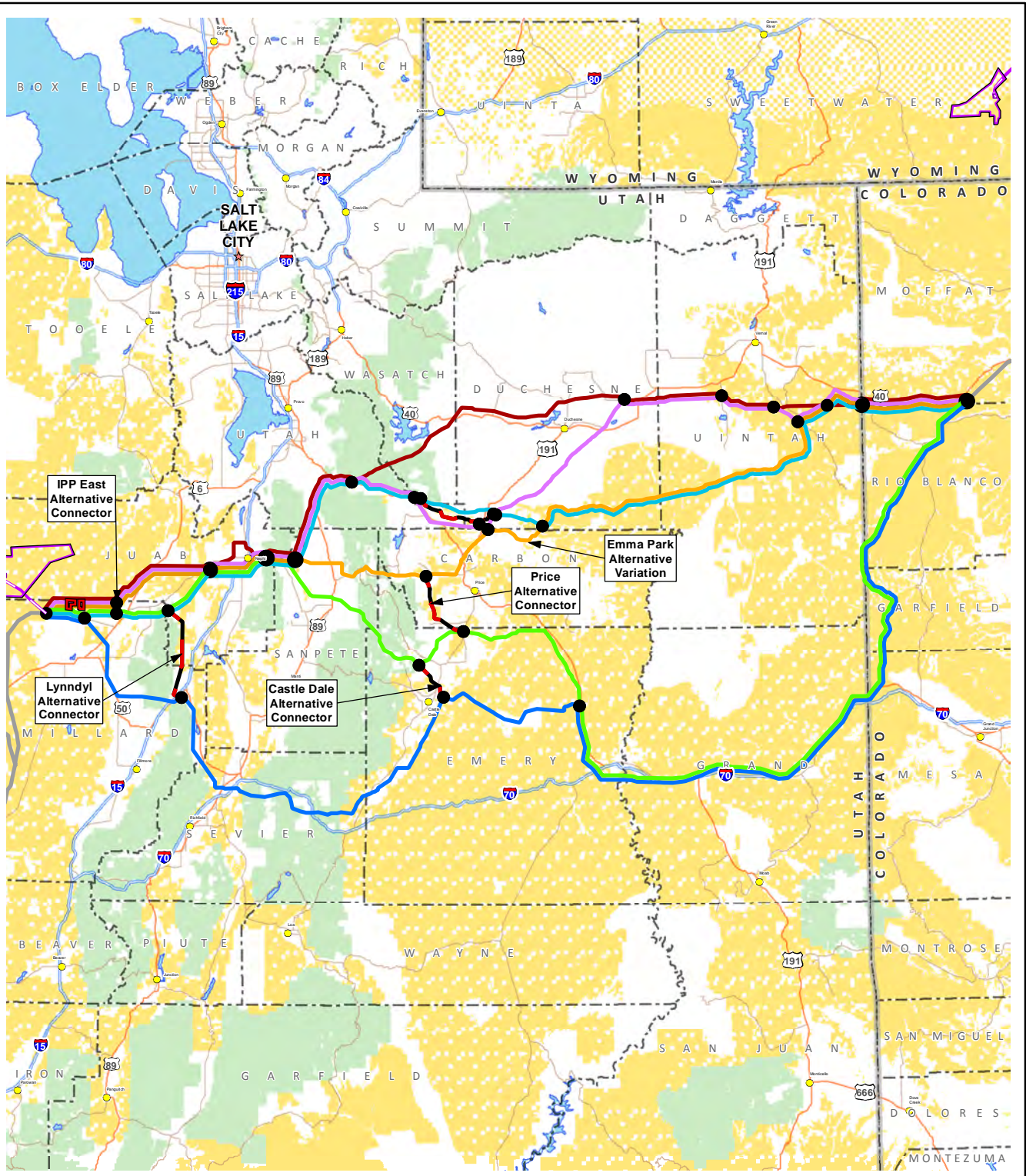
Water sources in the analysis area for livestock include intermittent, perennial, and ephemeral streams, lakes, guzzlers, and stock ponds. Range improvement data are not available for much of the analysis area. Range improvements in the analysis area can include water developments, vegetative manipulation projects and livestock management facilities. Water development improvements can include springs, livestock ponds, water troughs, guzzlers, pipelines/pipeline troughs, reservoirs, wells, raintraps, and water storage. Vegetative manipulation improvements can include seeding projects, herbicide spraying, prescribed fire, and mechanical treatments such as harrowing, chaining, contour furrowing, plowing, bull hog, and dull seeding. Management facilities can include cattle guards, fences, and corrals.

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	<ul style="list-style-type: none"> Terminal Siting Area Node DEIS Alternative Routes Applicant Proposed I-A Alternative I-B Alternative I-C Agency Preferred I-D Alternative Variation or Connector Segment not in this Region 	<ul style="list-style-type: none"> Potential Ground Electrode Siting Area Potential Ground Electrode Site Potential Ground Electrode Overhead Electrical Line BLM Land with Grazing Allotments 	<p style="text-align: center;">TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p style="text-align: center;">Figure 3.14-1 Region I Lands with Grazing Allotments</p> <div style="text-align: center;"> <p>1:1,500,000</p> </div> <div style="text-align: right;"> </div>
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Terminal Siting Area	Potential Ground Electrode Siting Area
Node	Potential Ground Electrode Site
DEIS Alternative Routes	
Applicant Proposed II-A	BLM Land with Grazing Allotments
Alternative II-B	USFS Land with Grazing Allotments
Alternative II-C	
Alternative II-D	
Alternative II-E	
Agency Preferred II-F	
Alternative Variation or Connector	
Segment not in this Region	

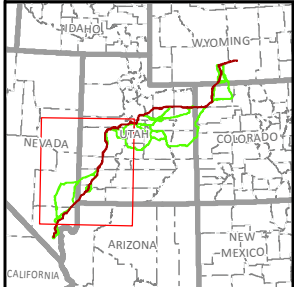
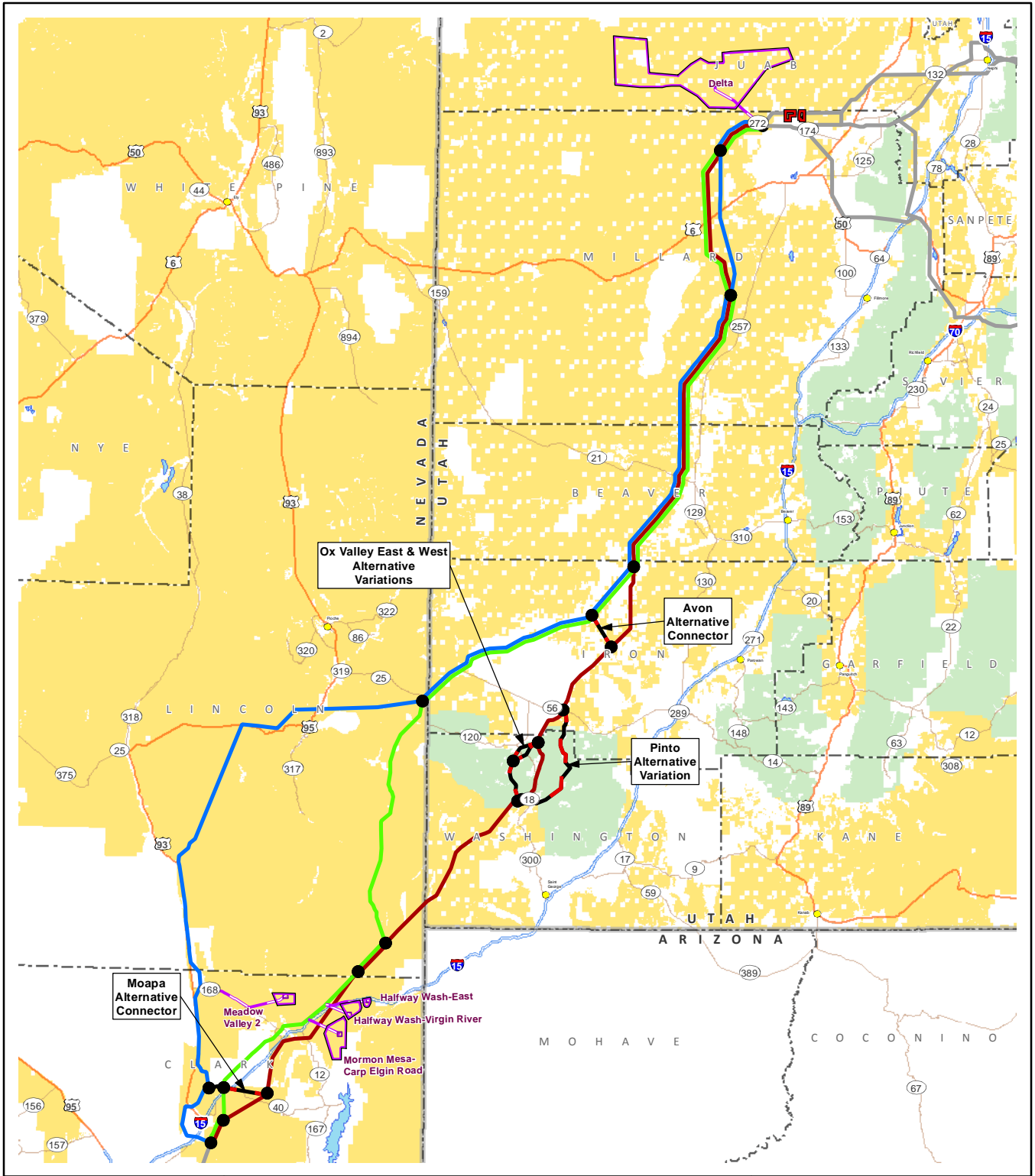
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-2
Region II
Lands with Grazing Allotments

0 10 20 40 Miles
0 10 20 40 km

1:2,250,000

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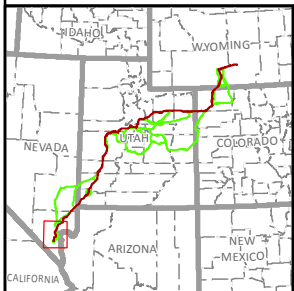
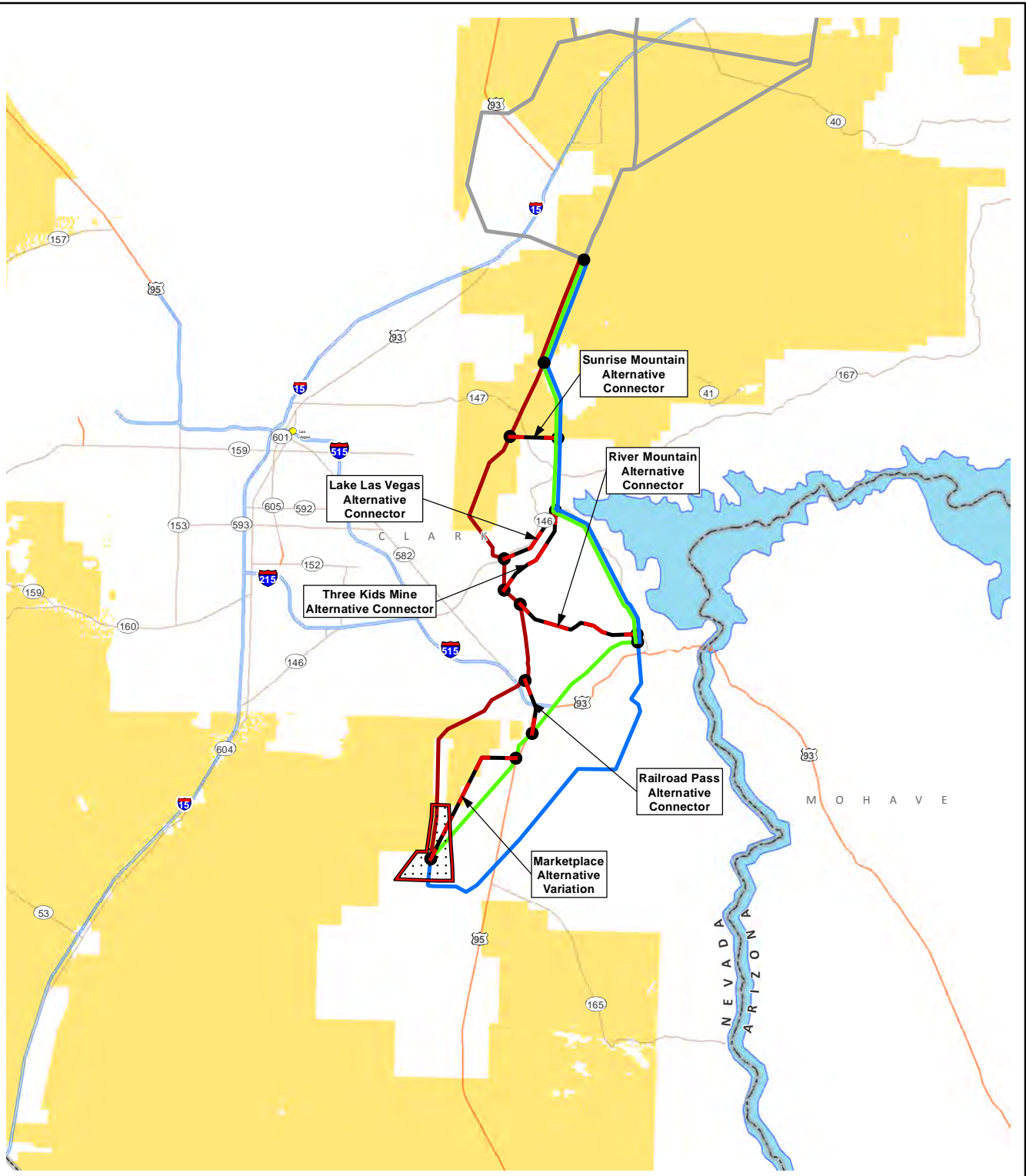
Terminal Siting Area	Potential Ground Electrode Siting Area
Node	Potential Ground Electrode Overhead Electrical Line
DEIS Alternative Routes	BLM Land with Grazing Allotments
Applicant Proposed III-A	USFS Land with Grazing Allotments
Agency Preferred III-B	
Alternative III-C	
Alternative Variation or Connector	
Segment not in this Region	

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-3
Region III
Lands with Grazing Allotments

1:2,000,000

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<ul style="list-style-type: none"> Terminal Siting Area ● Node DEIS Alternative Routes — Applicant Proposed/ Agency Preferred IV-A — Alternative IV-B — Alternative IV-C — Alternative Variation or Connector — Segment not in this Region 	<ul style="list-style-type: none"> BLM Land with Grazing Allotments (In Region IV, there are currently no permitted grazing activities on BLM grazing allotments)
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TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-4
Region IV
Lands with Grazing Allotments

0 2.5 5 10 Miles

0 2.5 5 10 km

1:500,000

Table 3.14-4 Acreage of Affected Grazing Allotments

State	BLM/USFS District Office	Grazing Allotment Acreage in Analysis Area
Wyoming	Rawlins	334,388
Colorado	Grand Junction	27,153
	Little Snake	177,378
	White River	117,861
Utah	Cedar City	183,410
	Fillmore	286,073
	Moab	93,350
	Price	241,527
	Richfield	18,840
	Salt Lake	301
	St. George	42,537
	Vernal	170,168
	Uinta-Wasatch-Cache National Forest	33,386
	Dixie National Forest	26,868
	Fishlake National Forest	48,247
	Manti-LaSal National Forest	45,673
Nevada	Ely	207,340
	Las Vegas	241,309

3.14.4.5 Cooperative Wildlife Management Units and Conservation Easements

Cooperative Wildlife Management Units (CWMUs) are hunting areas consisting of mostly private lands that have been authorized for the specific purpose of managing big game animals. There are 15 CWMUs within the Utah portions of the analysis area. Impacts to hunting within all CWMUs are discussed in further detail in Section 3.13, Recreation.

Conservation easements are legally enforceable land preservation agreements between a landowner and a government agency (municipality, county, state, federal) or a qualified land protection organization (often called a "land trust"), for the purposes of conservation. It restricts real estate development, commercial and industrial uses, and certain other activities on a property to a mutually agreed upon level. There is one identified conservation easement in Region I (Tuttle Ranch), one conservation easement in Region II (Sand Wash/Sink Draw), and three WMAs in Region II with restrictions that could preclude development of transmission lines and/or roads.

3.14.4.6 National Forest System Land Use

The analysis area includes USFS lands under the jurisdiction of five different national forests. NFS lands within the analysis area contain special managed units developed to protect resources or specific opportunities. Each forest plan (LRMP) provides direction, goals, standards, and guidelines for unit management. The Forest System Management Units within the Analysis Area are as follows:

Manti-La Sal National Forest Management Units

- General Big Game Winter Ranges
- Key Big Game Winter Range
- Developed Recreation Sites
- Minerals Management Area
- Range Forage Production
- Utility Corridor
- Wood Fiber Production and Utilization

Fishlake National Forest Management Units

- 2B Rural and Roaded-Natural Recreation Opportunities
- 4B MIS
- 5A Big Game Winter Range
- 6B Livestock Grazing
- 9F Improved Watershed Condition

Uinta National Forest Management Units

- 3.1 Aquatic, Terrestrial, and Hydrologic Resources
- 3.3 Aquatic and Terrestrial Habitat
- 4.4 Dispersed Recreation
- 4.5 Developed Recreation
- 5.2 Forested Areas – Vegetation Management
- 6.1 Non-forested Ecosystems
- 8.2 Utility Corridor/Communication Sites

Ashley National Forest Management Units

- D: Livestock Grazing
- E: Wildlife Habitat Emphasis
- F: Dispersed Recreation Roaded
- N: Existing Low Management Emphasis

Dixie National Forest Management Units

- 1 General Forest Direction
- 2b Roaded Natural Recreation
- 4c Wildlife Habitat – Brushy Range
- 5a Big Game Winter Range
- 6a Livestock Grazing

- 9a Riparian Management
- 10b Municipal Water Supply Watersheds

In addition to general forest management, each of these areas has specific standards and guidelines that would have to be met in order to be consistent with the LRMP. Compliance with many of the standards and guidelines for each area is already addressed through TransWest Design Features (see **Appendix C**, Section C.2). The additional standards and guidelines for each management area that are not addressed by TransWest Design Features are included in **Appendix C**, Section C.4.

3.14.5 Regional Summary

3.14.5.1 Land Use

A brief description of the land use by Project region is below. Land jurisdiction is summarized by Project region in **Table 3.14-5** and shown in Chapter 2.0 on **Figures 2-12** through **2-15**.

Table 3.14-5 Distribution of Jurisdiction and Land Use by Project Region within the Analysis Area (Percent)

Region	BLM	USFS	Other Federal ¹	Tribal	State	Private
I	56.9	0	0	0	7.6	35.5
II	48.4	9.2	0.01	0.1	11.7	30.6
III	76.6	2.7	0	2.3	3.3	15.1
IV	28.6	0	28.6	0	0	42.8

¹ Other Federal includes NPS, Bureau of Reclamation, DOD, and DOE.

Region I

The majority of the land within the analysis area in Region I is BLM land. Major uses of BLM land in this region include oil and gas production and grazing. The Utah portion of Region I includes grazing and oil and gas production areas. Portions of the city of Craig, Colorado, are within the analysis area. Agricultural production within Region I generally is irrigated pasture and hayland and is limited to land along the valley floors north of Baggs, Wyoming.

Region II

Approximately half of the land within the analysis area in Region II is BLM land and one-tenth is Forest Service land. This region includes the Uinta Basin, which is a major area of oil and gas development. Other major land uses include grazing, agriculture, forestry, and recreation. Region II contains a number of BLM-managed special designation areas (see Section 3.15, Special Designations) and state-managed wildlife management areas (see Section 3.13, Recreation). Utility corridors are present on public lands throughout the region. Region II also includes inventoried roadless areas in the Ashley, Uinta, Fishlake, and Manti-La Sal national forests (see Section 3.15, Special Designations). The Uinta and Ouray Indian Reservation is located within Region II analysis area. The Paiute Reservation also is located with Region II and near proposed transmission line routes; however none of the project reference lines cross lands within this reservation boundary.

Portions of the towns of Rangely, Colorado, and the Utah towns and cities of Ballard, Roosevelt City, Nephi City, and Lynndyl are included in the analysis area, including a future annexation growth area for Nephi City.

Irrigated agriculture occurs in this region in and along the major river valleys.

Region III

More than three-quarters of the land within the analysis area in Region III is BLM land and a small portion is USFS land. Major uses of BLM land within this region include military operation areas (MOAs). The area also contains special designation areas and desert tortoise conservation areas. The University of Utah operates and maintains the Telescope Array Cosmic Ray Project in Millard County. First Wind's Milford Wind Corridor (MWC) Project Phase I (Beaver County) and Phase II (Millard County) are constructed and operating. MWC Phases III and IV (Millard and Beaver counties) currently are on hold due to the expiration of production tax credits. The Fillmore FO is currently under a planning moratorium and must gain concurrence from the DOD that any actions requiring a plan amendment would not affect military readiness prior to authorizing actions within the FO.

There is some limited agricultural production on private land within the region including hog farming in areas that have available water. Within the Region III analysis area there is limited agricultural production due to the arid climate. The analysis area in Nevada only contains a few agricultural operations in Meadow Valley Wash and along the Muddy River.

Utility corridors are present throughout the region and portions of the Dixie National Forest include inventoried roadless areas. According to the USFS, the corridor passing through the Dixie National Forest is nearly full to capacity with power lines, especially with the recent addition of the Sigurd to Red Butte line. This region also includes the BLM Beaver Dam Wash National Conservation Area, the USFWS Desert National Wildlife Range/Refuge, and the Moapa Indian Reservation. There are a number of power plants and transmission lines within this region. The city of North Las Vegas falls within the analysis area. An industrial area near the Apex power plant is located within the municipal boundaries of the city of North Las Vegas and this area is zoned for heavy industrial development.

Region IV

The analysis area in this region includes portions of the eastern Las Vegas metropolitan area. Nearly one-third of the land within the analysis area in Region IV is BLM land and one-third is federal land managed by the National Park Service (Lake Mead National Recreation Area) and the Department of Energy. Major land uses include urban development in the Las Vegas metropolitan area, and recreation areas and trails associated with the conservation areas on the eastern edge of the urban area. Nellis AFB is located in the northeastern corner of the Las Vegas metropolitan area. Special designation areas within Region IV include designated wilderness, ACECs, and the Lake Mead National Recreation Area, which is managed by the National Park Service (see Section 3.13, Recreation, and Section 3.15, Special Designations). The Bureau of Reclamation also manages land within this region. The region also includes major electrical transmission corridors. The southern portion of Region IV, which is the project terminus, includes several large electrical substations and large solar power plants located in the Eldorado Valley. Within Region IV, portions of the cities of Henderson and Boulder City, and the community of Glendale are within the analysis area. A comment received during the EIS public scoping period indicated that a master planned residential and commercial community development has been proposed in the community of Glendale. There are no known areas of agricultural production in Region IV.

3.14.5.2 Grazing

As described in Section 3.14.4.4, Livestock Grazing, there are approximately 500 BLM and USFS grazing allotments found within the analysis area. Many of these grazing allotments are found over a wide geographic area within the analysis area. **Table 3.14-6** summarizes the acres of BLM and USFS grazing allotments by region within the analysis area. The acres include active and inactive grazing allotments. Grazing allotments found within each region are presented on **Figures 3.14-1** through **3.14-4**.

Table 3.14-6 Grazing Allotment Acreage by Region in Analysis Areas¹

State	BLM/USFS District Office	Region			
		I	II	III	IV
Wyoming	Rawlins	334,338	-	-	-
Colorado	Grand Junction	-	27,153	-	-
	Little Snake	177,378	-	-	-
	White River	17,032	100,830	-	-
Utah	Cedar City	-	-	183,410	-
	Fillmore	-	137,001	149,072	-
	Moab	-	93,350	-	-
	Price	-	241,527	-	-
	Richfield	-	18,840	-	-
	Salt Lake	-	301	-	-
	St. George	-	-	42,537	-
	Vernal	-	170,168	-	-
	Uinta-Wasatch-Cache National Forest ²	-	33,386	-	-
	Dixie National Forest ²	-	-	26,868	-
	Fishlake National Forest ²	-	48,247	-	-
	Manti-La Sal National Forest ²	-	45,673	-	-
Nevada	Ely	-	-	207,340	-
	Las Vegas	-	-	157,302	84,007
Total Acres by Region		528,748	916,476	766,529	84,007

¹ Includes active and inactive grazing allotments.

² USFS national forest grazing allotments overlap BLM FO boundaries.

3.14.6 Impacts to Land Use

The land use impact analysis identifies the impacts to the uses of land resources (existing and planned land uses) and management of land resources from the construction, operation, and decommissioning of the Proposed Project. The analysis includes three to five alternative transmission line routes in each region and associated alternative variations and connectors, two AC/DC converter stations, and other ancillary facilities described in detail in **Appendix D**.

The impact analysis considers impacts to land resources within the applicant-proposed and alternative ROWs and within the proposed and alternative project corridors. The ROW analysis area is 250 feet wide, centered on the transmission reference line (125 feet on either side of the reference line). Quantification of impacts within the ROW generally includes either the acres of construction and operational disturbance of land from transmission facilities, or miles of a management area or land use type crossed by the transmission route reference lines.

The corridor analysis area includes land outside of the 250-foot-wide transmission line ROWs that are within approximately 2-mile corridors within which the alternative transmission route reference lines are located. As shown on **Figures 2-4** through **2-7**, some portions of the corridors are wider or narrower than 2 miles. Proposed facilities within the corridor analysis areas include access roads, staging areas, and helicopter fly yards. Structures, land uses, and management areas within the corridors that would potentially be affected by Project construction and operation generally are identified; however, specific locations of access roads

and construction disturbances within the corridors will not be identified until the development of the construction plan for the project. In addition, it is anticipated that some land uses or management areas within the corridors would be avoided as facilities are sited within the corridors. Refer to Chapter 2.0, Project Description and Alternatives, for the alternative transmission line corridors and facilities that comprise the ROW and corridor analysis areas.

Land ownership, designated utility and transportation corridors, avoidance and exclusion areas, livestock grazing allotments, and agricultural areas were identified from GIS data gathered from the USFS, the BLM, and the states of Wyoming, Colorado, Utah, and Nevada. Land use and land cover data were obtained from aerial photographs, and GIS mapping of data was obtained from federal and state agencies. Aerial photography was used to identify and verify land uses within the project corridors and ROWs.

Land use and land management data in applicable BLM, USFS, and other federal agency planning documents were used to identify potential conflicts with management objectives or conversion of existing land uses on federal lands to energy transmission facilities. Applicable BLM, USFS, and other federal agency management guidelines and objectives were reviewed to identify management and land resource conflicts from both construction and operation of the Proposed Project. Proposed Project impacts to specific physical, biological, and social (visual, socioeconomic) resources, are addressed in the appropriate resource impact sections. The availability of data and up-to-date accuracy of some land use and management data, such as land use authorizations and realty actions, was not consistent for all affected federal and state land management agencies; however, the best available data were used for this analysis.

Counties and municipalities in the analysis area have developed land use policies that are included in adopted land use plans and zoning ordinances. These local land use plans often provide data on existing and planned land uses, as well as goals, objectives, and management actions meant to guide land uses on both private and county/municipal lands. Planned land uses and zoning districts in some county plans include a 'public' or similar zoning designation or land use; however, the counties do not regulate uses on public lands. Zoning provides the regulatory controls through zoning districts and overlays to implement land use plan objectives. Affected zoning districts were reviewed for private lands in the analysis area to identify conflicts with allowable uses. The relevant land use and zoning data were not consistently available, and therefore not quantifiable, for all counties and municipalities in the analysis area.

Issues considered in assessing land use impacts are based on the interests and land management objectives of local and federal landowners and management agencies and public concerns identified through public scoping. These issues provided the basis of the land use impact analysis, and are summarized in **Table 3.14-7**. Grazing analysis considerations are provided in greater detail than other land resource considerations because livestock grazing is the primary use of public and private lands in the ROW and corridor analysis areas.

Table 3.14-7 Relevant Analysis Considerations for Land Use

Existing Land Use	Analysis Considerations and Relevant Assumptions
Residential and Built Environment	Consistency with local plans, ordinances, existing ROWs, and permitting requirements of counties and municipalities. Compatibility with land uses that include existing and planned residential areas, master planned communities, industrial uses.
Agriculture	Impacts to agricultural activities, ability to irrigate, and existing pivot irrigation.
Livestock grazing	Impacts to livestock grazing and pasture lands.
Reduction in AUMs and forage	Permanent surface disturbance and areas where successful reclamation is difficult would reduce the AUMs in grazing allotments.

Table 3.14-7 Relevant Analysis Considerations for Land Use

Existing Land Use	Analysis Considerations and Relevant Assumptions
Loss of, or injury to, livestock	Increases in the number of roads, vehicular traffic, and traffic speeds. An increase in the number of roads and vehicular traffic would contribute to difficulties in livestock management, and increase the potential for livestock-vehicle collisions.
Impacts to lambing	An increase in vehicular traffic, noise, and disturbance can impact lambing areas.
Energy and ROWs	Changes to land use authorizations and effects to realty actions on federal lands.
USFS Management Areas	Consistency with management area goals and objectives and Standards and Guidelines.

The methodology to determine grazing allotment acres and AUMs on rangelands that would be disturbed by the project where exact locations of new surface disturbance-related activities are unknown is described in the introduction to Chapter 3.0. The number of AUMs lost based on the surface disturbance acres was calculated based on an average ratio of 20 AUM per acre. Due to the lack of consistent data on range improvements (fences, cattle guards, stock tanks, etc.) in the project area, the discussions on impacts to range improvements are qualitative and general for each project component or region.

The impact analysis describes: 1) the impacts to land uses from construction and operation of the facilities at the Northern and Southern terminals; and 2) impacts to land uses from alternative routes in Regions I through IV.

Some land uses and land resources are evaluated in other sections of this EIS. Impacts to mineral resources are addressed in Section 3.2, Geological, Paleontological, and Mineral Resources. Impacts to recreational uses of land resources are evaluated in Section 3.13, Recreation Resources. Impacts to prime farmland and unique farmland soils are evaluated in Section 3.3, Soils. Transportation is addressed in Section 3.16, Transportation and Access. Impacts to special designation areas, including IRAs are evaluated in Section 3.15, Special Designation Areas. These land resources are not further addressed in the land use impact analysis.

3.14.6.1 Impacts from Terminal Construction, Operation, and Decommissioning

This section discloses impacts to land uses that would occur from construction and operation of the Northern and Southern terminals, which are common to all action alternatives.

Northern Terminal

The Northern Terminal site is proposed on private lands in Carbon County, Wyoming, approximately 3 miles southwest of the town of Sinclair, Wyoming. The proposed Northern Terminal facilities would occupy 234 acres of private lands within the Northern Terminal, as shown in Chapter 2.0 on **Figure 2-16**. The initial construction and permanent operations disturbance for the facilities is summarized in **Table 2-1**.

Private lands within the Northern Terminal are currently used for grazing. Other agricultural uses, such as crop production, do not occur in the Northern Terminal.

Land use on private lands in the Northern Terminal is guided by the goals, objectives, and strategies of the Carbon County Comprehensive Land Use Plan, and controlled through zoning districts. The Carbon County Comprehensive Land Use Plan has been recently updated and was adopted April 3, 2012. The Land Use Plan includes guidelines and a map that identifies future land uses in the county, including private lands located within the Northern Terminal. The future land use represents the pattern of land use and development that will best achieve the goals of the Land Use Plan. According to the Land Use Plan, the designated future land use of private land within the siting area is Agricultural Rural Living. This category is intended to accommodate a moderate density, rural land use pattern. According to the Plan, industrial uses

should be carefully sited to avoid conflicts with other land uses. The Northern Terminal is within the Ranching, Agriculture, Mining Zone (RAM) zoning district. Public facilities and utilities are limited to above-ground structures, including substations, distribution and regulator stations. Overhead electrical transmission lines over 69-kV are allowed under a CUP, subject to Carbon County Planning Commission approval (Carbon County 2011). No conflicts were identified and therefore no significant land use impact is expected.

Construction of the Northern Terminal could result in surface disturbance impacts to 504 acres (approximately 17 AUMs) on privately owned lands located within the Pine Grove/Bolten BLM livestock grazing allotment. Livestock grazing (horse and cattle) does occur on private lands in the Pine Grove/Bolten grazing allotment. However, as the terminal would be sited completely on private lands within the Northern Terminal; all impacts associated with the construction and operation of the Northern Terminal would occur to grazing on private lands and there would be no impact to grazing on public lands. Operation of the northern terminal would result in the loss of 234 acres (approximately 8 AUMs) to livestock grazing from the footprints of permanent facilities, access roads, and the construction of a perimeter fence around the Northern Terminal.

Indirect impacts to livestock grazing in the vicinity of the Northern Terminal would include the potential spread of noxious and invasive species, and the fragmentation of grazing allotments, impacts to livestock management, and the loss of access to range improvements located in the Northern Terminal (e.g., fences, gates, and water sources). Following surface-disturbing activities, noxious weeds and invasive plant species may readily spread and colonize areas that typically lack or have minimal vegetation cover or areas that have been recently disturbed. The potential conversion of native vegetative communities due to impacts from increased erosion and invasion and spread of noxious and invasive weed species would be a long-term impact.

The applicant has committed to the following design features (e.g., environmental protection measures) to minimize impacts:

- TWE-16: Site restoration and cleanup including repair or replacement of watering facilities damaged by construction.
- TWE-40: Align the ROW to reduce impacts to agriculture production as much as practical.
- TWE-43: Implement a Flagging, Fencing, and Signage Plan, which would include:
 - Replacing or repairing fences and gates damaged by construction activities
 - Installing cattle guards where permanent access roads cut through fences.
- GEN-22: Requirements for fences that are to be cut including bracing, and rebuilding of the fence to meet BLM standards.

Additional environmental protection measures that would apply to the project include the WWEC performance standards (i.e., BMPs), which are listed in **Appendix C**. Also listed in **Appendix C** are NSU and CSU restrictions for the agencies managing lands crossed by the Project.

As described in Section 3.5, Vegetation, reclamation would occur once construction is complete in temporary work areas, which would result in reestablishment of vegetation in accordance with the PDTR, BMPs, design features, and management agency or private landowner requirements.

The long-term loss of forage would not be significant relative to the overall availability of forage on affected rangeland. The temporary and permanent fragmentation of allotments as a result of construction and operation activities, and the placement of tower structures, facilities, and access roads could result in impacts to the management and use of the grazing allotments.

Therefore, the following additional mitigation measures are recommended to mitigate impacts to range resources:

RANGE-1: *Prior to construction of each segment, access road, or ancillary facility crossing a BLM or USFS grazing allotments, TWE shall coordinate with the associated BLM FO and USFS national forest concerning planned development and operations that will occur and identify potential livestock management issues. TWE will provide a schedule and locations of construction activities on affected grazing allotments to the BLM FO and USFS national forest to be provided to the affected grazing permittees. The construction activities schedule and construction activity locations shall be provided on a date early enough to allow grazing permittees sufficient time to make decisions and allocate their resources during the construction time period.*

RANGE-2: *Prior to construction of transmission line segments, access road, or ancillary facilities, active range improvement locations shall be inventoried. Based on the results of these inventories, no roads, or ancillary facilities would be placed within 200 meters of range improvements, including livestock and wildlife water sources/systems. If avoidance is not feasible, features would be relocated to an alternate location per BLM, USFS, or state wildlife agency guidance.*

RANGE-3: *Damage to livestock and livestock facilities shall be reported as quickly as possible to BLM, USFS, and affected livestock operators. If damage is caused by the construction, operation, or maintenance of this project, TWE will be financially responsible for the replacement of the livestock and/or livestock facilities.*

RANGE-4: *The Flagging, Fencing, and Signage Plan would include:*

- *Prevention measures to avoid damaging fences, gates, and cattleguards during construction and operation activities.*
- *Mitigation to prevent livestock from passing through breaks in fences as a result of construction and operation activities. Measures would include the installation of temporary gates, or cattleguards, and coordination with landowners and grazing permittees.*
- *Limit the placement of guy wires where livestock water or where they would fall in stock driveways. Shield guards would be used as appropriate.*
- *Upgrading cattleguard gate widths and load-bearing requirements as appropriate for construction and operation vehicles on access roads.*
- *Require heavy equipment to use by-pass gates to avoid damage to cattleguards.*
- *If a by-pass gate is not already in place, install a by-pass gate adjacent to existing cattleguards to prevent damage by heavy equipment.*
- *Existing cattle guards would be cleaned as determined necessary by the appropriate land management agency post-construction activities.*
- *Following construction activities any Range Improvement Projects that are damaged from construction and maintenance activities would be repaired at a minimum to pre-construction conditions.*
- *Mitigation for loss of livestock due to damaged fences and gates that were result of construction and operation activities.*
- *Mitigation for loss of livestock as a result of construction and operation vehicle collisions.*

RANGE-5: *If construction or operation activities disrupt the transport of water to water locations for livestock or wildlife, an alternative water source will be provided until the transport of water is resumed. Alternative*

water sources could include the hauling of water to watering locations, an alternate pipeline, or the establishment of a temporary watering facility for the livestock and wildlife.

RANGE-6: *Prior to construction and placement of permanent facilities and access roads, TWE shall coordinate with the associated BLM FO and USFS forest to identify areas where the placement of tower structures, facilities, and access roads would prevent access to either a portion or all of a livestock grazing allotment resulting in the livestock grazing allotment becoming unusable or decreasing the AUMs available to a point that requires the grazing permit to be modified. In these areas, corrective actions would then be identified including rearranging of grazing allotment fences, additional access roads to the grazing allotment, re-arrangement of project facilities and access roads as feasible, etc.*

Effectiveness: These mitigation measures would further reduce potential impacts on grazing operations, range improvements, livestock, and livestock facilities.

In addition to project design features, post construction reclamation, and BMP's, mitigation measures would further reduce impacts to rangelands. Implementation of **RANGE-1** would provide livestock operators with the ability to plan their livestock activities around construction activities to minimize impacts. Mitigation measures **RANGE-2**, **RANGE-3**, **RANGE-4**, and **RANGE-5** would mitigate impacts to livestock facilities and range improvements associated with construction activities. **RANGE-5** would temporarily mitigate impacts to watering locations that could be disrupted by construction or operation activities. **RANGE-6** would mitigate impacts resulting from fragmentation of grazing allotments and the prevention of access due to the placement of project facilities.

The Northern Terminal contains a portion of WWEC segment 78-138 (see **Figure 2-4**). The WWEC corridors authorize the use of land for a variety of energy related purposes, including electricity transmission facilities. There would be no conflict with the purpose of designated WWEC corridors from proposed terminal facilities; the proposed terminal would be a compatible land use. No other land use authorizations would be affected by the construction, operation, and decommissioning of the Proposed Project in the Northern Terminal.

There would be no adverse impacts to existing and future land uses and management of land use authorizations in the Northern Terminal, because the proposed facilities in the Northern Terminal are compatible with the zoning designations applied to private lands.

Southern Terminal

The Southern Terminal facilities are proposed in the Eldorado Valley approximately 15 miles southwest of Boulder City, in Clark County, Nevada. The proposed Southern Terminal site would initially occupy 415 acres on private lands within the Southern Terminal, as shown in Chapter 2.0 on **Figure 2-17**. The Southern Terminal is located entirely within the Eldorado Valley on lands that have been annexed by Boulder City.

Land use in the Southern Terminal is guided by the goals, objectives, and strategies of the Boulder City Master Plan (Boulder City 2009), and controlled through zoning districts. Existing and future/planned uses within the Southern Terminal include: Open Lands, the majority of which are incorporated into the Boulder City Conservation Easement (BCCE), three existing substations (Eldorado Substation, McCullough Switching Station, and Marketplace Substation), an Energy Zone Solar Project (that includes the Copper Mountain Solar II project), an Energy Zone Expansion Area (that includes the Dry Lake Bed West and Copper Mountain North solar facilities), and existing utility corridors.

Details of the establishment of the BCCE and allowable uses are contained in the Management Action Plan for the BCCE (Clark County 2009). Per the 1995 Department of Interior Contract of Sale and Land Patent, the land within the BCCE is to be used for only three purposes: as a desert tortoise reserve; for public

recreation (including hiking, bird watching, bicycling, horseback riding, photography, sightseeing, picnicking and bird hunting); and as a possible site for a solar power peaking station.

Two alternative sites are being analyzed for the southern terminal in the Eldorado Valley; either would contain the same facilities. **Figures 3.14-5** and **3.14-6** show the Southern Terminal, the proposed terminal locations, existing and proposed energy production facilities, utility corridors, and Boulder City zoning districts in the Valley. The Southern Terminal would be located partially within the Energy Resources area, in an unmanaged area on which human activities predominate, but which may incidentally support populations of some covered species. The terminal facilities would be compatible with land uses within the designated Energy Resources area. The proposed terminal facilities would not be compatible with the conservation or recreation objectives for the rest of the BCCE. As shown in **Figures 3.14-5** and **3.14-6**, neither of the proposed terminal locations are located fully within the Energy Resources Area. The potential impacts to recreation uses and sensitive species in the BCCE are described in Section 3.13, Recreation Resources, and Section 3.7, Wildlife. The impacts to the values for which the BCCE was designated could be reduced through mitigation, limiting the proposed facilities to land within the designated Energy Resources area. The following mitigation measure is recommended to mitigate impacts to adjacent land uses:

LU-1: *The proponent will develop an approved POD and shall coordinate with land managers on final structure placement, including all aboveground components, access roads, and permanent disturbance areas, to ensure optimal compatible land use.*

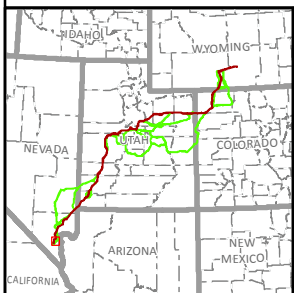
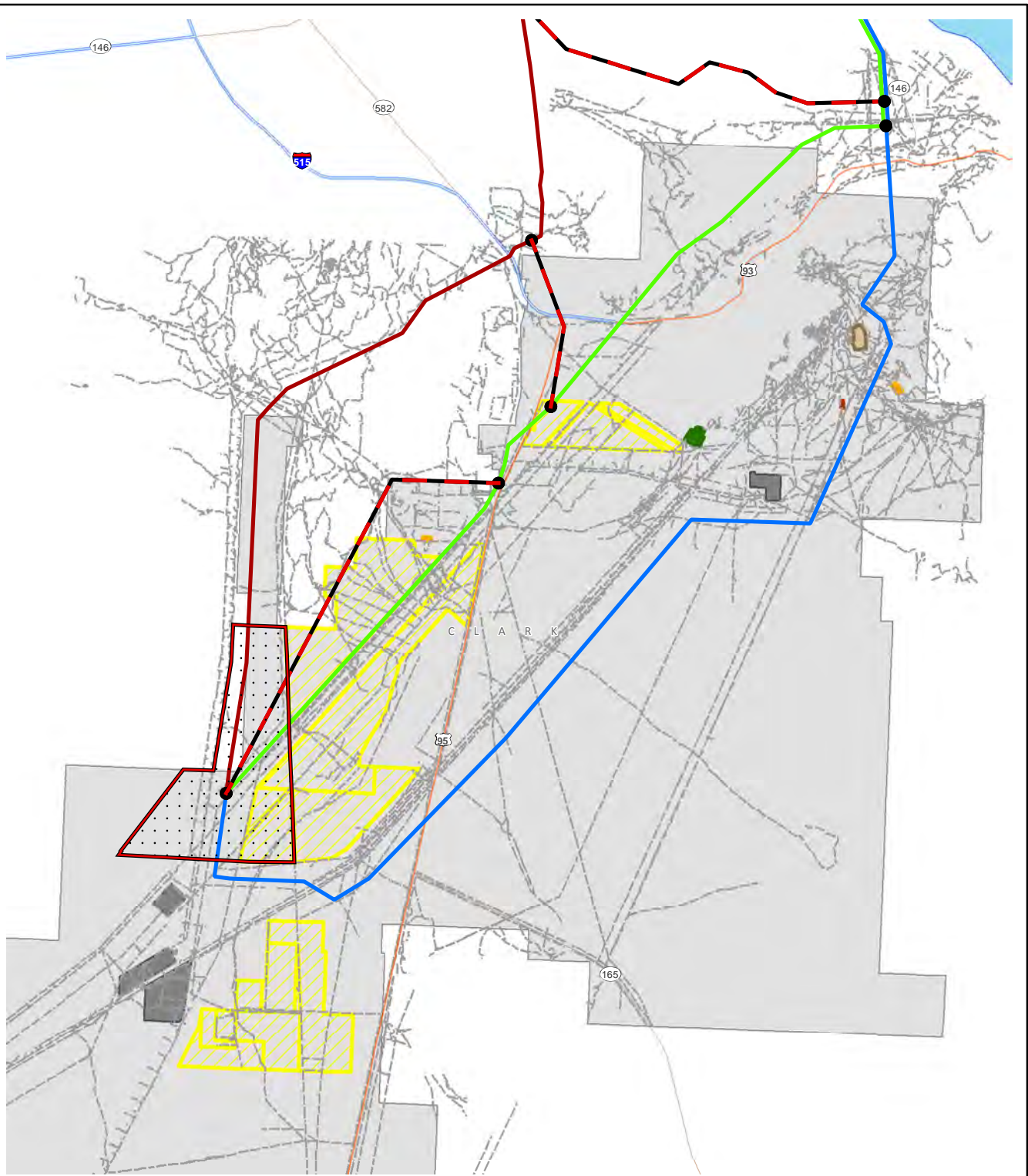
Successful implementation of this mitigation measure to site the terminal facilities within the designated Energy Zone Expansion Area would reduce impacts on adjacent land uses as the location of the Southern Terminal would be compatible with existing energy uses and with the Boulder City Master Plan policies. The July 20, 2011, Boulder City Overview Map identifies that Sections 19 and 30 in T24 R63 are available for lease.

There are no producing croplands within the Southern Terminal. Grazing is prohibited on the BCCE and the adjacent Sloan Canyon National Conservation Area. Given the proposed expansion of the BCCE and the existing and planned solar developments on the Energy Zone Expansion Area it is unlikely that any grazing occurs within the Southern Terminal. Therefore, no impacts to livestock grazing are anticipated for the Southern Terminal.

The multi-modal WWEC Corridor 39-231 is located immediately adjacent to the proposed Southern Terminal (see **Figure 2-7**). In addition to this federally designated corridor, there are approximately 58 ROWs or easements on the BCCE, including two existing utility corridors that are partially within the Southern Terminal. Data describing the specific uses authorized by these ROW grants are not available; however many of these ROWs appear to be for electric transmission lines. The affected ROW grants would need to be analyzed individually once the specific location of the terminal is known to determine if there are any impacts to the intended use of the grant and what the level of those impacts would be. Impacts to non-utility/energy production ROWs would be reduced by locating proposed facilities on available land within the Energy Zone Expansion Area, because the proposed project is a compatible land use within that zone. No other known land use authorizations would be affected by the construction, operation, and decommissioning of the proposed project in the Southern Terminal.

Portions of the Southern Terminal are adjacent to the Nelson/Eldorado SRMA and the Sloan Canyon NCA. The Sloan Canyon NCA and most of the Nelson/Eldorado SRMA are on public lands, and would not be directly affected by the proposed terminal facilities; however, some recreational uses could be affected, primarily during construction (see Section 3.13, Recreation, and Section 3.15 Special Designations). Siting the proposed Southern Terminal facilities in the Energy Zone Expansion Area would avoid impacts to the BCCE and the Nelson/Eldorado SRMA SDAs. Following construction, disturbed areas would be reclaimed in accordance with the BMPs in **Appendix C**.

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Terminal Siting Area	Land Use
DEIS Alternative Routes	Trail
Applicant Proposed/ Agency Preferred IV-A	Shooting Range
Alternative IV-B	Sewer Treatment Plant
Alternative IV-C	Model Airplane Airport
Alternative Variation or Connector	Landfill
	Solar Energy Leases
	Eldarado Valley Substation
	Boulder City

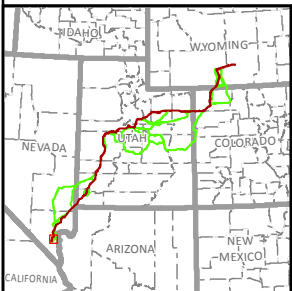
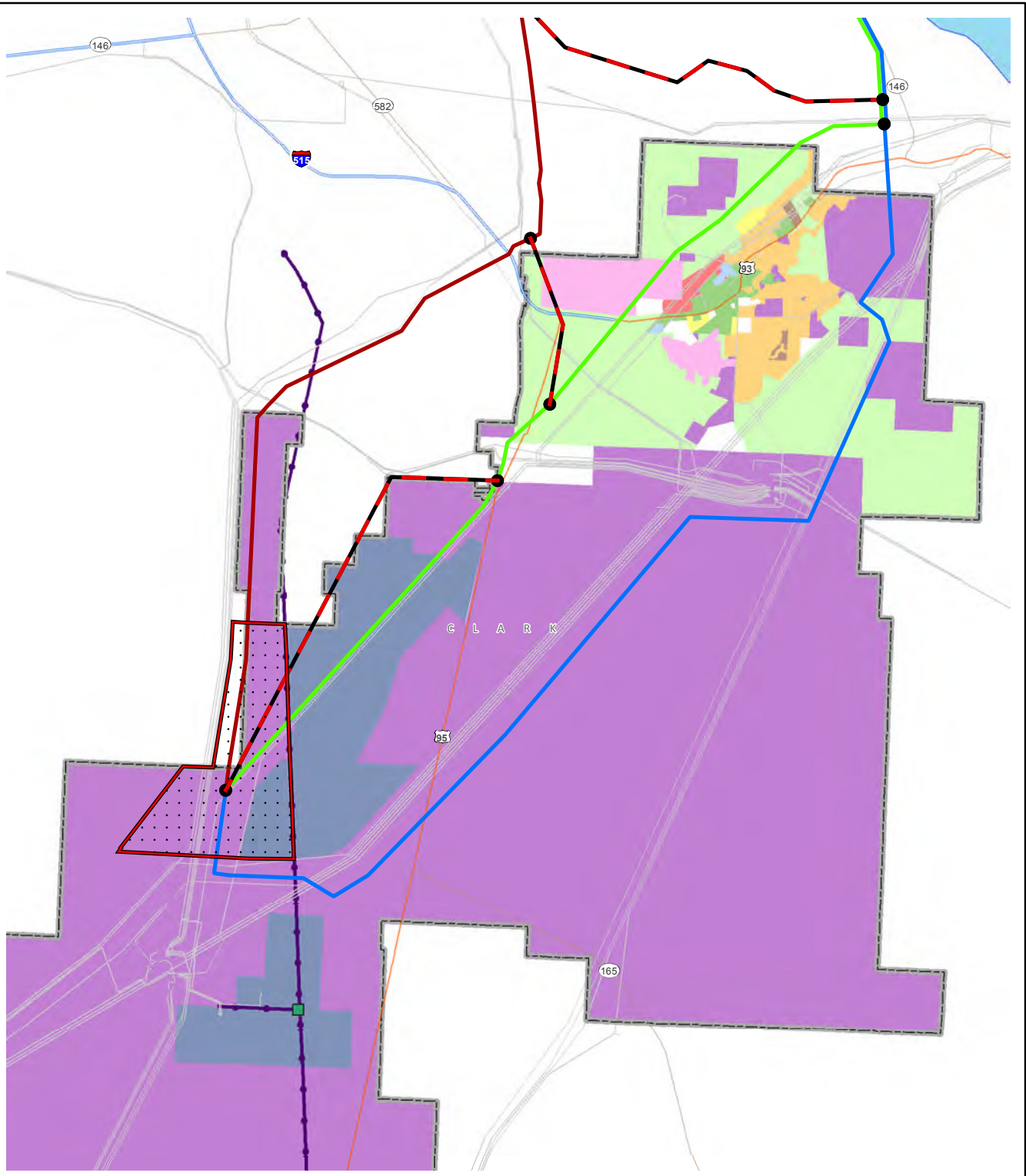
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-5
Region IV - Southern Terminal
Boulder City, NV
Existing Land Use

0 0.75 1.5 3 Miles
0 0.75 1.5 3 km

1:160,000

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Terminal Siting Area	Boulder City
DEIS Alternative Routes	Boulder City Zoning
Applicant Proposed/ Agency Preferred IV-A	Business Center
Alternative IV-B	Commercial
Alternative IV-C	ER
Alternative Variation or Connector	Government
Utilities	Mobile Home Estate
SWG Tap Station	Open Space
Existing Transmission Line	Residential
Natural Gas Pipeline	Recreational Vehicle
	Intirim Study Zone
	Special Recreation

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-6
Region IV - Southern Terminal
Boulder City, NV
Utilities and Zoning

0 0.75 1.5 3 Miles
0 0.75 1.5 3 km

1:160,000

Design Option 2 – DC from Wyoming to IPP; AC from IPP to Marketplace Hub

The design option involves modifications of proposed transmission facilities. Differences between this design option and the Proposed Project include the locations of the southern converter station and ground electrode system, as well as the addition of a series compensation station midway between the IPP and Marketplace. The southern converter station would be located near the IPP in Utah instead of at the Marketplace in Nevada and the ground electrode system would be within 50 miles of the IPP.

The relocated Southern Terminal would comprise 113 acres and would be located on BLM lands directly adjacent to the IPP in Millard County, Utah. Development of a ground electrode siting area would comprise 40 acres and would be located on BLM and state lands in Juab County. **Figure 3.14-7** depicts the location of the Southern Terminal and ground electrode areas. Construction and operation of these areas would not be expected to impact land use resources. There would be no communities or communication sites located within 1 mile of the proposed location. There are no structures within 500 feet of the reference line. There would be 1 recreation area (Little Sahara Recreation Area) and 1 wildlife study area (Fish Springs) within 1 mile of the proposed ground electrode bed siting area.

Design Option 2 would have no additional impacts to land resources than those previously described.

Design Option 3 – Phased Build Out

The design option involves modifications of proposed transmission facilities. Development of a substation would comprise 75 acres and would be located completely on BLM lands directly adjacent to the IPP within Millard County, Utah. The land that would be used for the substation is the same as that would be used for the Southern Terminal under Design Option 2 and is depicted on **Figure 3.14-7**.

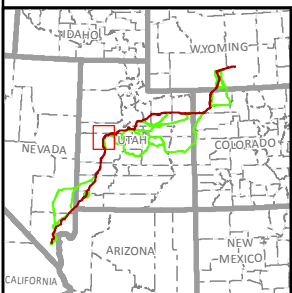
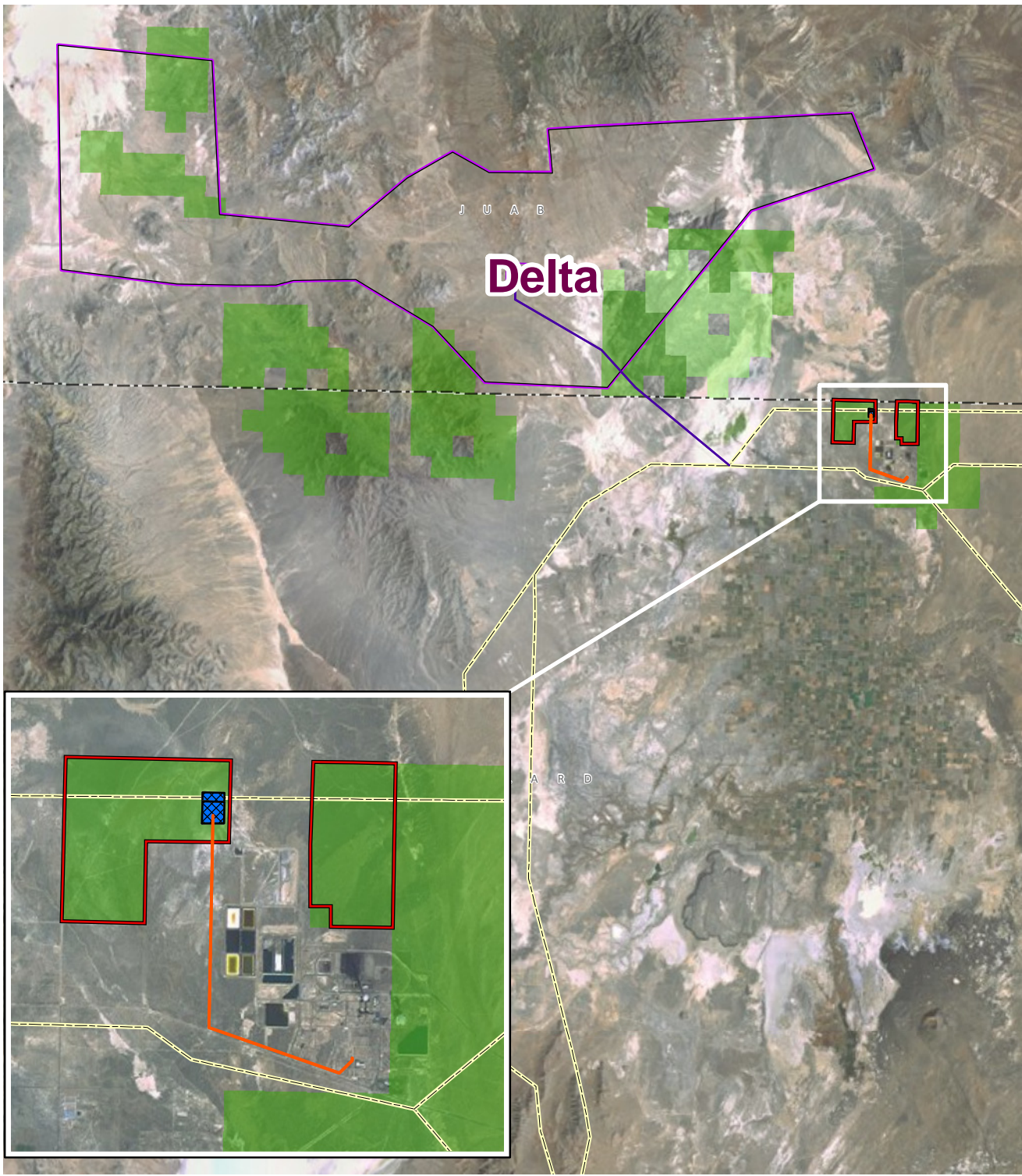
3.14.6.2 Impacts Common to All Alternative Routes and Associated Facilities

Direct and indirect impacts to land resources in the four Project regions would occur from the construction, operation, maintenance, and decommissioning of the transmission line and associated temporary and permanent facilities associated with the alternative routes, alternative variations, and alternative connectors. At the end of the Project's 50-year ROW grant, or when it is determined that the project is no longer economical, the project would be decommissioned and the area reclaimed. Additional NEPA may be required for this action. Impacts from decommissioning of the proposed Project would be very similar to the effects from short-term construction activities as discussed in the following sections. Upon decommissioning, land use impacts from construction and operation of the project may be reversible with successful reclamation, and thus, no permanent land use impacts would be anticipated from the project under any alternative. Any changes in land use surrounding the developed transmission line as a result of the line's long-term operation may not be reversible upon decommissioning.

Design Option 2 – DC from Wyoming to IPP; AC from IPP to Marketplace Hub

This design option involves modifications of proposed transmission facilities that would apply to all alternatives. Under Design Option 2, the transmission line would be AC from Southern Terminal near the IPP to the Marketplace Hub in Nevada. Unlike DC power lines, AC transmission lines can cause induced current in nearby objects, such as buildings, fences, or other equipment in very close proximity to the transmission line. In order to minimize the potential for electric shock, buildings, fences, and other structures with metal surfaces located within 300 feet of the centerline would be grounded. All metal irrigation systems and fences that parallel the AC transmission line for distances of 500 feet or more, within 300 feet of the centerline would be grounded. Additionally, all fences that cross under the AC transmission line also would be grounded (**Appendix D**). Section 3.18, Public Health and Safety, provides more information regarding impacts from AC lines.

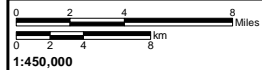
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- 345kV Connection
- Terminal Siting Area
- Proposed Terminal Site
- Delta Ground Electrode System Siting Area
- Delta Ground Electrode System Site
- DEIS Alternative Routes
- Geothermal Leases
- Lands Classified in a Known Geothermal Resource Area (KGRA)

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-7
Region III
Design Option 2 STSA
and Ground Electrode Area



Approximately 55 percent of this design option from IPP to Marketplace Hub would be constructed using AC power lines that are co-located with existing utility corridors that may contain pipelines, resulting in potential electrical interference from electric and magnetic induction. Additionally, high voltage AC transmission line located adjacent to a railroad may result in safety hazards, damage to signal and communication equipment, or false signaling of equipment. Design features identified in **Appendix D** and Section 3.18, Public Health and Safety, would minimize the potential for interference to pipelines, railway operating personnel, and the public.

Design Option 3 – Phased Build Out

This design option involves modifications of proposed transmission facilities that would apply to all alternatives. Design Option 3 would have no additional impacts to land resources than those previously described; however the timing would vary due to construction schedule differences from the Proposed Action and Alternatives. A two-phase approach would be initiated with the construction of a 442 mile AC transmission line between the proposed North Terminal in Sinclair, Wyoming and the IPP substation near Delta, Utah. The second phase would entail the construction of a DC transmission line from the IPP substation to the proposed Southern Terminal, south of Boulder City, Nevada. The timing of construction for the second phase would be determined by future market demands.

Land Ownership

No changes to current jurisdiction from the construction and operation of the Project alternative routes are anticipated. Minimal changes to private land ownership are anticipated, and would occur through the negotiation and acquisition of property in fee by TransWest for certain facilities that could include communication sites or ground electrode systems.

Existing and Planned Land Uses

Applicable BLM, USFS, and other federal agency management guidelines, objectives, and management plans were reviewed to identify potential management and land resource conflicts as a result of construction and operation of the Proposed Project. In general, operation of the Proposed Project will be in compliance with agency stipulations to meet agency resource objectives with the implementation of design feature TWE-1 (see **Appendix C**). Locations where the Project would not conform to existing federal agency management plans and the related impacts are discussed in Chapter 4.0, Plan Amendments.

County zoning and the county permitting processes for all affected counties are the primary tools for implementing county land use restrictions, including regulating development on private lands, and ensuring that proposed projects are developed in a manner that minimizes impacts to the county and county residents. The majority of the transmission line alternatives cross rural areas containing public and private lands. Zoning of private lands within the alternative corridors generally reflects the dominant agricultural (primarily grazing) land use. Most of the affected counties provide for the development of large transmission lines and associated facilities through zoning regulations; however, the development of transmission lines is not addressed in all zoning ordinances for every affected district. Many rural/agricultural zoning districts designate transmission lines and associated facilities as 'allowed uses' that are allowed by right within the respective zoning district. A 'conditional use' or 'special use' designation indicates that a specific use is allowed within the respective zoning district only after review and approval of a Conditional Use Permit or a Special Use Permit. Consultation with each county planning agency will ultimately be required to determine the procedure for permitting the Proposed Project within each county. The Proposed Project is anticipated to be generally consistent with applicable state or local land use plans, policies, goals, or regulations. All known instances of potential incompatibility are identified in the regional analyses contained in Section 3.14.6.3 through 3.14.6.6.

Land Use Authorizations

Land use authorizations on public lands include various types of leases, easements, and both linear and non-linear ROWs. Other land use authorizations and realty actions may include proposed land tenure adjustments of parcels that have been identified for either disposal or potential acquisition. Land tenure adjustments include land ownership transfers of parcels identified by the BLM through purchase, exchange, donation and sale, and are a component of the BLM's land management strategy to improve management of resources. There is currently no consistent dataset for the entire analysis area that provides the locations and types of land tenure adjustments, non-linear ROWs, or easements. However, these types of land use authorizations are common on public lands and are likely to occur throughout the analysis area.

Construction and operation of the transmission line could potentially result in an impact to various types of land use authorizations. Potential conflicts of the transmission line alternatives to other land use authorizations, easements, ROWs, and land tenure adjustment parcels would need to be addressed on a case-by-case basis with each federal land management agency. Land use authorizations may be temporarily impacted during construction and decommissioning. Operation of the proposed transmission line is anticipated to be generally compatible with most types of land use authorizations, since authorized activities could likely resume within the 250-foot-wide transmission line ROW once construction has been completed; however, land uses such as energy development would likely be permanently precluded from the 250-foot-wide transmission line ROW. In places where a conflict is unavoidable, minor shifts in the transmission line route or adjustments to the land use authorization may be required.

Agriculture

Direct and indirect temporary impacts to cropland within the 250-foot-wide transmission line ROW would occur from construction and decommissioning activities. The clearing and crossing with construction vehicles (drive and crush), and the surface disturbance from the construction phase would temporarily remove productive cropland within the ROW. Design feature TWE-40 (see **Appendix C**) provides for site-specific alignment of the 250-foot-wide transmission line ROW to reduce impacts to farm operations and agricultural production on producing croplands. Soils compacted by construction activities would be disked to reduce compaction and minimize impacts on agricultural operations (design feature TWE-41).

Producing croplands constitute a small proportion of all land cover types within the analysis area and it is anticipated there would be limited, if any, impacts to producing croplands from construction and decommissioning activities in the project corridors under any alternative. Because access roads and temporary work areas would easily be sited outside of producing croplands as provided for by design feature TWE-40, cropland removal was not quantified. Coordination with farm operators, avoidance of structure placement, and minimizing structure footprints in croplands would minimize the impacts to agricultural uses to small areas of long-term loss of agricultural lands.

All known instances of pivot irrigation systems within the 2-mile transmission line corridor are identified in the regional analyses contained in Section 3.14.6.3 through 3.14.6.6. Center pivot irrigation systems within the 2-mile transmission line corridor would be avoided by locating construction activities and access roads outside of pivot areas as provided for by design feature TWE-40; impacts to other types of conventional irrigation systems would be minimized through coordination with farm operators.

Access roads may be required through producing croplands in some locations. Access roads to proposed facilities would displace croplands. Construction vehicles on access roads would temporarily interfere with agricultural activities and would result in soil compaction and direct damage to crops if construction were to occur during the growing season. Coordination with farm operators, avoidance of access road placement in croplands, and restoration of croplands would minimize the impacts to agricultural uses to short-term loss of agricultural lands for temporary roads.

Land required for operation facilities within the 250-foot-wide transmission line ROW would be removed from production for the lifetime of the Project. The loss of productive cropland would be minor under any

alternative, because the land removed from crop production is very small relative to the cropland within ROWs that would continue to be available for crop production. The permanent removal of cropland from the operation of the action alternatives would be minor with the implementation of Design Feature TWE-40, which provides for the siting of facilities to avoid conflicts with agricultural activities. Additional mitigation (**AGRI-1**, **AGRI-2**, and **AGRI-3**) would eliminate conflicts by careful placement of structures and access roads, and through consideration of the use of self-supporting tower structures. Transmission structures that are not self-supporting and are located along roadways or property lines adjacent to croplands would require guy wires, which may intrude into croplands. Additional mitigation **AGRI-4** would reduce potential hazards to agriculture operations from the low visibility of guy wires.

AGRI-1: *Coordinate with farm and ranch operators to identify problems with structure placement and determine structure locations to ensure implementation of design feature TWE-40. Locate structures along fence lines, field lines, or adjacent to roads. Use longer spans between structures to clear fields. Consider use of non-guyed free-standing transmission structures in agricultural areas.*

AGRI-2: *Schedule construction activities to avoid planting and harvesting activities*

AGRI-3: *Minimize locating access roads within the 2-mile transmission line corridor in areas with croplands. For croplands that cannot be avoided by access roads, establish procedures for determining temporary and permanent access road locations with landowners and operators, and establish protection methods for roads over croplands that cannot be avoided by construction activities. Restore locations of temporary access roads to pre-construction conditions and leave permanent access roads intact through mutual agreement with the landowner and operator.*

AGRI-4: *Minimize the use of guy wires in crops and hay lands to the extent possible. If guy wires have to be used in crop and hay lands, highly visible shield guards will cover the wires.*

Prime farmland soil units in the 250-foot-wide transmission line ROW and 2-mile transmission line corridor generally occur in the same areas currently used for crop production; however, not all prime farmland soils are used for crop production. Section 3.3, Soils, provides an analysis of prime farmland soil units, including impacts from the long-term removal of potential crop production on prime soils.

Livestock Grazing

Direct impacts to grazing allotments from construction, operation, and decommissioning activities would include the loss of forage, fragmentation of grazing allotments, potential impacts to lambing areas and disruption of lambing periods, and increased mortality and injuries to livestock resulting from increased vehicle traffic. In addition, livestock could be temporarily displaced from preferred grazing areas, range improvements (including water sources), and range study plots by construction activities. Loss of forage would result from surface disturbance related to construction of the transmission line, access roads, and ancillary facilities, and the placement of permanent structures, access roads, and facilities. In addition, loss of forage would result from the potential conversion of native vegetation communities due to indirect effects such as erosion and the invasion and spread of noxious and invasive weed species. In areas where successful reclamation is difficult, or lengthy, the loss of forage would be considered a long-term impact. Fragmentation of grazing allotments would result from the placement of roads, facilities, and fences that prevent access to all or portions of individual grazing allotments.

Active lambing areas could be reduced or lost due to construction activities that take place in or near them. In addition, noise and human presence from construction activities near lambing areas could result in the disturbance of lamb and ewe pairs. Ewes disturbed by construction activities could abandon their lambs, resulting in increased lamb mortality. Construction activities that separated cattle from water or food sources requiring them to move during calving potentially could result in the separation of calves from their mothers. This could lead to an increase in calf mortality.

Construction activities would result in increased vehicle traffic and potentially increased vehicular speed on roads that are improved. Increased vehicle traffic and speeds would increase the potential for livestock/vehicle collisions. The control and management of livestock could be affected as physical barriers to livestock movement (fences) are removed. The construction of access roads in grazing areas could cause livestock to use roads as travel routes but could also provide alternate access to grazing allotments, water resources, grazing facilities, and livestock if retained for public use.

Indirect impacts would include the spread of noxious and invasive species and fragmentation of allotments. See Section 3.5, Vegetation, for further discussion of noxious and invasive species impacts on vegetation resources. Impacts to vegetation could lead to the loss of available native forage and increased livestock mortality. The construction of the transmission line, access roads, and temporary and permanent facilities associated with the project could lead to increased fragmentation of individual grazing allotments. Fragmentation of the allotments could result in additional loss of native shrubland communities and decrease available forage. Fragmentation would also result in the loss of access to all or various parts of the grazing allotment either through placement of new fences or facilities.

Range improvements on BLM and USFS grazing allotments, which include fences, gates, cattle guards, and stock tanks, could be directly removed or disturbed as a result of surface disturbance activities associated with construction activities. Additional impacts could occur through potential damage to fences, gates, and cattle guards, resulting in the accidental release of livestock. Impacts to water sources in livestock grazing allotments could reduce the areas available for grazing due to the semi-arid climate and lack of reliable water sources in much of the areas crossed by the project. Without a reliable water source, many areas currently available for grazing would not be able to support livestock. Long-term range monitoring sites could be directly removed or disturbed as a result of surface disturbance activities associated with construction activities.

Implementation of mitigation measures **RANGE-1** through **RANGE-5** would avoid or minimize impacts to range improvements.

Impacts to rangelands would be minimized by adherence to the BLM Rangeland Health Standards (H-4180-1). The BLM has developed the BLM Rangeland Health Standards for each state (43 CFR 4180.1). The Fundamentals of Rangeland Health outline the key fundamentals for rangeland health. These include:

1. Properly functioning watersheds;
2. Water, nutrients, and energy are cycling properly;
3. Water quality complies with State water quality standards; and
4. Threatened and endangered species habitat is being protected.

The standards address the minimum acceptable conditions for public rangelands based on the health, productivity, and sustainability of the rangelands.

In addition to the design features, BMPs, and proposed mitigation measures described above (Section 3.14.6.1, Impacts from Terminal Construction, Operation, and Decommissioning), the following mitigation measures are recommended for range resources:

RANGE-8: *Speed limits would be followed and signs would be erected in lambing/calving areas, shipping pastures, or adjacent to working corrals to warn vehicle operators of the agricultural operations.*

Effectiveness: The implementation of **RANGE-1** to **RANGE-6** is described above. Mitigation measure **RANGE-7** would promote awareness of areas of concern for livestock. By avoiding lambing areas and informing vehicle operators of operations, impacts to livestock would be minimized.

Operation impacts include the permanent loss of grazing allotments, forage capacity, AUMs, and livestock management due to facility, tower, access road footprints, and maintenance activities in the ROW.

The loss of grazing allotments for the tower footprints, ancillary footprints, and permanent access roads would be permanent for the life of the project, but the remaining areas would be reclaimed immediately following completion of construction as described in Section 3.5, Vegetation. The implementation of the proposed mitigation measures would minimize impacts to range improvements. Permanent fragmentation of allotments resulting in the loss of access to all or portions of the allotments would result in changes to the grazing permit, and potentially make the allotment unusable. Based on the implementation of the proposed mitigation measures, an irreversible loss of available rangeland that would make livestock production uneconomical would not be anticipated.

Residential and Other Built Environment

Impacts to residential uses, as well as to occupants of built environment areas, would include short-term, construction- and decommission-related disturbances. With the exception of oil and gas facilities, most residential, commercial, and industrial uses in the 250-foot-wide transmission line ROW and 2-mile transmission line corridor occur in close proximity to municipalities or on private lands generally zoned for agricultural or low-density residential uses. It is not anticipated that occupied residences would be removed within the 250-foot-wide transmission line ROW under any alternative. Existing structures would be avoided.

Occupants of structures within 500 feet of transmission reference lines would experience sights and sounds of construction activity, including the presence of materials, construction workers, and equipment during transmission line construction. These disturbances would decrease with increasing distance from the transmission reference line (see Section 3.18, Public Health and Safety, for additional information regarding noise attenuation). In addition, access to residential, commercial, and industrial use areas may be temporarily disrupted at some locations. It is assumed that the residences are occupied; however, at this time no field verification has been conducted. TransWest design features addressing dust control and public health and safety (see **Appendix C**) would reduce the disturbances and hazards associated with construction activities. Additional discussion of these impacts, and the design features and agency BMPs that reduce these impacts, are addressed in Section 3.18, Public Health and Safety. Operations-related maintenance traffic and activities would not have access to existing structures.

3.14.6.3 Region I

The dominant land ownership crossed by each alternative in Region I are federal lands managed by the BLM and private lands. The ROWs and corridors also include state-owned lands in Wyoming and Colorado (see **Figure 2-12**). Agriculture and grazing are the major land use in Region I. Impact parameters for land use in Region I are tabulated in **Table 3.14-8** by alternative route.

Table 3.14-8 Region I Alternative Route Land Use Impact Parameters

Impact Parameters		Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Jurisdiction	BLM (miles/percent of alternative within region)	115/74%	113/71%	82/44%	128/74%
	Rawlins	58	61	45	76
	Little Snake	44	40	25	40
	White River	12	12	12	12
	Private (miles/percent of alternative within region)	38/25%	41/26%	86/47%	39/23%
	State (miles/percent of alternative within region)	2/1%	5/3%	17/9%	4/3%
	Total (miles)	155	159	186	171
Wyoming	Carbon	58	32	72	81
	Sweetwater	32	62	10	26

Table 3.14-8 Region I Alternative Route Land Use Impact Parameters

Impact Parameters		Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Colorado	Moffat	65	65	102	64
	Routt	0	0	3	0
Designated Utility Corridors ¹	Length within RMP designated corridors (miles/percent of alternative within region) ²	4/3%	5/3%	17/9%	4/2%
	Length within WWEC designated corridors (miles/percent of alternative) ³	4/3%	27/17%	38/20%	5/3%
	Total (miles/percent of alternative)	6/4%	31/20%	39/21%	7/4%
Co-location	Greenfield/co-located (miles)	93/62	91/68	88/98	109/63
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	19	27	357	27
	Construction disturbance (acres)	14	18	255	18
	Operation disturbance (acres)	4	5	68	5
	Number of center pivots crossed by reference line (count)	0	0	1	0
	Number of center pivots within Project corridor (count)	2	2	2	2
Livestock Grazing	Construction disturbance (acres)	2,003	2,031	1,955	2,253
	Estimated decreased AUMs (AUMs/percent of total AUMs) ⁴	100/<1%	102/<1%	98/<1%	113/<1%
	Operation disturbance (acres)	509	481	471	516
	Long-term decreased AUMs ⁴	25/<1%	24/<1%	24/<1%	26/<1%
Communities	Count of communities within 2-mile transmission line corridor	0	0	1	0
Structures within 500 feet of reference line	Residential (count)	0	0	9	0
	Commercial/Industrial/Oil and Gas facilities (count)	45	47	24	39
	Agricultural (count)	0	0	0	0
	Outbuilding (count)	3	7	11	3
	Total (count)	48	54	44	42
Structures within 200 feet of reference line	Residential (count)	0	0	0	0
	Commercial/Industrial (count)	11	9	4	9
	Agricultural (count)	0	0	0	0
	Outbuilding (count)	3	3	4	3
	Total (count)	14	12	8	12

¹ Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

² Corridors identified by the BLM and the USFS in their respective land management plans.

³ Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

⁴ The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.

Note: Discrepancies in totals due to rounding error.

As shown on **Figure 2-4**, there are a number of WWEC designated utility corridors within Region I that could be used by the project alternatives. **Table 3.14-9** provides details of these WWEC designated utility corridors. With the exception of Corridor 73-133 which is designated “underground-only”, all of the WWEC corridors that would be used by project alternatives are either multi-modal or electric only. The use of an underground-only corridor for an overhead electric transmission line would be a conflict with the designated use of the corridor.

Table 3.14-9 WWEC Designated Utility Corridors Potentially Used by the Project Alternatives and Variations in Region I

State	WWEC Corridor Number	Designation ¹	Used by Project Alternatives and Variations	Notes
Wyoming	78-138	Multi-modal	All Alternatives	Reference line is located immediately south of designated corridor.
Wyoming	138-143	Multi-modal	Alternative I-C	No conflict expected.
Wyoming and Colorado	73-133	Underground-Only	Alternative I-B	Conflict with corridor designation as underground-only.
Colorado	138-143	Electric-Only	Alternative I-C	No conflict expected.
Colorado	133-142	Multi-modal	Alternative I-C	No conflict expected.
Colorado	126-133	Multi-modal	All Alternatives	No conflict expected.

Alternatives I-A, I-B, I-C, and I-D cross through the counties listed in **Table 3.14-10**. Existing and future land use spatial data, in a digital or paper map format, were not available for all counties in the region. This is because the majority of lands in unincorporated areas outside of municipalities are comprised of federal or state lands; or because the zoning designations describe the planned/future land use and separate planning maps were not available.

Table 3.14-10 Consistency with Applicable County Land Use Plans and Policies in Region I

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Carbon County, Wyoming	Carbon County Comprehensive Land Use Plan, April 2012. Carbon County Zoning Resolution of 2003; Amended April 5, 2011	Land Use- Agriculture Future Land Use – Rural Agriculture, Agricultural Rural Living Zoning - Ranching, Agriculture, Mining District; electric transmission lines over 69 kV are a Conditionally Permitted Use.
Sweetwater County, Wyoming	Sweetwater County Comprehensive Plan, 2002. Sweetwater County Zoning Resolution, 2011 Sweetwater County Conservation District Land and Resource Use Plan and Policy Sweetwater County Growth Management Plan	Land Use- Agriculture Future Land Use – no available spatial data Zoning – Agriculture; Transmission Lines, Stations, and Towers are a Permitted Use by right. Rural Residential district – not specified Encourages identification and application of ROWs in order to support multiple uses on public lands, so long as there is adequate and just compensation of private property when the right-of-way crosses private land. Comprehensive Plan goals are to: "Recognize and protect the County's unique cultural, recreational, environmental and historic resources." To meet the intent of this goal, Sweetwater County encourages actions that avoid or minimize impacts to: Adobe Town, Haystacks, Willow Creek Rim, Powder Mountain and the Overland and Cherokee Trails (Sweetwater County 2013).
Moffat County, Colorado	Moffat County Master Plan	Land Use- Agriculture Future Land Use – Rural Character Area Zoning - Agriculture district: Public utilities, including transmission lines, subject to a Conditional Use Permit.

Table 3.14-10 Consistency with Applicable County Land Use Plans and Policies in Region I

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Routt County, Colorado	Routt County Master Plan	Land Use- Agriculture Future Land Use – not within designated Growth Centers Zoning - the County will not approve development applications or special use permits that would lead to the degradation of the environment without mitigation and will discourage development on ridges that results in skylining.
Daggett County, Utah	Daggett County General Plan Daggett County Zoning Ordinance	Land Use- Clay Basin region: grazing and energy. Browns Park region: public land amenities, agriculture, grazing. Open lands outside of master planning regions. Future Land Use – no available spatial data Zoning - Multiple Use M-U-40: not specified
Uintah County, Utah	Uintah County Zoning Ordinance (2005) Uintah County Land Use Plan (2010)	Land Use- Recreation, Forestry, and Mining; Mining and Grazing; Agricultural; Low Density Agricultural; Industrial; Industrial-Commercial Future Land Use – Recreation, Forestry, and Mining; Mining and Grazing; Agricultural; Low Density Agricultural; Industrial; Industrial-Commercial Zoning - Recreation, Forestry, and Mining district, Agriculture district, Light Industrial district. Transmission line or public utilities, with exception of substations, not specified as an allowable, special, or conditional use under any zoning district.

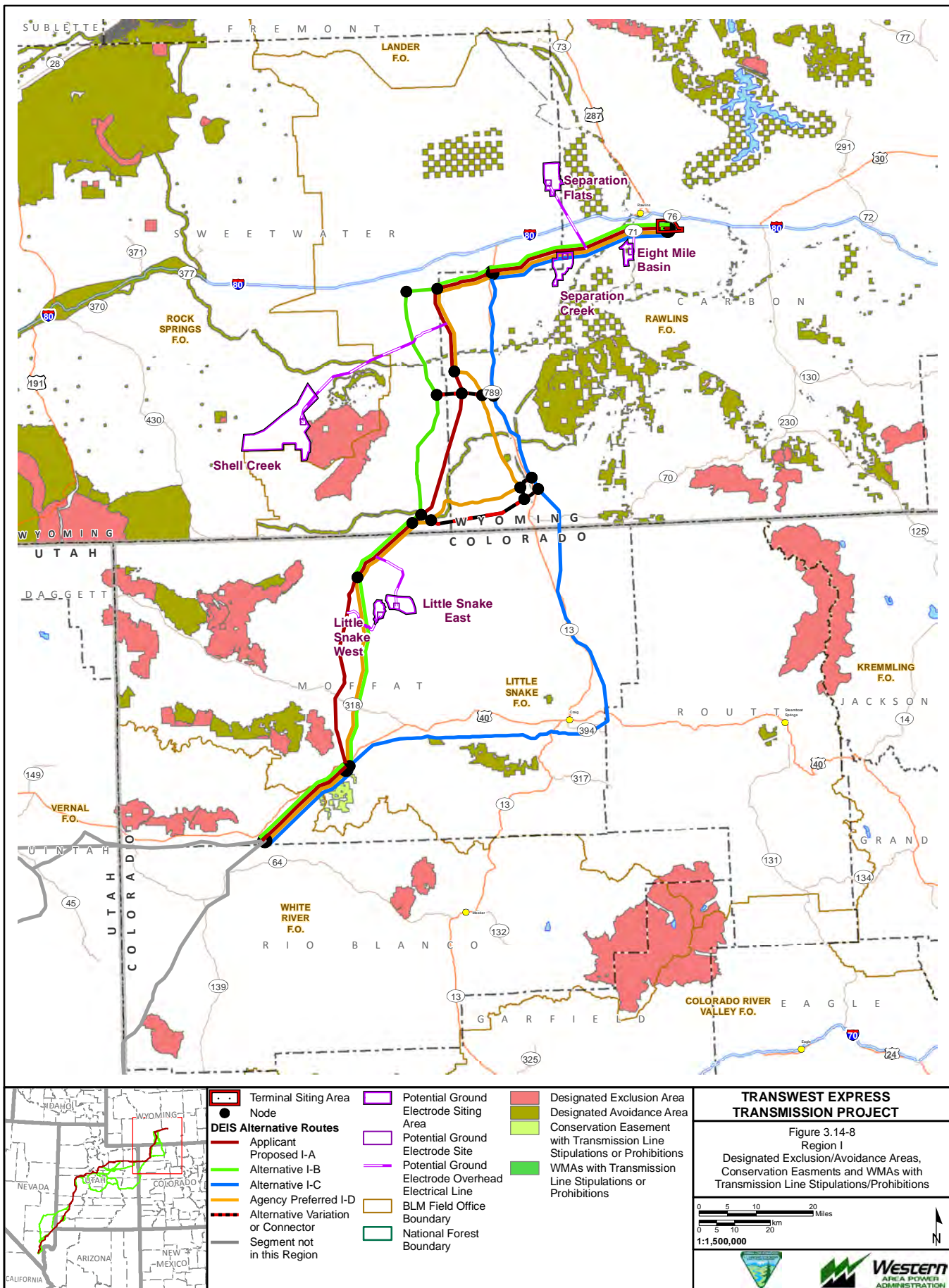
According to the RMPs, some areas are designated as avoidance areas to protect sensitive resource values. The designated avoidance areas within Region I are outlined in **Table 3.14-11**. The Cherokee Trail and the Overland Trail, which are both crossed by each alternative route, are designated as avoidance areas for new linear crossings. The Rawlins RMP requires that linear crossings of these historic trails occur in previously disturbed areas. Impacts to Historic Trails are discussed in Section 3.11, Cultural Resources, and Section 3.15, Special Designation Areas. **Figure 3.14-8** identifies designated avoidance areas as well as conservation easement areas with overhead line prohibitions.

Table 3.14-11 Designated Avoidance Areas Within Region I

Avoidance/Exclusion	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Avoidance Areas	Overland Trail Rawlins FO Avoidance Area (not described in available data)	Overland Trail Rawlins FO Avoidance Area (not described in available data)	Overland Trail Rawlins FO Avoidance Area (not described in available data) Juniper Mountain	Overland Trail Rawlins FO Avoidance Area (not described in available data)
Reference Line Crossing Avoidance (miles)	1	<1	2	3
Exclusion Areas	none	none	none	none
Reference Line Crossing Exclusion (miles)	0	0	0	0
Conservation easement or WMA transmission line restrictions	Overlaps with the Tuttle Ranch conservation easement ¹	Overlaps with the Tuttle Ranch conservation easement ¹	Overlaps with the Tuttle Ranch conservation easement ¹	Overlaps with the Tuttle Ranch conservation easement ¹

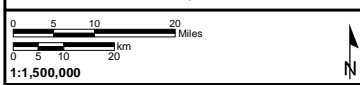
¹ Overhead transmission lines prohibited.

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TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-8
Region I
Designated Exclusion/Avoidance Areas,
Conservation Easements and WMAs with
Transmission Line Stipulations/Prohibitions



Alternative I-A (Applicant Proposed)

Approximately 74 percent of the 155-mile Alternative I-A route would be located on BLM-managed lands; an additional 1 percent would be located on state lands. Four miles of Alternative I-A would be in BLM-designated utility corridors and 4 miles would be in WWEC utility corridors. A total of 62 miles would be co-located with other ROWs. Designated avoidance areas are crossed by the reference line for 1 mile near the Overland Trail and Cherokee Trail areas. This equates to approximately 22 acres out of a total of 596,855 in the entire FO. Construction in these areas would require adherence to controlled surface use stipulation and agency BMPs.

An estimated 2,003 acres (100 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 509 acres (25 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

Under Alternative I-A, approximately 38 miles (25 percent) would cross private land. Alternative I-A would also result in 19 acres of additional ROW clearing, 14 acres of construction disturbance, and 4 acres of permanent removal of croplands. No center pivots are within the 250-foot-wide transmission line ROW; two center pivots are located within the 2-mile transmission line corridor.

There would be 45 commercial/industrial structures within 500 feet of the proposed reference line; the majority of the commercial/industrial structures are oil and gas pads. Land use conflicts would be eliminated by use of requisite buffers between well pads and transmission lines. Gathering systems or pad access roads within the area are not included in the above "structure" count. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within the area used for oil and gas development.

There would be no communities within the 2-mile transmission line corridor.

Under Alternative I-A, approximately 3 miles of the 250-foot-wide transmission line ROW would be located within the Tuttle Ranch conservation easement, which prohibits overhead transmission lines; however, the 250-foot-wide transmission line ROW could be relocated onto the portion of the 2-mile transmission line corridor located outside of the conservation easement area. Alternative I-D contains an analysis of micro-siting options to place the 250-foot-wide ROW outside of the conservation easement.

Alternative I-B

Approximately 71 percent of the 159-mile Alternative I-B route would be located on BLM-managed lands; an additional 3 percent would be located on state lands. Five miles of Alternative I-B would be in BLM-designated utility corridors and 27 miles would be in WWEC utility corridors. A total of 68 miles would be co-located with other ROWs. Designated avoidance areas are crossed by the reference line for less than 1 mile around the Overland Trail and Cherokee Trail areas. This equates to approximately 8 acres out of a total of 596,855 in the entire FO.

An estimated 2,031 acres (102 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species,

community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 481 acres (24 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

Under Alternative I-B, approximately 41 miles (26 percent) would be located on private land. Alternative I-B would result in 27 acres of additional ROW clearing, 18 acres of construction disturbance, and 5 acres of permanent removal of croplands. No center pivots are within the 250-foot-wide transmission line ROW; two center pivots are located within the 2-mile transmission line corridor.

There would be 47 commercial/industrial structures and 7 outbuildings within 500 feet of the proposed reference line; the majority of the commercial/industrial structures are oil and gas pads. Land use conflicts would be eliminated by use of requisite buffers between well pads and transmission line. Gathering systems or pad access roads within the area are not included in the above “structure” count. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within areas used for oil and gas development.

There would be no communities within the 2-mile transmission line corridor.

Under Alternative I-B, approximately 3 miles of the 250-foot-wide transmission line ROW would be located within the Tuttle Ranch conservation easement, which prohibits overhead transmission lines; however, the 250-foot-wide transmission line ROW could be relocated onto the portion of the 2-mile transmission line corridor located outside of the conservation easement area. Alternative I-D contains an analysis of micro-siting options to place the 250-foot-wide ROW outside of the conservation easement.

Alternative I-C

Approximately 44 percent of the 186-mile Alternative I-C route would be located on BLM-managed lands; an additional 9 percent would be located on state lands. Seventeen miles of Alternative I-C would be in BLM-designated utility corridors and 38 miles would be in WVEC utility corridors. A total of 98 miles would be co-located with other ROWs. Designated avoidance areas are crossed by the reference line for 1 mile around the Overland Trail and Cherokee Trail areas and 1 mile of Juniper Mountain.

An estimated 1,955 acres (98 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 471 acres (24 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

Under Alternative I-C, approximately 86 miles (47 percent) would be located on private land. Alternative I-C would result in 357 acres of additional ROW clearing, 255 acres of construction disturbance, and 68 acres of permanent removal of croplands. One of the two center pivots located within the 2-mile transmission line corridor would be within the 250-foot-wide transmission line ROW.

There would be 9 residences and 24 commercial structures within 500 feet of the proposed reference line. The majority of the commercial/industrial structures are oil and gas pads. Land use conflicts would be eliminated by use of requisite buffers between well pads and transmission line. Gathering systems or pad access roads within the area are not included in the above “structure” count. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within areas used for oil and gas development.

Portions of the City of Craig, Colorado would be within the in the vicinity of 2-mile transmission line corridor. **Figure 3.14-9** provides a close-in view of residential uses and other land uses the Craig. There are no identified incompatible land uses within this community. The 2-mile transmission line corridor, would also encompass Juniper Hot Springs, a privately owned mineral springs located south of Maybell, Colorado. However, the resort would be located at the far edge of the 2-mile transmission line corridor and on the side of the Yampa River opposite of the transmission line and is therefore unlikely to be affected by construction or operation of the line.

Under Alternative I-C, approximately 3 miles of the 250-foot-wide transmission line ROW would be located within the Tuttle Ranch conservation easement, which prohibits overhead transmission lines; however, the 250-foot-wide transmission line ROW could be relocated onto the portion of the 2-mile transmission line corridor located outside of the conservation easement area. Alternative I-D contains an analysis of micro-siting options to place the 250-foot-wide ROW outside of the conservation easement.

Alternative I-D (Agency Preferred)

Approximately 74 percent of the 171-mile Alternative I-D route would be located on BLM-managed lands; an additional 3 percent would be located on state lands. Four miles of Alternative I-D would be in BLM-designated utility corridors and 5 miles would be in WWEC utility corridors. A total of 63 miles would be co-located with other ROWs. Designated avoidance areas are crossed by the reference line for 3 miles around the Overland Trail and Cherokee Trail areas. This equates to approximately 79 acres out of a total of 596,855 in the entire FO.

An estimated 2,253 acres (113 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 516 acres (26 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

Under Alternative I-D, approximately 39 miles (23 percent) would be located on private land. Alternative I-D would also result in 27 acres of additional ROW clearing, 18 acres of construction disturbance, and 5 acres of permanent removal of croplands. No center pivots would be affected by the project reference line; there would be two center pivots within the 2-mile transmission line corridor.

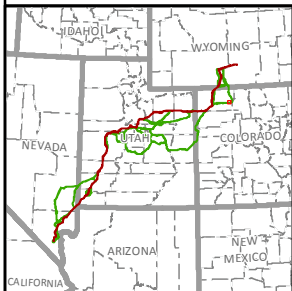
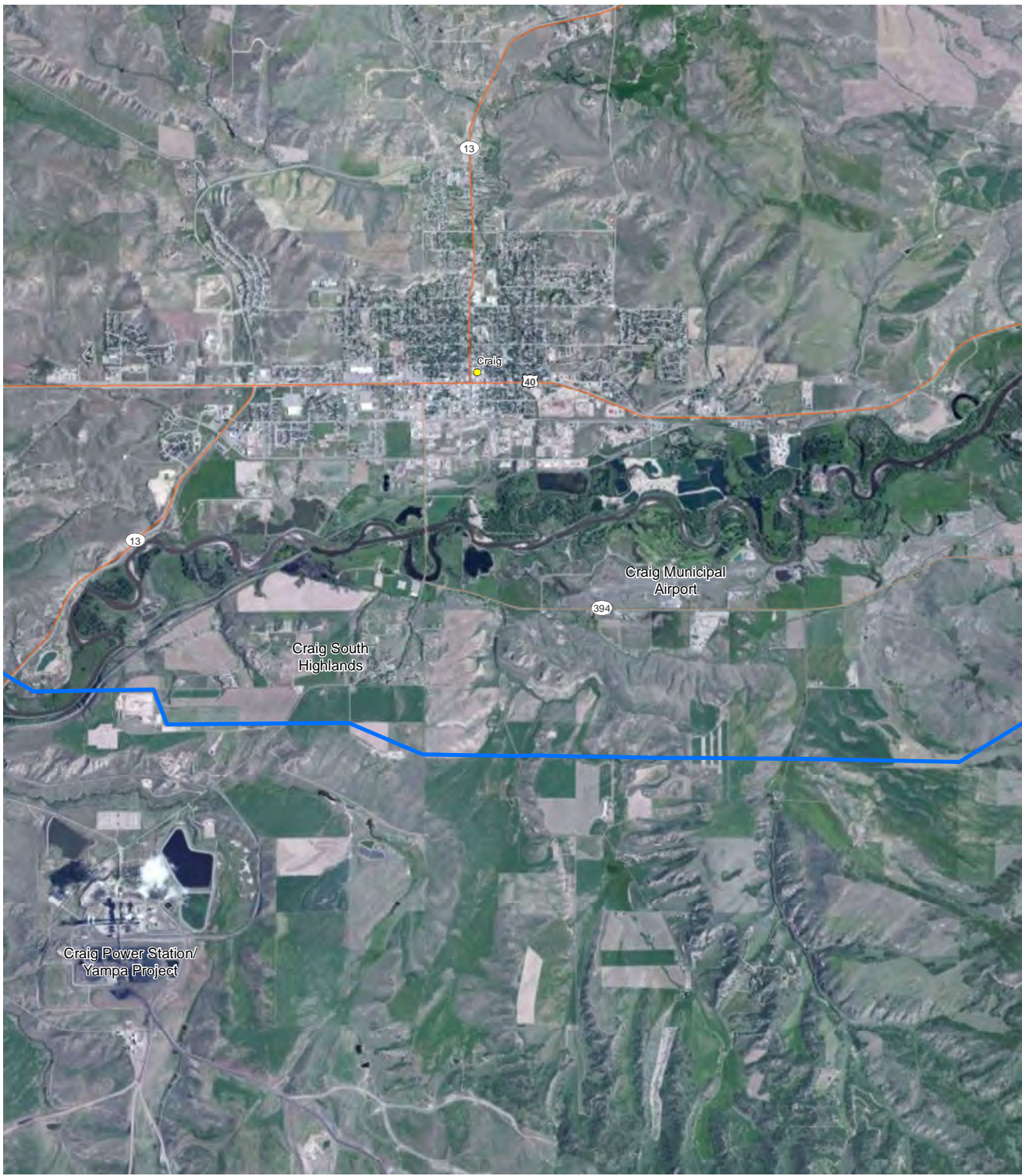
There would be 39 commercial/industrial structures within 500 feet of the proposed reference line; the majority of which are oil and gas pads. Land use conflicts would be eliminated by use of requisite buffers between well pads and transmission line. Gathering systems or pad access roads within the area are not included in the above “structure” count. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within the area used for oil and gas development.

There would be no communities within the 2-mile transmission line corridor.

Tuttle Easement Micro-siting Options

The Tuttle Easement Micro-siting Option 1 would decrease the mileage crossing private lands by 0.4 miles and increase the mileage crossing BLM lands by 0.3 miles resulting in an overall decrease of 0.1 miles. Of the three micro-siting options, Option 1 disturbs less greenfield and takes advantage of co-location and dedicated utility corridors more than options 2 or 3. Disturbance to agricultural lands would be reduced by 4.3 miles. This option would cross the Tuttle Conservation Easement for a total of 3 miles.

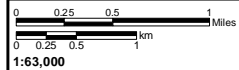
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DEIS Alternative Routes
 — Alternative I-C

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-9
 Region I
 Residential, Agricultural
 and Other Land Uses
 Craig, Colorado



The Tuttle Easement Micro-siting Option 2 would decrease the mileage crossing BLM lands by 2.3 miles and increase the mileage crossing private lands by 1.6 miles. Disturbance to agricultural lands would be reduced by 2.4 miles. Additionally, there would be 0.1 miles of NPS lands that would be crossed. No portion of this option would cross the Tuttle Conservation easement.

The Tuttle Easement Micro-siting Option 3 would decrease the mileage crossing BLM lands by 2.3 miles and increase the mileage crossing private lands by 1.6 miles. Disturbance to agricultural lands would be reduced by 2.7 miles. Additionally, there would be 0.1 miles of NPS lands that would be crossed. No portion of this option would cross the Tuttle Conservation easement.

Impacts to livestock grazing are similar between the three Tuttle Easement micro-siting options and the comparable portion of Alternative I-D.

Alternative Variation in Region I

There are no alternative variations within Region I.

Alternative Connectors in Region I

Table 3.14-12 summarizes the key aspects and impacts of the alternative connectors. In general, the selection of connectors may reduce or eliminate impacts to land resources compared to the action alternatives.

Table 3.14-12 Impact Parameters of Lands Crossed by Alternative Connector Reference Lines in Region I (miles)

Impact Parameter		Mexican Flats Alternative Connector	Baggs Alternative Connector	Fivemile Point North Alternative Connector	Fivemile Point South Alternative Connector
Jurisdiction	BLM (miles)	9	18	3	2
	Rawlins	9	18	3	2
	Private (miles)	0	4	0	0
	State (miles)	1	1	1	<1
	Total (miles)	10	22	3	2
Designated Utility Corridors		<1 mile in BLM RMP corridors; 1 mile in WWEC corridor.	<1 mile in BLM RMP corridors; 1 mile in WWEC corridor.	<1 mile in BLM RMP corridors; <1 mile in WWEC corridor.	0 miles in BLM RMP or WWEC corridors.
Co-location					
Greenfield/Co-located mileage		10/0	22/0	3/0	2/0
Agriculture		No disturbance to agriculture lands due to clearing, construction, or permanent removal of croplands.	No disturbance to agriculture lands due to clearing, construction, or permanent removal of croplands.	No disturbance to agriculture lands due to clearing, construction, or permanent removal of croplands.	No disturbance to agriculture lands due to clearing, construction, or permanent removal of croplands.

Table 3.14-12 Impact Parameters of Lands Crossed by Alternative Connector Reference Lines in Region I (miles)

Impact Parameter	Mexican Flats Alternative Connector	Baggs Alternative Connector	Fivemile Point North Alternative Connector	Fivemile Point South Alternative Connector
Livestock Grazing	Construction impacts 129 acres (6 AUMs); Operation impacts 26 acres (1 AUM).	Construction impacts 277 acres (14 AUMs); Operation impacts 66 acres (3 AUMs).	Construction impacts 80 acres (4 AUMs); Operation impacts 8 acres (<1 AUM).	Construction impacts 25 acres (1 AUM); Operation impacts 5 acres (<1 AUM).
Structures	No structures within 500 feet of reference line.	No structures within 500 feet of reference line.	No structures within 500 feet of reference line.	No structures within 500 feet of reference line.
Avoidance/exclusion areas	The connector corridor does not overlap avoidance/exclusion areas.	<1 mile of overlap with the Rawlins FO avoidance area.	The connector corridor does not overlap avoidance/exclusion areas.	The connector corridor does not overlap avoidance/exclusion areas.

Note: Discrepancies in totals due to rounding.

Alternative Ground Electrode Systems in Region I

A ground electrode system of approximately 600 acres in size would be necessary in Region I within 50 to 100 miles of the northern terminal, as discussed in Chapter 2.0. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided by the project proponent. The ground electrode system alternative locations in Region I are depicted in Chapter 2.0 on **Figure 2-12**. The conceptual locations would be located on BLM lands that are not within croplands or on private lands without residences and other built-environment uses. Initial and permanent disturbances to grazing from the construction and operation of ground electrode systems in conceptual areas in Region I would be no greater than 600 acres and 20 AUMs (<1 percent).

Region I Conclusion

Alternatives I-A, I-B, I-C, and I-D have similar impacts to most of the parameters discussed. Alternatives I-B and I-C would utilize a greater amount of designated corridors (31 miles [20 percent] and 30 miles [21 percent] of the route, respectively) compared to Alternatives I-A and I-D (6 miles [4 percent] and 7 miles [4 percent], respectively). Alternative I-C would have the greatest impact to agricultural lands. Alternative I-D would cross more miles of avoidance areas than any other alternative, and Alternative I-B would cross the fewest. Livestock grazing impacts would be fairly similar for each alternative in Region I with the greatest impacts occurring on Alternative I-D, and the fewest on Alternative I-C. Less than 1 percent of grazing allotments would be impacted by each alternative in Region I.

There are no alternative variations in Region I.

The alternative connectors in Region I include the Mexican Flats, Baggs, Fivemile Point North, and Fivemile Point South connectors. In most respects, their impacts would be similar. The Fivemile Point South Connector would not utilize any designated corridors; however, it is only a 2-mile connector compared to the Baggs Connector, which utilizes 2 miles of a designated corridor but totals 22 miles (20 miles outside of designated corridors). The Fivemile Point South Connector would only impact 25 acres of grazable land whereas the Baggs Connector would impact 277 acres. Again, this is the difference between a 2-mile

connector versus a 22-mile connector. The Baggs Connector would cross less than 1 mile of the Rawlins FO avoidance area.

3.14.6.4 Region II

The majority of lands crossed by the alternatives in Region II are BLM-managed and privately owned. The reference lines under all action alternatives also cross USFS lands in Utah, and state-owned lands in Colorado and Utah (**Figure 2-13**). Within Utah, state lands acreage includes intermingled state lands and county lands. USFS lands include portions of the Uinta National Forest, the Ashley National Forest, the Manti-La Sal National Forest, and the Fishlake National Forest (**Table 3.14-13**). Croplands in Region II occur in Colorado along the Yampa River, and in central and eastern Utah. A portion of the Utah Launch Complex, a sub-installation of the White Sands Missile Range (Department of Defense land) is crossed south of Green River, Utah. The complex served as an off-range missile test facility for Air Force and Army missile programs and has been inactive since 1974 (BTI 1984). Impact parameters for land use in Region II are tabulated in **Table 3.14-14** by alternative route.

Alternatives II-A, II-B, II-C, II-D, II-E, and II-F cross through counties and municipalities listed in **Table 3.14-15** and would be subject to the zoning designations described.

Figure 3.14-10 shows croplands and other land uses in the Huntington – Lawrence – Castle Dale portion of Emery County that would be within the 2-mile transmission line corridor for Alternatives II-B and II-C, or the Castle Dale Alternative Connector. **Figure 3.14-11** shows land uses within the portion of the City of Nephi that would be within the 2-mile transmission line corridor for Alternatives II-A and Alternatives II-B, II-D and II-E (which have the same route through this area). **Figure 3.14-12** shows land uses within the portion of Helper City that would be within the 2-mile transmission line corridor for Alternative II-D. **Figure 3.14-13** shows land uses within the portion of Mt. Pleasant that would be within the 2-mile transmission line corridor for Alternatives II-B. **Figure 3.14-14** shows land uses within the portion of Roosevelt City that would be within the 2-mile transmission line corridor for Alternatives II-A and II-E.

Avoidance and exclusion areas occur within the ROWs and corridors under Alternatives II-B and II-C. Alternatives II-A, II-B, II-D, and II-E all cross some conservation easement areas or wildlife management areas (WMAs) with some stipulations regarding transmission lines. **Table 3.14-16** summarizes avoidance areas and exclusion areas within project corridors. The mileages crossed by each alternative in avoidance and exclusion areas also are presented. A land use plan amendment would be necessary for Alternatives II-B and II-C as they both pass through exclusion areas. **Figure 3.14-15** identifies Region II designated avoidance areas and conservation easement areas with overhead line prohibitions.

Alternative II-A (Applicant Proposed)

Approximately 47 percent of the 257-mile Alternative II-A route would be located on BLM or USFS-managed lands; an additional 11 percent would be located on state lands. Alternative II-A would have 26 miles in BLM-designated utility corridors, and 56 miles in WWEC corridor. A total of 225 miles would be co-located with other ROWs. Five miles of avoidance areas in state WMAs and 7 miles of exclusion area in a conservation easement would be crossed by this alternative. The 250-foot-wide transmission line ROW for Alternative II-A would cross the 22,857-acre Currant Creek/Wildcat WMA and the 3,070-acre Strawberry River WMA, both of which serve as mitigation for wildlife habitat during construction of the Central Utah Project. The 11,867-acre Sand Wash/Sink Draw conservation easement also would be crossed. It prohibits overhead transmission lines and development of a transmission line in this area would not be in conformance with area management. The 250-foot-wide transmission line ROW for Alternative II-A also would cross the North Nebo WMA – Spencer Fork Unit and South Nebo WMA – Triangle Ranch Unit WMAs. These WMAs also have land patent reversionary parcels or other stipulations prohibiting uses that are not consistent with area goals.

Table 3.14-13 Region II National Forest Management Area Impacts by Alternative

Jurisdiction	Description	Alternative II-A miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-B miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-C miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-D miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-E miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-F miles-acres 250-foot ROW/acres 2-mile corridor	
Ashley National Forest	MA D: Livestock Grazing	--	--	--	0 – 9/2,737	0/1,563	4 – 18/3,212	
	MA E: Wildlife Habitat Emphasis	--	--	--	0 – 2/160	0/3	0 – 2/160	
	MA F: Dispersed Recreation Routed	--	--	--	0	1 – 20/744	<1 – 8/246	
	MA N: Existing Low Management Emphasis	--	--	--	0/1,243	9 – 276/13,133	<1 – 12/1,763	
Uinta National Forest	#1.4 Wilderness (Nephi)	0/ <1	--	--	--	--	--	
	#2.5 Scenic Byways (Nephi)	0 /31	--	--	0/31	0/31	0/31	
	#3.1 (Aquatic/ Terrestrial/ Hydrologic Resources)							
	<i>Upper Spanish Fork Canyon</i>	<1 - 4/16	--	--	--	--	--	
	<i>Willow Creek</i>	7 - 213/10,159	--	--	--	--	--	
	<i>Strawberry Reservoir</i>	0/<1	--	--	--	--	--	
	<i>White River</i>	--	--	--	--	0/206	2 – 48/898	
	# 3.3 Aquatic and Terrestrial Habitat							
	<i>Upper Spanish Fork Canyon</i>	1 - 19/3,722	--	--	--	6 – 167/7,780	6 – 167/7,781	
	<i>White River</i>	--	--	--	--	0/106	0/106	
	<i>Nephi</i>	0/61	--	--	0/ 16	0/16	0/16	
	<i>Mona</i>	0/31	--	--	--	--	--	
	# 4.4 Dispersed Recreation							
	<i>Upper Spanish Fork Canyon</i>	5 – 151/1,974	--	--	--	1 – 32/294	1 – 32/294	
	<i>Diamond Fork</i>	(<1) 4/37	--	--	--	--	--	
	<i>Strawberry Reservoir</i>	0/52	--	--	--	--	--	
	# 4.5 Developed Recreation							
<i>Strawberry Reservoir</i>	0/70	--	--	--	--	--		
#5.1 Forested Ecosystems – Ltd Dev't (Thistle)	0/1,007	--	--	--	0/1,007	0/1,007		
#5.2 Forested Ecosystems – Veg Mgt								
<i>Upper Spanish Fork Canyon</i>	0/23	--	--	--	--	--		
<i>Willow Creek</i>	0/<1	--	--	--	--	--		
<i>Strawberry Reservoir</i>	2 – 59 /1,285	--	--	--	--	--		

Table 3.14-13 Region II National Forest Management Area Impacts by Alternative

Jurisdiction	Description	Alternative II-A miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-B miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-C miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-D miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-E miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-F miles-acres 250-foot ROW/acres 2-mile corridor
Uinta National Forest (Continued)	#6.1 Non-Forested Ecosystems						
	<i>Upper Spanish Fork Canyon</i>	3 – 90/4,966	--	--	--	--	--
	<i>Willow Creek</i>	0/98	--	--	--	--	--
	#8.2 Utility Corridor/Communication Sites						
	<i>Upper Spanish Fork Canyon</i>	<1 – 2/485	--	--	--	2 – 43/889	2 – 43/889
	<i>Willow Creek</i>	0/143	--	--	--	--	--
	<i>Strawberry Reservoir</i>	0/4	--	--	--	--	--
	<i>Mona</i> <i>Nephi</i>	0/7 0/30	-- --	-- --	-- --	-- --	-- --
Manti-La Sal National Forest	Key Big-Game Winter Range	<1 – 8/295	--	--	--	<1 – 8/295	<1 – 8/295
	General Big-Game Winter Range	2 – 67/3,294	1 – 24/1,181	--	0/656	2 – 67/3,529	2 – 67/3,529
	Developed Recreation Sites ¹	--	<1 – 8/237	--	0/46	--	--
	Minerals Management Area	--	1 – 28/345	--	--	--	--
	Range Forage Production	0 – 3*/689	16 – 473/17,818	--	7 – 221/9,103	0 – 8/1,035	0 – 8*/1,035
	Utility Corridor	--	<1 – 1/329	--	0/43	--	--
	Wood Fiber Production and Utilization	--	0/1,362	--	1 – 30/906	--	--
	Special Land Designation ²	--	--	--	0/21	--	--
	Research, Protection, and Interpretation of Lands and Resources	--	--	--	0/33	--	--
	Undeveloped Motorized Recreation Sites	--	--	--	0/129	--	--
Watershed Protection/Improvement	--	0/327	--	--	--	--	

Table 3.14-13 Region II National Forest Management Area Impacts by Alternative

		Alternative II-A miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-B miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-C miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-D miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-E miles-acres 250-foot ROW/acres 2-mile corridor	Alternative II-F miles-acres 250-foot ROW/acres 2-mile corridor
Jurisdiction	Description						
Fishlake	2B Rural and Roaded-Natural Recreation Opportunities	--	--	<1 – 15/1,390	--	--	--
National	3A Semi Primitive Non-Motorized Recreation	--	--	0/98	--	--	--
Forest	4A Fish Habitat Improvement	--	--	0/14	--	--	--
	4B Management Indicator Species	--	--	13 – 385/15,135	--	--	--
	5A Big Game Winter Range	--	--	2 – 65/2,766	--	--	--
	6B Livestock Grazing	--	4 – 116/4,129	10 – 287/16,360	--	--	4 – 116/4,129
	9F Improved Watershed Condition	--	--	4 – 124/5,055	--	--	--

¹ Indian Creek Campground under Alternative II-B, Flat Canyon Campground , Gooseberry Campground under Alternative II-D.

² Mammoth Guard Station

Table 3.14-14 Region II Alternative Route Land Use Impact Parameters

Jurisdiction/Impact Parameter	Description	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
	BLM (miles/ percent of alternative)	99/39%	208/60%	219/60%	146/56%	100/38%	124/46%
	White River	19	46	46	19	19	19
	Grand Junction	0	20	20	0	0	0
	Vernal	37	6	6	78	38	83
	Price	0	55	56	6	0	0
	Moab	0	60	60	0	0	0
	Richfield	1	5	14	1	1	1
	Salt Lake	0	0	0	0	0	4
	Fillmore	42	17	17	42	42	17
	Private (miles/ percent of alternative)	104/40%	76/22%	77/21%	71/27%	106/40%	79/30%
	State (miles/ percent of alternative)	28/11%	39/11%	40/11%	33/13%	30/11%	43/16%
	BIA/Tribal (miles/ percent of alternative)	0	0	0	3/1%	8/3%	3/1%
	USFS (miles/percent of alternative))	21/8%	23/7%	29/8%	9/3%	22/8%	18/7%
	Bureau of Reclamation	1/<1%	0	0	0	0	0
	URMCC	1/<1%	0	0	0	0	0
	Total (miles)	257	345	364	262	266	267
Colorado	Garfield	0	24	24	0	0	0
	Grand	0	68	68	0	0	0
	Mesa	0	12	12	0	0	0
	Moffat	24	1	1	24	24	24
	Rio Blanco	2	44	44	2	2	2
Utah	Carbon	0	0	0	45	<1	0
	Duchesne	52	0	0	34	60	54
	Emery	0	97	95	3	0	0
	Juab	52	33	0	44	47	37
	Millard	19	29	64	19	19	29
	Sanpete	9	30	0	28	9	9

Table 3.14-14 Region II Alternative Route Land Use Impact Parameters

Jurisdiction/Impact Parameter	Description	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Utah (Continued)	Sevier	0	0	50	0	0	0
	Uintah	50	6	6	64	53	64
	Utah	30	0	0	0	50	44
	Wasatch	20	0	0	0	2	5
Designated Utility Corridors ¹	Length within RMP designated corridors (miles/percent of alternative) ²	26/10%	142/41%	149/40%	73/28%	39/15%	69/26%
	Length within WWEC designated corridors (miles/percent of alternative) ³	56/22%	34/10%	16/4%	49/19%	65/22%	30 /11%
	Total (miles/percent of alternative)	71/27%	142/41%	149/40%	104/40%	79/30%	82/30%
Co-location	Greenfield /Co-located mileage	32/225	156/189	156/208	151/110	45/222	121/146
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	452	169	238	82	286	104
	Construction disturbance (acres)	329	139	177	73	216	82
	Operation disturbance (acres)	92	51	49	28	66	32
	Number of center pivots crossed by reference line (count)	3	0	5	0	2	0
	Number of center pivots within Project corridor (count)	13	18	27	7	13	13
Livestock Grazing	Construction disturbance (acres)	1,728	4,018	4,229	2,922	1,804	2,800
	Estimated construction-related reduction to AUMs (AUMs/percent of total AUMs) ⁴	86/<1%	201/<1%	211/<1%	146/<1%	90/<1%	140/<1%
	Operation disturbance (acres)	499	1,103	1,086	819	493	834
	Long-term reduction in AUMs (AUMs) ⁴	25/<1%	55/<1%	54/<1%	41/<1%	25/<1%	42/<1%
Communities	Count of communities within 2-mile transmission line corridor	9	11	11	11	16	10
Structures within 500 feet of reference line	Residential (count)	53	5	4	6	35	13
	Commercial/Industrial (count)	31	17	12	1	20	0
	Agricultural (count)	0	0	3	0	0	0
	Outbuilding (count)	11	9	11	0	6	6
	Total (count)	95	31	30	7	61	19

Table 3.14-14 Region II Alternative Route Land Use Impact Parameters

Jurisdiction/Impact Parameter	Description	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Structures within 200 feet of reference line	Residential (count)	4	3	1	0	5	0
	Commercial/Industrial (count)	4	5	4	0	0	0
	Agricultural (count)	0	0	1	0	0	0
	Outbuilding (count)	1	1	3	0	1	4
	Total (count)	9	9	8	0	6	4

¹ Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

² Corridors identified by the BLM and the USFS in their respective land management plans.

³ Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

⁴ The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.

Note: Discrepancies in totals due to rounding error.

Table 3.14-15 Consistency in Region II with Applicable County or Municipal Land Use Plans and Policies

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Garfield County, Colorado	Garfield County Comprehensive Plan and Land Use Map, Unified Land Use Resolution	Land Use- no available spatial data Future Land Use – Agricultural Production/Natural Zoning - Rural district: Use Permitted Subject to Limited Impact Review.
Mesa County, Colorado	Mesa County Master Plan, Land Development Code	Land Use- no available spatial data Future Land Use –Rural Zoning - Agricultural, Forestry, Transitional district: aboveground transmission lines are subject to a Conditional Use permit.
Rio Blanco County, Colorado	Rio Blanco County Master Plan	Land Use- Agricultural, Residential, Low Density Future Land Use – Agricultural/Residential/Low Density Zoning - Agricultural district, Leisure Recreation (along White River) districts: Transmission lines in public ROWs shall not be subject to zoning requirements.
Carbon County, Utah	Carbon County Master Plan Carbon County Natural Resource Use and Management Plan Carbon County Zoning Ordinance	Land Use- oil and gas development, grazing Future Land Use – no available spatial data Zoning - Mining and Grazing (M&G), Watershed (WS), and Mountain Range (MR) zone; conditional use permit required for overhead electrical transmission lines over 69,000 volts; avoidance buffer of 100' from any drainage. County would require developers to maintain for public use all traditional access routes to public lands, streams, lakes, and waterways.
Duchesne County, Utah	Duchesne County General Plan Duchesne County Zoning Ordinance	Land Use- no available spatial data Future Land Use – no available spatial data Zoning - Agricultural districts: utility facilities are a permitted use.
Emery County, Utah	Emery County General Plan Emery County Zoning Ordinance	Land Use- no available spatial data Future Land Use – no available spatial data Zoning - Mining and Grazing; Agricultural; Mountain districts: Major utility transmission lines authorized by a Level 3 Conditional Use permit.
Grand County, Utah	Grand County General Plan Grand County Land Use Code	Land Use- no available spatial data Future Land Use – Transportation Resource; Range, Resource and Recreation Zoning - Range & Grazing district: transmission facilities authorized by a Conditional Use permit.
Juab County, Utah	Juab County General Plan Juab County Land Use Code Juab County Zoning Map	Land Use- no available spatial data Future Land Use – no available spatial data Zoning - Grazing, Mining, Recreation, & Forestry; Agriculture districts: transmission lines are a permitted use.

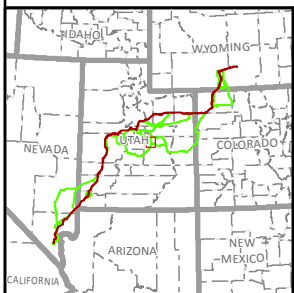
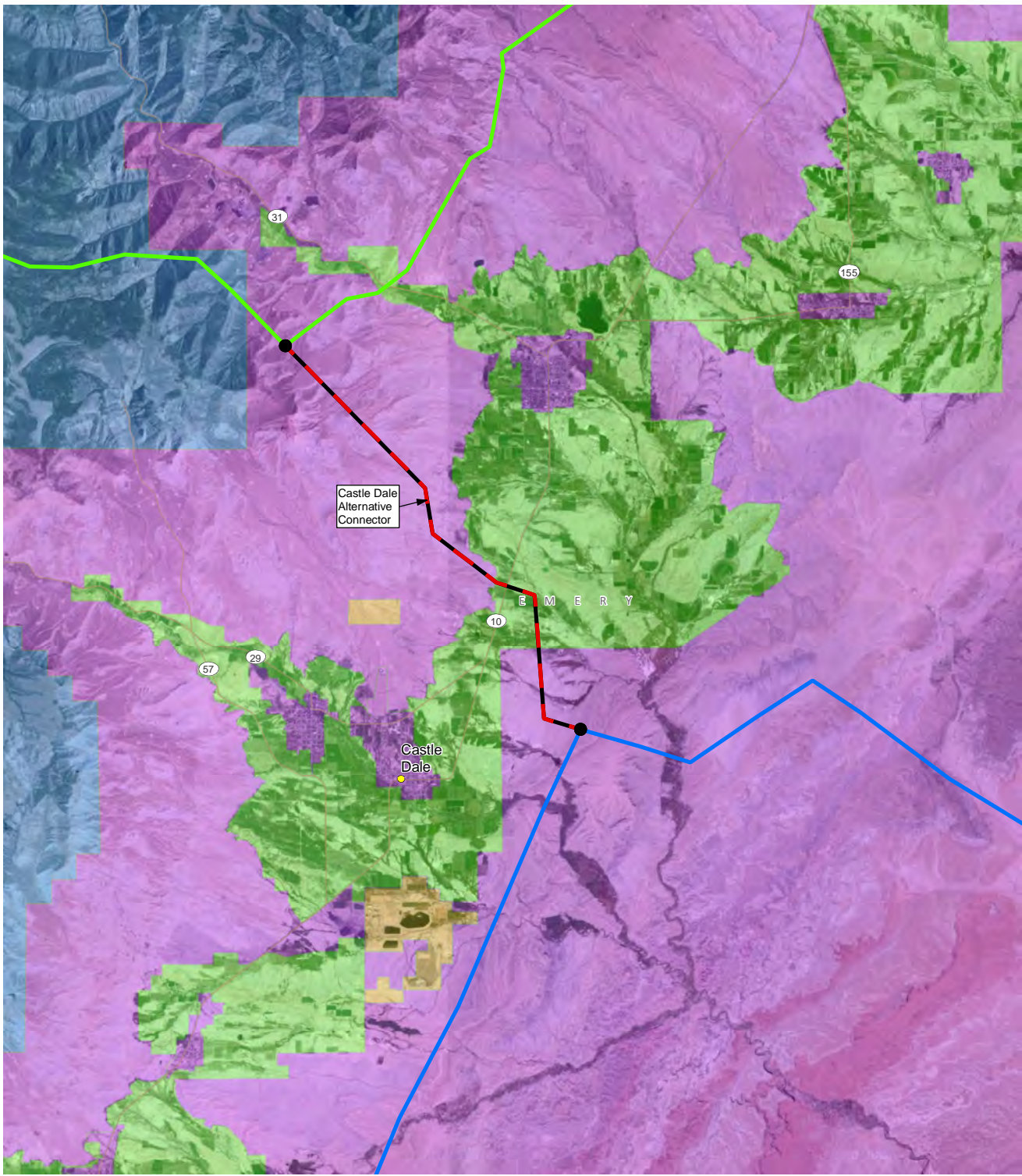
Table 3.14-15 Consistency in Region II with Applicable County or Municipal Land Use Plans and Policies

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Millard County, Utah	Millard County General Plan Millard County Zoning Ordinance and Map (2009b) Millard County Major Utility Corridor Map (2009a)	Land Use- no available spatial data Future Land Use – no available spatial data Zoning - Agricultural districts: transmission lines 140 kV or larger authorized by a Conditional Use permit. Unless directly associated with a “Electric Generating Facility” or “Wind Energy System (Major)” located in the County, all new “Electric Transmission Right-of-Way (Major),” “Gas Pipeline Right-of-Way (Major),” and “Petroleum Pipeline Right-of-Way (Major)” with an interstate or intrastate purpose shall be located within the “Westwide Energy Corridor,” as identified by Millard County’s Official Map, in compliance with all County Land Use Ordinances.
Sanpete County, Utah	Sanpete County General Plan Sanpete County Land Use Ordinance Sanpete County RMP Sanpete County Zoning Map	Land Use- Forest, Grassland, Woodland, Shrubland, Agriculture Future Land Use – no available spatial data Zoning – Agricultural , Sensitive Lands districts: Electric utility facilities authorized by a Conditional Use permit.
Sevier County, Utah	Sevier County General Plan Sevier County Zoning Ordinance Sevier County Zoning Map	Land Use- no available spatial data Future Land Use – no available spatial data Zoning - Grazing/Recreation/Forestry/Seasonal; Grazing/Recreation/Forestry/Residential, Agricultural districts: major utility distribution facilities are a permitted use.
Uintah County, Utah	Uintah County Zoning Ordinance (2005) Uintah County Land Use Plan (2010)	Land Use- Recreation, Forestry, and Mining; Mining and Grazing; Agricultural; Low Density Agricultural; Industrial; Industrial-Commercial Future Land Use – Recreation, Forestry, and Mining; Mining and Grazing; Agricultural; Low Density Agricultural; Industrial; Industrial-Commercial Zoning - Recreation, Forestry, and Mining district, Agriculture district, Light Industrial district. Transmission line or public utilities, with exception of substations, not specified as an allowable, special, or conditional use under any zoning district.
Utah County, Utah	Utah County General Plan Utah County Land Use Ordinance	Land Use- Agricultural/Watershed Future Land Use – no available spatial data Zoning - Mining and Grazing, Agricultural, Residential Agriculture districts: lines of 345 kV and over within a new transmission corridor require conditional use approval in any zoning district.
Wasatch County, Utah	Wasatch County General Plan Wasatch County Land Use and Development Code	Land Use- Grazing Future Land Use – Grazing Zoning - Preservation district: Electric utilities are a conditional use.

Table 3.14-15 Consistency in Region II with Applicable County or Municipal Land Use Plans and Policies

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
City of Nephi, Utah	Nephi City Code	Land Use- no available spatial data Future Land Use – no available spatial data Zoning –Residential (R-1), Industrial/commercial (IC) and Highway/commercial (HC) zones: Transmission line or public utilities not specified as an allowable, special, or conditional use under any zoning district; public utility stations are a permitted use.
City of Helper, Utah	Helper City Code	Land Use- no available spatial data Future Land Use – no available spatial data Zoning – Industrial (I) and residential (R-1) districts: Transmission line or public utilities are a permitted use within the industrial zoning district, but are not specified as an allowable, special, or conditional use within the residential zoning district.
City of Mt. Pleasant	Mt. Pleasant City Code	Land Use- no available spatial data Future Land Use – no available spatial data Zoning – Residential-Agriculture (RA) and General Commercial (C-G) districts: Within RA districts, utilities (lines and ROWs only) are permitted uses. Within the C-G district, utilities lines are not specified as an allowable, special, or conditional use.
Roosevelt City	Roosevelt Municipal Code and Zoning Map	Land Use- no available spatial data Future Land Use – no available spatial data Zoning – Residential (R-1) and Rural Residential (RR-1): transmission lines are conditional uses.

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- Node
- DEIS Alternative Routes**
- Alternative II-B
- Alternative II-C
- Alternative Variation or Connector
- Emery County Zoning**
- A-1, Agriculture
- I-1, Industrial
- M&G, Mining & Grazing
- M-1, Mountain

TRANSWEST EXPRESS TRANSMISSION PROJECT

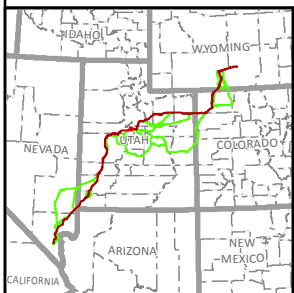
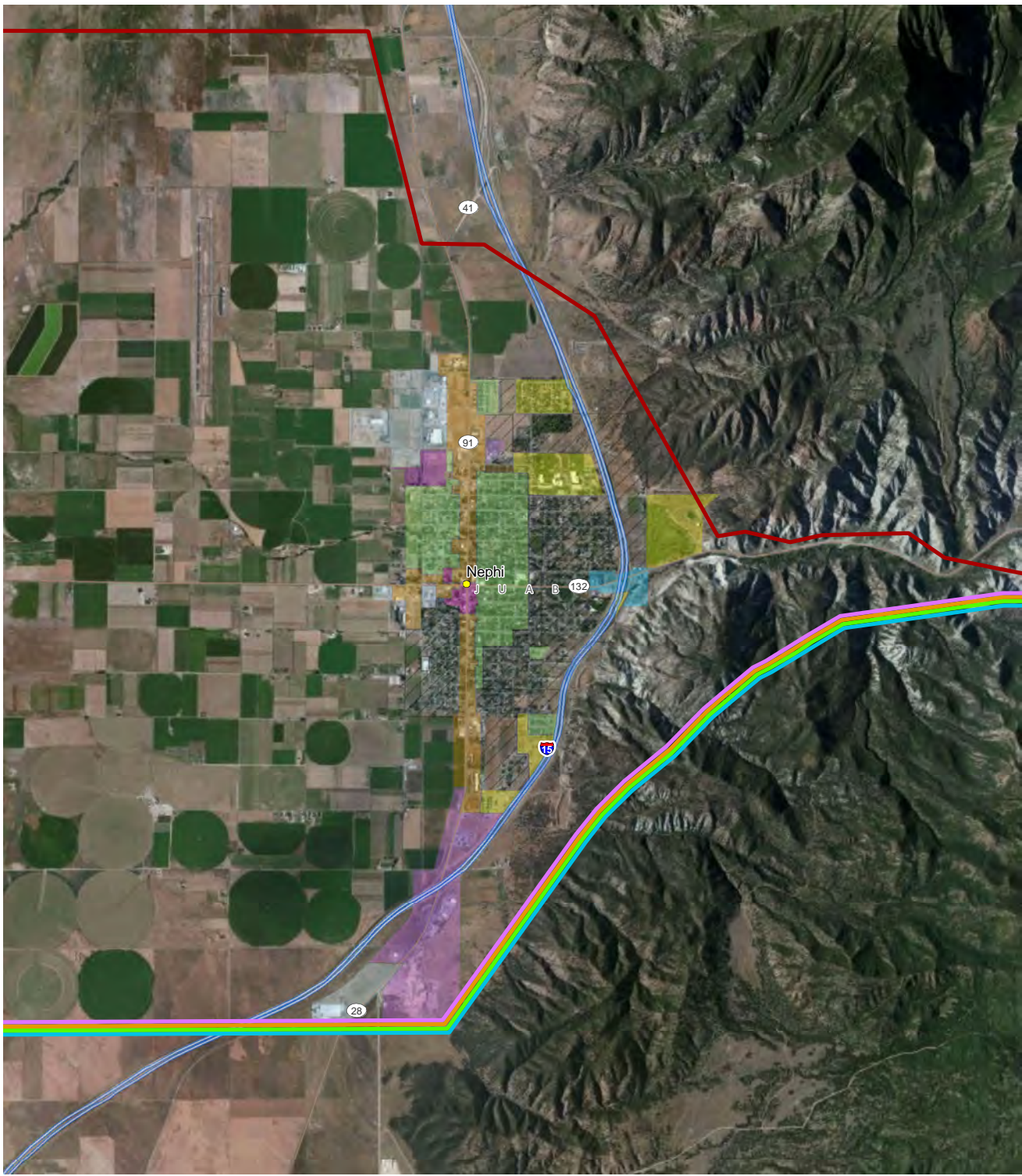
Figure 3.14-10
Region II
Zoning
Huntington to Castle Dale

0 0.75 1.5 3 Miles

0 0.75 1.5 3 km

1:190,000

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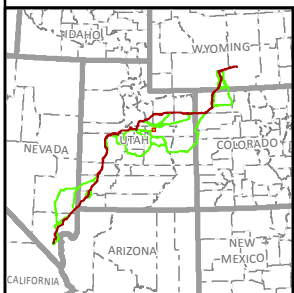
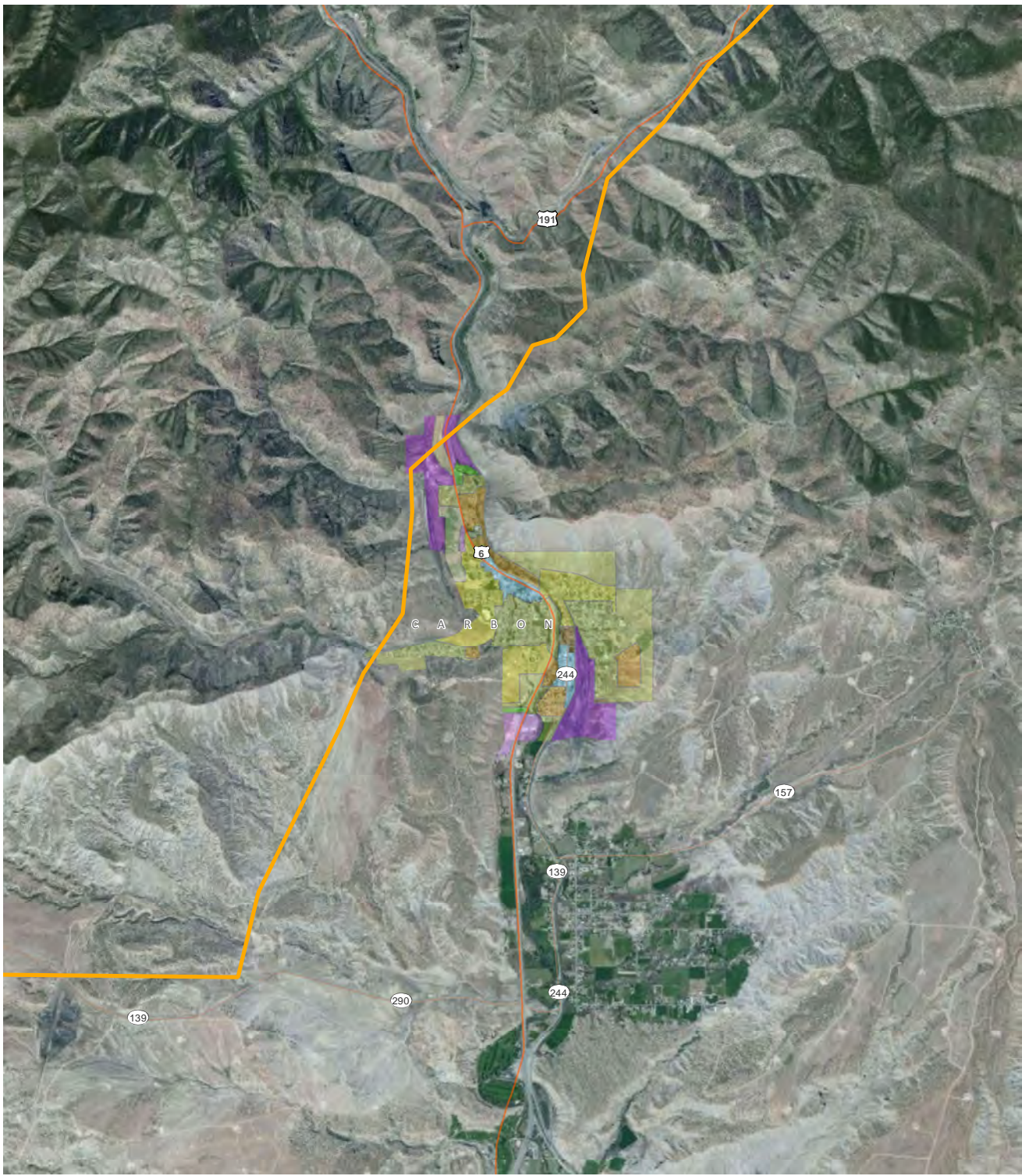
● Node	Nephi Zoning Zone Code	
DEIS Alternative Routes	CC	R1
— Applicant Proposed II-A	CU	R1-8
— Alternative II-B	CU-2	A
— Alternative II-D	HC	R1-H
— Alternative II-E	HC-2	R2-8
— Agency Preferred II-F	ID	

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-11
Region II
Zoning
Nephi, UT

0 0.25 0.5 1 Miles
0 0.25 0.5 1 km
1:63,000

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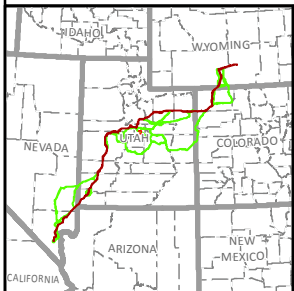
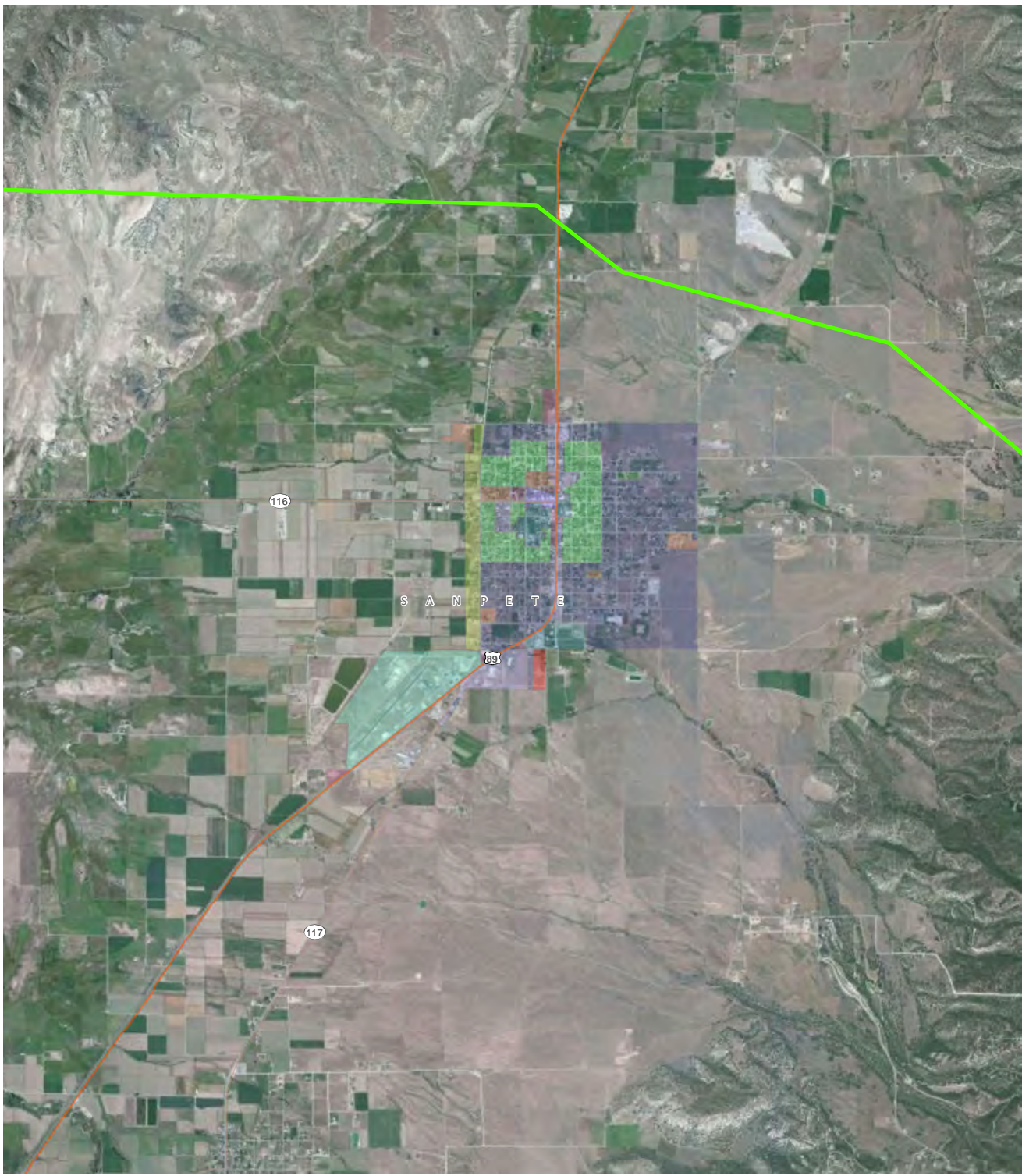
● Node	LI-1
DEIS Alternative Routes	R-1-30,000
— Alternative II-D	R-1-8,000
Helper Zoning	R-1-5,000
CC-1	R-2-5,000
GC-1	R-3-5,000
I-1	

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-12
Region II
Zoning
Helper, UT

0 0.25 0.5 1 Miles
0 0.25 0.5 1 km
1:63,000

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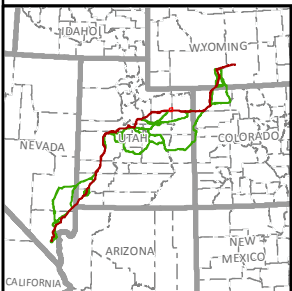
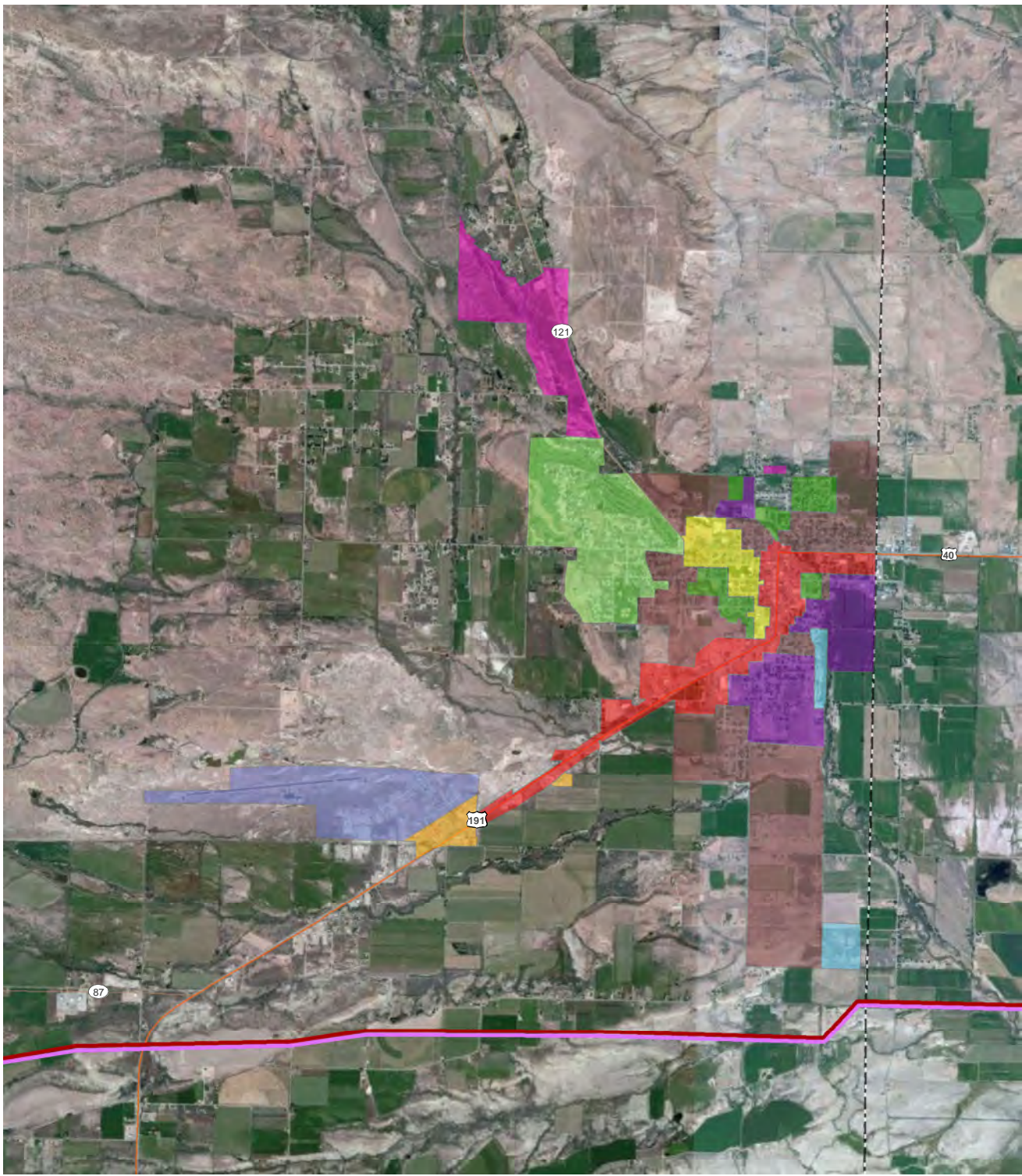
<ul style="list-style-type: none"> ● Node DEIS Alternative Routes Alternative II-B Mount Pleasant Zoning CG, General Commercial CG/MOD, General Commercial Modified CH, Historic Commercial CM, Commercial Manufacturing CN, Neighborhood Commercial MP/PF, Manufacturing Park/Public Facility PF, Public Facility RA, Residential Agricultural RM, Multiple Residential RS, Single-Family Residential SL/AB, Sensitive Lands
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TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-13
Region II
Zoning
Mount Pleasant, UT

0 0.25 0.5 1 Miles
0 0.25 0.5 1 km
1:63,000

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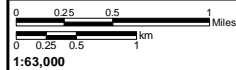


DEIS Alternative Routes
 — Applicant Proposed II-A
 — Alternative II-E

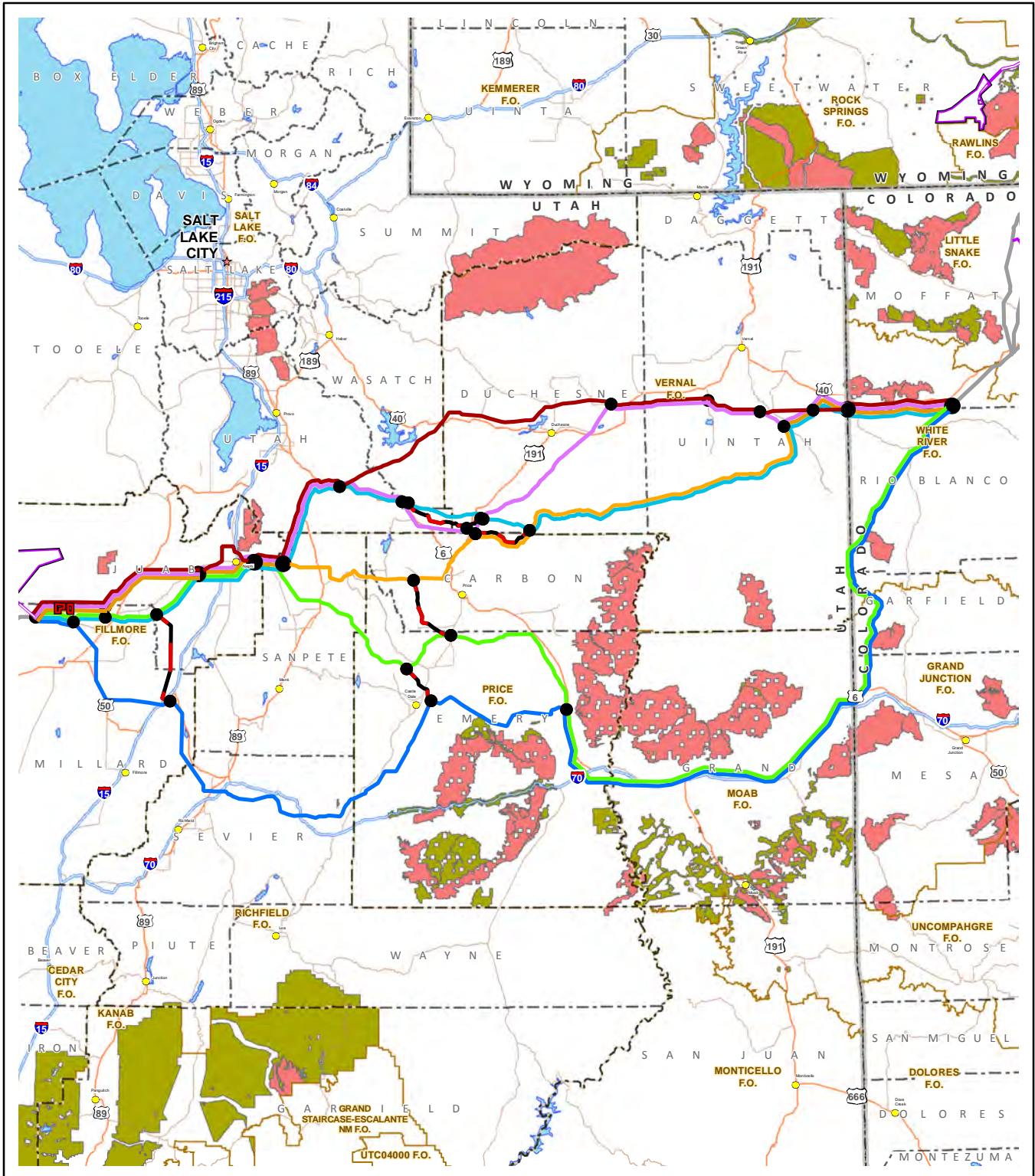
- Roosevelt City Zoning**
- C, Commercial
 - M-1, Light Manufacturing
 - M-2, Manufacturing
 - PO-R, Professional Office Residential
 - R-1-10, Residential Single Family (min. 10,000 sq.ft.)
 - R-1-20, Residential Single Family (min. 20,000 sq.ft.)
 - R-1-6, Residential Single Family (min. 6,000 sq.ft.)
 - R-M-13, Residential (13 units per acre)
 - R-M-18, Residential (18 units per acre)
 - R-R-1, Agricultural (1 acre minimum)

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-14
 Region II
 Zoning
 Roosevelt City, UT



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		<p>TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p>Figure 3.14-15 Region II Designated Exclusion/Avoidance Areas, Conservation Easements and WMAs with Transmission Line Stipulations/Prohibitions</p> <p>0 10 20 40 Miles 0 10 20 40 km</p> <p>1:2,250,000</p>			

Table 3.14-16 Avoidance and Exclusion Areas Crossed by Alternatives in Region II

Avoidance/ Exclusion	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Avoidance Areas	State WMA	NSO Area	NSO Area	State WMA	State WMA	State WMA
Reference Line Crossing Avoidance (total miles)	5	0	0	7	6	11
Exclusion Areas	Conservation easement	Demaree WSA	Demaree WSA	None	None	None
Reference Line Crossing Exclusion (total miles)	7	1	1	<1	0	0
Conservation easement or WMA transmission line restrictions	Currant Creek/Wildcat WMA ¹ Sand Wash/Sink Draw conservation easement ² North Nebo WMA – Spencer Fork Unit ³ South Nebo WMA – Triangle Ranch Unit ⁴ Strawberry WMA ¹	South Nebo WMA – Triangle Ranch Unit ⁴ North Nebo WMA – Moroni Unit ³	N/A	Gordon Creek WMA ⁴ Northwest Manti WMA – Hilltop Unit ⁵ South Nebo WMA – Triangle Ranch Unit ⁴	North Nebo WMA – Spencer Fork Unit ³ South Nebo WMA – Triangle Ranch Unit ⁴	North Nebo WMA – Spencer Fork Unit ³ Northwest Manti WMA – Birdseye, Dairy Fork, Lake Fork, Starvation, and Wildcat Canyon Units South Nebo WMA – Triangle Ranch

¹ Mitigation for wildlife habitat during construction of Central Utah Project.

² Overhead transmission lines prohibited.

³ Precludes industrial, commercial, or other development that is not consistent with the conservation values and purpose of the WMA.

⁴ Land patent reversionary clauses on some parcels if land use changes from "big game management."

⁵ Prohibits utilities, unless such structures or systems are necessary for permitted ranching operations or residential use.

Under Alternative II-A, approximately 104 miles (40 percent) would be located on private land. Alternative II-A would require 452 acres of additional ROW clearing, 329 acres of construction disturbance, and 92 acres of permanent removal of croplands. Three of the 13 center pivots within the 2-mile transmission line corridor would be crossed by the 250-foot-wide transmission line ROW.

An estimated 1,728 acres (86 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 499 acres (25 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be 53 residences and 31 commercial building within 500 feet of the reference line. There would be 9 communities, 14 wildlife management areas, 1 state park, 1 BLM recreation area, 1 cemetery, 1 school, and 2 churches within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible land uses within these communities.

Under Alternative II-A, approximately 21 miles of the 250-foot-wide transmission line ROW would be within NFS lands with special management prescriptions; 19 miles within the Uinta National Forest and 2 miles within the Manti-LaSal National Forest.

Within the Uinta National Forest, the reference line, the 250-foot-wide transmission line ROW, and the 2-mile transmission corridor would pass through approximately 9 miles of areas specifically managed for aquatic and terrestrial resources and habitat (Prescription [Rx] 3.1 and 3.3); 5 miles of areas managed for dispersed recreation (Rx 4.4); 2 miles of areas managed for forested area vegetation management (Rx 5.2), 3 miles of area managed for non-forest ecosystems (Rx 6.1); and less than 1 mile of areas managed as utility corridor/communication sites (Rx 8.2). This mileage would be primarily located in the Upper Spanish Fork Canyon and Willow Creek management areas, with additional portions within the Strawberry Reservoir and Diamond Forks management areas. The Standards and Guidelines for each MA that are not addressed by TransWest Design Features are included in **Appendix C**, Section C-4 areas. With the exception of the Strawberry Reservoir Management Area, development of a transmission line would generally be compatible with all management areas (outside of primitive motorized and non-motorized ROS areas, which are discussed in Section 3.13, Recreation Resources), provided it does not inhibit attainment of objectives for the area. Within the Strawberry Reservoir Management Area, guidelines addressing greater sage-grouse specify the avoidance of sagebrush removal within 300 yards of greater sage-grouse foraging areas along riparian zones, meadows, lakebeds, and farmland, unless such removal is necessary to achieve greater sage-grouse habitat management objectives. The majority of acreage within the Strawberry Reservoir Management Area is not near greater sage-grouse foraging areas; however, there is a portion of concern (near the reservoir) in which the 2-mile transmission line corridor would pass (but not the reference line or 250-foot-wide transmission ROW). The following mitigation is suggested to address this impact:

LU-2: Access roads and other construction facilities shall not be constructed in greater sage grouse foraging areas within the Strawberry Reservoir Management Area.

Application of this mitigation would eliminate impacts to this management area.

TransWest's commitment for total stream and riparian area avoidance would reduce the potential for erosion and sedimentation that would impact the key resources within Rx 3.1. Section 3.4, Water Resources, contains additional information about impacts to water resources. Within Rx 3.3, habitat removal, noise and human activity would impact key resources. Agency timing stipulations and design features to avoid key resource habitat would reduce these impacts; Section 3.8, Special Status Wildlife Species, contains additional information about impacts to management indicator species. Within Rx 4.4, construction activities in particular would have impacts to dispersed recreation areas through visual and noise disturbances. Mitigation described in Section 3.13, Recreation (including timing restriction on construction), would reduce these impacts. Within Rx 5.2 and Rx 6.1, development of a transmission line is expected to have minimal impacts, provided restoration activities are successful (see Section 3.5, Vegetation) and access to motorized trails is not restricted (see Section 3.13, Recreation). Development of a transmission line would be fully compatible with Rx 8.2, which provides for utility corridors, subject to standards and guidelines for vegetation management to reduce visual impacts and the potential for erosion. Impacts to IRAs are discussed in Section 3.15, Special Designations.

Within the Uinta National Forest, the 2-mile transmission line corridor would encompass approximately 70 acres of areas managed as Developed Recreation areas (Rx 4.5), 1,007 acres of areas managed as forested ecosystems and limited development (Rx 5.1), 31 acres within an area managed as a Scenic Byway (Rx 2.5), and less than 1 acre within a wilderness management area (see Section 3.13, Recreation Resources, for impacts to designated Scenic Byways and Backways). As discussed in Section 3.15, Special Designation Areas, no access roads or construction would occur in wilderness areas. Development of access roads or other construction support areas would generally be compatible with Standards and Guidelines for these management areas. Strawberry Reservoir is an important developed recreation area in the immediate visual foreground of the Project. Alternative II-A would cross near the Strawberry Reservoir

management area on private lands near, but not within, areas managed to a “retention” visual quality objective. Visual impacts are discussed in Section 2.12.

Within the Manti-La Sal National Forest, approximately 2 miles of the reference line, the 250-foot-wide transmission line ROW, and the 2-mile transmission line corridor would fall within areas managed for General Big Game Winter Range, with less than 1 mile within areas managed as Key Big Game Winter Range. The Standards and Guidelines for each MA that are not addressed by TransWest Design Features included in **Appendix C**, Section C.4. Outside of primitive motorized and non-motorized ROS areas (discussed in Section 3.13, Recreation), development of a transmission line would generally be compatible with the management prescriptions for general big game winter range areas, provided vegetation densities are maintained and short term or temporary roads are obliterated within one season of use. Within key big game winter range areas, development of a transmission line would not be compatible with the management prescriptions for these areas unless construction occurs outside of the critical season, there is no long term degradation of habitat, and short term or temporary roads are fully restored. Agency timing stipulations and design features to avoid key resource habitat would reduce the impacts within these areas. Impacts to IRAs are discussed In Section 3.15, Special Designations.

Within the Manti-LaSal National Forest, the 2-mile transmission line corridor would encompass approximately 689 acres of areas managed for range forage production. Development of access roads or other construction support areas generally would be compatible with Standards and Guidelines for these areas.

The Cedar Knoll IRA micro-siting adjustments would not substantially affect the compatibility analysis for management areas as it would not change the acreage within the Strawberry Reservoir management area. Impacts to IRAs are discussed In Section 3.15, Special Designation Areas.

Alternative II-B

Approximately 67 percent of the 345-mile Alternative II-B route would be located on BLM or USFS-managed lands; an additional 11 percent would be located on state lands. Alternative II-B would have 134 miles in BLM-designated utility corridors, and 34 miles in the WVEC corridor. A total of 189 miles would be co-located with other ROWs. Designated avoidance areas would be crossed for less than 1 mile; designated exclusion areas would be crossed for less than 1 mile.

Under Alternative II-B, approximately 76 miles (22 percent) would be located on private land. Alternative II-B would require 169 acres of additional ROW clearing, 139 acres of construction disturbance, and 51 acres of permanent removal of croplands. No center pivots would be crossed by the 250-foot-wide transmission line ROW.

An estimated 4,018 acres (201 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 1,103 acres (55 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be 5 residences and 17 commercial buildings within 500 feet of the reference line. There would be 11 communities, 3 wildlife management areas (WMAs), and 2 cemeteries within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible land uses within these communities; however, because this alternative would not be located within the WVEC in Millard County, it would be inconsistent with the goals, objectives and implementation strategies of the

Millard County General Plan and would require a General Plan and Utilities Corridor Map amendment prior to the approval of any required land use application(s). One WMA, South Nebo WMA —Triangle Ranch have land patent reversionary parcels if uses are not consistent with area goals. Compatibility with park management is further discussed in Section 3.13, Recreation.

Under Alternative II-B, approximately 23 miles of the 250-foot-wide transmission line ROW would be within national forest system lands with special management prescriptions; 19 miles within the Manti-La Sal National Forest and 4 miles within the Fishlake National Forest.

Within the Manti-La Sal National Forest, the reference line, the 250-foot-wide transmission line ROW, and the 2-mile transmission line corridor would pass through approximately 1 mile of area specifically managed for general big game winter range, 1 mile of area managed for mineral development, 16 miles range forage production areas, and less than 1 mile within designated utility corridors and developed recreation site management areas. **Appendix C**, Section C.4 contains the relevant Standard and Guidelines for each of the management areas. Compatibility with general big game winter range management areas is described under Alternative II-A. Within the minerals management and range forage production areas, development of a transmission line would generally be compatible with the management goals outside of primitive motorized and non-motorized recreation areas, provided that access to resources is not restricted. Development of a transmission line within areas managed for utility corridors would be fully consistent with the management goals for these areas. Application of **LU-1** would reduce impacts to each of these management areas through coordination with land managers on final structure placement, including all aboveground components, access roads, and permanent disturbance areas to eliminate the development of additional roads.

Construction of a transmission line would not be compatible with the management goals of developed recreation management areas within the Manti-LaSal National Forest and would have impacts to dispersed recreation areas through visual and noise disturbances. In particular, the Standard and Guidelines for this area restrict noise levels within management areas to 30 decibels or less except for noises generated by normal conservation and developed recreation activities. Under Alternative II-B, 8 acres of the Indian Creek Campground would be within the 250-foot-wide transmission line ROW and 237 acres within the 2-mile transmission line corridor. Application of **LU-1** would reduce impacts from the placement of aboveground components, access roads, and permanent disturbance areas; however, temporary transmission line construction activities in or near the campground would still result in noise levels about 30 A-weighted decibels (dBA). Section 3.13, Recreation, discusses impacts to recreation in greater detail and identifies additional mitigation measures to reduce this impact (**REC-5: No construction shall be allowed after 5:00 p.m. on weeknights, and no construction shall be allowed on weekends, holidays, or the opening of big game hunting seasons in areas that are adjacent to developed recreation sites**).

Within the Manti-La Sal National Forest, additional portions of the 2-mile transmission line corridor also would fall within wood fiber production and utilization, and watershed improvement management areas. Development of access roads or other construction support areas would generally be compatible with the Standard and Guidelines for these areas; however, vehicular travel use may be restricted in areas where structural watershed improvements have been made (see **Appendix C**, Section C.4).

Within the Fishlake National Forest, 4 miles of the reference line, the 250-foot-wide transmission line ROW, and the 2-mile transmission line corridor would be within areas managed for livestock grazing. Development of a transmission line would generally be compatible with the Standard and Guidelines for this area; see **Appendix C**, Section C.4).

Alternative II-C

Approximately 68 percent of the 364-mile Alternative II-C route would be located on BLM or USFS-managed lands; 11 percent would be located on state lands. Alternative II-C would have 141 miles in BLM-designated utility corridors, and 16 miles in the WWEC corridor. A total of 208 miles would be co-located with other

ROWs. Designated avoidance areas would be crossed for less than 1 mile; designated exclusion areas would be crossed for 1 mile.

Under Alternative II-C, approximately 77 miles (21 percent) would be located on private land. Alternative II-C would require 238 acres of additional ROW clearing, 177 acres of construction disturbance, and 49 acres of permanent removal of croplands. Five of the 27 center pivots within the 2-mile transmission line corridor would be crossed by the 250-foot-wide transmission line ROW.

An estimated 4,229 acres (211 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 1,086 acres (54 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

Four residences and 12 commercial building would be within 500 feet of the reference line. There would be 11 communities, 2 wildlife management areas, and 1 cemetery within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible land uses within these communities; however, this alternative would not be within the WWEC in Millard County. This would be inconsistent with Millard County General Plan goals, objectives, and implementation strategies and would require a General Plan and Utilities Corridor Map amendment. Compatibility with park management and recreation opportunities is discussed in Section 3.13, Recreation.

Under Alternative II-C, approximately 29 miles of the 250-foot-wide transmission line ROW would be within Fishlake NFS lands with special management prescriptions.

The reference line, the 250-foot-wide transmission line ROW, and the 2-mile transmission line corridor would pass through approximately 13 miles of areas managed for management indicator species (4B), 10 miles through livestock grazing areas (6B), 4 miles through areas managed to improved watershed condition (9F), 2 miles managed for big game winter range (5A), and less than 1 mile through areas managed for rural and roaded-natural recreation opportunities (2B). Development of a transmission line generally would be compatible with Standard and Guidelines for this area (see **Appendix C**, Section C.4).

Within the 4B MIS and 5A Big Game Winter Range Management Areas, development of a transmission line generally would be compatible with the management goals outside of primitive motorized and non-motorized recreation areas, provided vegetation densities are maintained and short-term or temporary roads are obliterated within one season of use within big game winter range areas. Agency timing stipulations and design features to avoid key resource habitat such as big game winter range would reduce impacts within these areas. Section 3.7, Wildlife, contains additional information about impacts to management indicator species, big game, and big game winter range. Construction activities would have impacts to the recreation opportunities in some areas of the 2B Rural and Roaded Natural Recreation management areas through visual and noise disturbances, traffic delays, or trail access restrictions. Mitigation described in Section 3.13, Recreation Resources, (including timing restriction on construction) would reduce these impacts. TransWest's commitment for total stream and riparian area avoidance would reduce the potential for erosion and sedimentation that would impact the watersheds condition in the 9F Improve Watershed Condition management area. Section 3.4, Water Resources, contains additional information about impacts to water resources. Within the 6B Livestock Grazing management area, development of a transmission line would generally be compatible with the management goals, provided that access to resources is not restricted. Impacts to IRAs are discussed in Section 3.15, Special Designation Areas. Conformance with ROS classifications is discussed in Section 3.13, Recreation Resources.

Additional portions of the 2-mile transmission line corridor would also encompass 98 acres of 3A Semi-Primitive Non-Motorized Recreation and 14 acres of 4A Fish Habitat Improvement management areas. Development of access roads or other construction support areas would generally be compatible with Standard and Guidelines for these areas, provided that temporary roads are located outside of riparian areas within 4A Fish Habitat Improvement areas and are closed to public motorized use within 3A Semi-Primitive Non-Motorized Recreation areas.

The Cedar Knoll IRA micro-siting adjustments would not substantially affect the impact analysis for management areas.

Alternative II-D

Approximately 59 percent of the 262-mile Alternative II-D route would be located on BLM or USFS-managed lands. There would be 3 miles (1 percent) of the route located on tribal lands and an additional 13 percent would be located on state lands. Alternative II-D would have 73 miles in BLM-designated utility corridors, and 49 miles in the WWEC corridor. A total 110 miles would be co-located with other ROWs. Approximately 7 miles of avoidance areas would be crossed through state WMAs. Less than 1 mile of exclusion areas would be crossed.

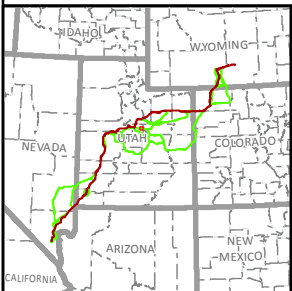
Under Alternative II-D, approximately 71 miles (27 percent) would be located on private land. Alternative II-D would require 82 acres of additional ROW clearing, 73 acres of construction disturbance, and 28 acres of permanent removal of croplands. No center pivots would be crossed by the 250-foot-wide transmission line ROW.

An estimated 2,922 acres (146 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 819 acres (41 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be 6 residences and 1 commercial building within 500 feet of the reference line. There would be 11 communities, 5 WMAs, 2 cemeteries, 1 church, and 2 schools within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). All three WMAs (Gordon Creek WMA, Northwest Manti WMA – Hilltop Unit, and South Nebo WMA – Triangle Ranch Unit) have prohibitions related to overhead utilities or land patent reversionary clauses if land use changes. Compatibility with park management and recreation opportunities is further discussed in Section 3.13, Recreation Resources. There are no identified incompatibilities with land uses within the communities; however, portions of the 2-mile transmission line corridor would overlap with the area identified for the Gooseberry Narrows Project, a proposed dam and reservoir south of Lower Gooseberry Reservoir along Gooseberry Creek, within the Manti-La Sal National Forest. The proposed project is supported by the objectives of the Sanpete County General Plan. **Figure 3.14-16** shows the location of the 250-foot-wide transmission line ROW and 2-mile transmission line corridor in relation to the proposed reservoir. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within the area proposed for the reservoir.

Under Alternative II-D, approximately 9 miles of the 250-foot-wide transmission line ROW would be within NFS lands with special management prescriptions within the Manti-La Sal National Forest. The reference line, the 250-foot-wide transmission line ROW, and the 2-mile transmission line corridor would pass through approximately 7 miles of areas managed for range forage production, and 1 mile of areas managed for wood fiber production and utilization. **Appendix C**, Section C.4 contains the relevant Standard and

X:\projects\12907_003_Transwest_Express\Figures\Document\Figures\2013_DEIS_V3\Landuse\Fig_3_14_16_GooseberryNarrows\Fig_3_14_16_GooseberryNarrows.mxd



● Node

DEIS Alternative Routes

— Alternative II-D

■ Gooseberry Narrows Project

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-16
Region II
Gooseberry Narrows Project

0 0.25 0.5 1 Miles
0 0.25 0.5 1 km

1:63,000

Guidelines for each of the management areas. Compatibility with range forage production is described under Alternative II-B. Within wood fiber production and utilization areas, development of a transmission line would generally be compatible with the management goals outside of primitive motorized and non-motorized recreation areas, provided that access to timber resources is not restricted (see Section 3.5, Vegetation, for impacts to these resources). Impacts to IRAs are discussed in Section 3.15, Special Designation Areas. Conformance with ROS classifications is discussed in Section 3.13, Recreation Resources.

The 2-mile transmission line corridor would also encompass additional acreage within the Uinta, Manti-La Sal, and Ashley national forests. Within the Uinta National Forest, 31 acres of the 2-mile transmission line corridor would fall within an area managed as a scenic byway and 16 acres would fall within areas managed for aquatic and terrestrial habitat. Consistency with the management of these areas would be the same as under Alternative II-A.

Within the Manti-La Sal National Forest, additional portions of the 2-mile transmission line corridor would fall within Developed Recreation Sites (specifically, the Flat Canyon and Gooseberry Campgrounds); Special Land Designation (the Mammoth Guard Station); Research, Protection, and Interpretation of Lands and Resource; and Undeveloped Motorized Recreation Sites management areas. With the exception of the Developed Recreation Sites, development of access roads or construction support areas would generally be compatible with these management areas, provided it does not inhibit attainment of objectives for the area. Construction of access roads or other support facilities would not be compatible with the management goals of developed recreation management areas and would have impacts to dispersed recreation areas through visual and noise disturbances. This issue is further discussed in Section 3.13, Recreation, and would be mitigated through application of **REC-5**, which would impose timing restraints on construction activities to reduce these noise impacts.

Within the Ashley National Forest, portions of the 2-mile transmission line corridor (and a very small portion of the 250-foot-wide transmission line ROW) would fall within areas managed for livestock grazing (D) and wildlife habitat (E) emphasis. Portions of the 2-mile transmission line corridor also would fall within areas with low management emphasis (N). Development of access roads and support facilities within livestock grazing areas generally would be compatible with the management goals (see **Appendix C**, Section C.4). Within the wildlife habitat emphasis, development of a transmission line would be compatible with the management goals, provided that key stress seasons are avoided, short term or temporary roads are reclaimed for wildlife use and riparian areas are protected (see **Appendix C**, Section C.4). Agency timing stipulations and design features to avoid key resource habitat such as big game winter range during key seasons and total avoidance of riparian habitat would reduce these impacts within these areas. Section 3.7, Wildlife Resources, contains additional information about impacts to management indicator species, big game and big game winter range. Impacts to IRAs are discussed in Section 3.15, Special Designations. Conformance with ROS classifications is discussed in Section 3.13, Recreation.

Alternative II-E

Approximately 46 percent of the 266-mile Alternative II-E route would be located on BLM or USFS-managed lands; an additional 11 percent would be located on state lands and 3 percent would be located on tribal lands. Thirty-nine miles of Alternative II-E would be in BLM-designated utility corridors, and 65 miles in the WWEC corridor. A total of 222 miles would be co-located with other ROWs. Approximately 6 miles of avoidance areas would be crossed through state WMAs. No exclusion areas would be crossed.

Under Alternative II-E, approximately 106 miles (40 percent) would be located on private land. Alternative II-E would require 286 acres of additional ROW clearing, 216 acres of construction disturbance, and 66 acres of permanent removal of croplands. Two of the 13 center pivots within the 2-mile transmission line corridor would be crossed by the 250-foot-wide transmission line ROW.

An estimated 1,804 acres (90 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 493 acres (25 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be 35 residences and 20 commercial building within 500 feet of the reference line. The majority of the commercial/industrial structures are oil and gas pads. Land use conflicts with oil and gas structures would be addressed by maintenance of requisite buffers between well pads and transmission line. Gathering systems or pad access roads within the area are not included in the above “structure” count. Application of **LU-1** would reduce impacts by working with land managers to avoid road construction or other incompatible uses within areas used for oil and gas development.

There would be 16 communities, 1 local park, 11 WMAs, 2 cemeteries, and 2 churches that are within the 2-mile transmission line corridor in Region II (see Section 3.18, Public Health and Safety). There are no identified incompatible land uses within these communities. Compatibility with WMA management and recreation opportunities is discussed in Section 3.13, Recreation.

Under Alternative II-E, approximately 22 miles of the 250-foot-wide transmission line ROW would be within NFS lands with special management prescriptions within the Manti-La Sal, Uinta, and Ashley national forests.

Within the Manti-La Sal National Forest, impacts to management units and consistency with applicable standards and guidelines would be similar to Alternative II-A, but would be slightly more than Manti-La Sal National Forest acreage within the general big game winter range, and range forage production areas would be included within the 2-mile transmission line corridor.

Within the Uinta National Forest, impacts to management units and consistency with applicable standards and guidelines would be the similar to Alternative II-A, but would include no mileage of 250-foot-wide transmission line ROW within Rx 3.1 (aquatic/terrestrial hydrologic resources), 5 more miles within areas managed for terrestrial resources (Rx 3.3) and habitat, and 4 fewer miles in areas managed for dispersed recreation (Rx 4.4). Within the Ashley National Forest, the reference line, the 250-foot-wide transmission line ROW, and the 2-mile transmission line corridor would pass through approximately 9 miles of areas with a low management emphasis (N) and 1 mile of area managed for dispersed roaded recreation (F). Development of a transmission line within these areas generally would be compatible with management goals outside of any primitive motorized and non-motorized recreation areas (see **Appendix C, Section C-4** for standards and guidelines). Impacts to IRAs are discussed in Section 3.15, Special Designation Areas. Conformance with ROS classifications is discussed in Section 3.13, Recreation Resources.

The Cedar Knoll IRA micro-siting adjustments would not substantially affect the impact analysis for management areas.

Alternative II-F (Agency Preferred)

Approximately 53 percent of the 267-mile Alternative II-F route would be located on BLM or USFS-managed lands; an additional 16 percent would be located on state lands and 1 percent would be located on tribal lands. Sixty-eight miles of Alternative II-F would be in BLM-designated utility corridors, and 30 miles in the WWEC corridor. A total of 146 miles would be co-located with other ROWs. Approximately 11 miles of avoidance areas would be crossed through state WMAs. No exclusion areas would be crossed.

Under Alternative II-F, approximately 79 miles would be located on private land. This alternative would require 104 acres of additional ROW clearing, 82 acres of construction disturbance, and 32 acres of permanent removal of croplands. Zero of the 13 center pivots within the 2-mile transmission line corridor would be crossed by the 250-foot-wide transmission line ROW.

An estimated 2,800 acres (140 AUMs) would be removed from grazing allotments due to construction-related surface disturbance. Once construction is complete, areas not required for operation would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 834 acres (42 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of the total available AUMs on these allotments.

There would be 13 residences within 500 feet of the reference line. Alternative II-F would cross 99 communication sites, 10 communities, 7 parks (includes four wildlife management areas), 2 cemeteries, and 1 church that are within the 2-mile transmission corridor in Region II.

Under Alternative II-F, approximately 18 miles of the 250-foot-wide transmission line ROW would be within NFS lands with special management prescriptions within the Ashley, Fishlake, Uinta, and Manti-La Sal national forests. Impacts to management units and consistency with applicable standards and guidelines within the Uinta and Manti-La Sal national forests would be the same as under Alternative II-D. Impacts to management units and consistency with applicable standards and guidelines within the Fishlake National Forest would be the same as under Alternative II-B.

Within the Ashley National Forest, the 250-foot-wide transmission line ROW would pass through areas managed for livestock grazing (D), wildlife habitat emphasis (E), dispersed recreation-roaded (F), and low management emphasis (N). Impacts to management units and consistency with applicable standards and guidelines for livestock grazing (D), dispersed recreation-roaded (F), and low management emphasis (N) are described under to Alternative II-D. Consistency with wildlife habitat emphasis (E) is described under Alternative II-D.

The Cedar Knoll IRA micro-siting option would not substantially affect the impact analysis results for land use. Impacts to IRAs are discussed in Section 3.15, Special Designation Areas.

Alternative Variations in Region II

The land ownership crossed by the alternative variations and other key impact parameters are summarized in **Table 3.14-17**.

Table 3.14-17 Impact Parameters of Alternative Variation Alternatives in Region II

Impact Parameter	Description	Emma Park Alternative Variation	Comparable Portions of Alternative II-F
Jurisdiction	BLM (miles)	5	10
	Price	1	0
	Salt Lake	3	4
	Vernal	<1	6
	Private (miles)	26	19
	USFS (miles)	0	2
	State (miles)	4	1
	Total (miles)	35	32

Table 3.14-17 Impact Parameters of Alternative Variation Alternatives in Region II

Impact Parameter	Description	Emma Park Alternative Variation	Comparable Portions of Alternative II-F
Designated Utility Corridors ¹	Length within RMP designated corridors (miles/percent of alternative) ²	<1/2%	0/0%
	Length within WWEC designated corridors (miles/percent of alternative) ³	0/0%	0/0%
	Total (miles/percent of alternative)	<1/<1%	0/0%
Co-location	Greenfield/Co-located (mileage)	35/0	32/0
Avoidance/Exclusion Areas Crossed	Avoidance (miles)	0	0
	Exclusion (miles)	0	0
	Description	N/A	-
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	4	0
	Construction disturbance (acres)	3	0
	Operation disturbance (acres)	1	0
Livestock Grazing	Construction Disturbance (acres)	280	435
	Estimated decreased AUMs (AUMs/percent of total AUMs) ⁴	14/<1%	22/<1%
	Operational Disturbance (acres)	98	160
	Long-term decreased AUMs (AUMs/percent of total AUMs) ⁴	5/<1%	8/<1%
Structures within 500 feet of reference line	Residential (count)	0	11
	Commercial/Industrial (count)	0	0
	Agricultural (count)	0	0
	Outbuilding (count)	0	2
	Total (count)	0	13
Structures within 200 feet of reference line	Residential (count)	0	0
	Commercial/Industrial (count)	0	0
	Agricultural (count)	0	0
	Outbuilding (count)	0	5
	Total (count)	0	5

¹ Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

² Corridors identified by the BLM and the USFS in their respective land management plans.

³ Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

⁴ The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.

Note: Discrepancies in totals due to rounding.

Alternative Connectors in Region II

The land ownership of land crossed by the alternative connectors and other key impact parameters are summarized in **Table 3.14-18**. The Lynndyl, Castle Dale, Price and Highway 191 alternative connectors would utilize portions of BLM-designated corridors. The IPP East Alternative Connector would utilize a portion of the WWEC designated corridor. The Lynndyl, IPP East, Price, and Highway 191 alternative connectors present no disturbance to private agriculture lands, whereas the Castle Dale Alternative Connector would present some disturbance to private agriculture land. Impacts to livestock grazing allotments would be slightly greater with the addition of any combination of the alternative connectors. The Highway 191 Alternative Connector would have the least impacts on grazing.

Table 3.14-18 Impact Parameters of Region II Alternative Connectors

Impact Parameter	Description	Lynndyl Alternative Connector	IPP East Alternative Connector	Castle Dale Alternative Connector	Price Alternative Connector	Highway 191 Alternative Connector
Jurisdiction	BLM (miles)	9	3	2	5	0
	Fillmore	9	3	--	--	--
	Price	--	--	2	5	--
	Private (miles)	15	0	4	4	2
	State (miles)	0	0	4	10	3
	US Forest Service (miles)	<1	0	--	--	0
	Total (miles)	24	3	11	18	5
Designated Utility Corridors ¹	Length within RMP designated corridors (miles/percent of alternative) ²	1/3%	0	2/18%	4/23%	0/0%
	Length within WWEC designated corridors (miles/percent of alternative) ³	0	<1/13%	0	0	0/0%
	Total (miles/percent of alternative)	1/3%	<1/13%	2/18%	4/23%	0/0%
Co-location	Greenfield/Co-located mileage	20/4	0/3	0/11	4/14	5/0
Avoidance/ Exclusion Areas Crossed	Avoidance (miles)	0	0	0	3	0
	Exclusion (miles)	0	0	0	0	0
	Description	N/A	N/A	N/A	Gordon Creek WMA	N/A
Agriculture		No disturbance to agriculture lands due to clearing, construction, or removal of croplands.	No disturbance to agriculture lands due to clearing, construction, or removal of croplands.	16 acres of additional ROW clearing, 16 acres of construction disturbance, 6 acres of permanent removal of croplands.	No disturbance to agriculture lands due to clearing, construction, or removal of croplands.	No disturbance to agriculture lands due to clearing, construction, or removal of croplands.
Livestock Grazing		Construction impacts 178 acres (9 AUMs); Operation impacts 42 acres (2 AUMs)	Construction impacts 36 acres (2 AUMs); Operation impacts 7 acres (<1AUM)	Construction impacts 108 acres (5 AUMs); Operation impacts 30 acres (1 AUM)	Construction impacts 232 acres (12 AUMs); Operation impacts 67 acres (3 AUMs)	Construction impacts 20 acres (1 AUM); Operation impacts 10 acres (<1 AUM)
Structures within 500 feet of reference line	Residential (count)	0	0	0	0	0
	Commercial/Industrial (count)	1	0	0	0	0
	Agricultural (count)	0	0	0	0	0
	Outbuilding (count)	0	0	0	0	1
	Total	1	0	0	0	1

Table 3.14-18 Impact Parameters of Region II Alternative Connectors

Impact Parameter	Description	Lynndyl Alternative Connector	IPP East Alternative Connector	Castle Dale Alternative Connector	Price Alternative Connector	Highway 191 Alternative Connector
Structures within 200 feet of reference line	Residential (count)	0	0	0	0	0
	Commercial/Industrial (count)	0	0	0	0	0
	Agricultural (count)	0	0	0	0	0
	Outbuilding (count)	0	0	0	0	0
	Total	0	0	0	0	0

¹ Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

² Corridors identified by the BLM and the USFS in their respective land management plans.

³ Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

Note: Discrepancies in totals due to rounding.

The Lynndyl Connector would utilize portions of Fishlake NFS lands managed for livestock grazing. Consistency with area management is discussed under Alternative II-C.

Region II Conclusion

Alternatives II-A, II-B, II-C, II-D, II-E, and II-F have similar impacts to most of the parameters discussed. Alternative II-D would utilize the greatest amount of designated corridors (104 miles and 40 percent of the route), whereas Alternative II-F would utilize 82 miles (30 percent of the route) and Alternative II-A would utilize the fewest (71 miles and 27 percent of the route). Alternative II-A has the greatest amount of co-located mileage (225) and Alternative II-D has the fewest (110). Alternative II-A would create the greatest disturbance to agricultural lands and Alternative II-D would create the fewest. Alternatives II-B and II-C would have the least impact to Avoidance and Exclusion Areas, both crossing 1 mile of the Demaree WSA. Livestock grazing impacts would be fairly similar between the applicant preferred route and the agency preferred alternative in Region II. Acreage-wise, the greatest impacts would occur on Alternative II-C, and the fewest on Alternative II-A. For all routes, reclamation in the Uintah Basin would also be difficult due to soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, specifically halogeton. Additionally, reclamation in the San Rafael Swell area, specifically, along Alternative II-B, and II-C, would be difficult due to soil reclamation constraints, and low regional annual precipitation rates. If successful reclamation is not achieved, restoration of livestock grazing on disturbed lands would not occur. The spread of halogeton is of particular concern as it is toxic to sheep and cattle in larger doses.

Impacts related to the Strawberry IRA and Cedar Knoll IRA micro-siting options would differ only slightly. Strawberry Micro-siting Option 3 would be located within 18 miles (24 percent of the route) of a designated corridor compared to the 15 miles (20 percent of the route) for the other micro-siting options. The Emma Park Alternative Variation adds 3 miles to the comparable route. Mileage through BLM and USFS lands are reduced and the variation adds mileage to private and state lands that results in impacts to agricultural lands through ROW clearing, construction, and permanent facilities. No mileage from the reference line or the 250-foot-wide transmission line ROW would cross NFS lands. There would be a total of 1 acre of the 2-mile transmission line corridor that would overlap with the Uinta National Forest area managed for aquatic/terrestrial hydrologic resources (Rx 3.1). The development of a transmission line corridor generally would be compatible with management objectives in this area. Compared to the portion of Alternative II-F that this variation would replace, there would be 1.6 fewer miles crossed and 48 fewer acres overlapped by the 250-foot-wide transmission line ROW within Rx 3.1 in the Uinta National Forest. The same comparison within the Ashley National Forest would result in 0.9 fewer miles crossed and 30 fewer acres overlapped by the 250-foot-wide transmission line ROW within livestock grazing (D), dispersed recreation-roaded (F), and low management emphasis (N) management areas.

The alternative connectors in Region II include the Lynndyl, IPP East, Castle Dale, Highway 191, and Price connectors. In most respects their impacts would be similar. The Lynndyl Alternative Connector is the longest of the Region II connectors and would utilize the least amount of designated corridors (1 mile/3 percent). The Castle Dale Alternative Connector is the only Region II connector that would require disturbance to agricultural lands.

In general, all alternatives would be in compliance with the standards and guidelines for most of the management areas crossed by the transmission line. The exceptions are a portion of greater sage-grouse foraging habitat within the Strawberry Reservoir Management Area (Alternative II-A), the Indian Creek Campground developed recreation Management Area (Alternative II-B), and the Flat Canyon and Gooseberry Campground developed recreation Management Areas (Alternative II-D). Proposed mitigation would eliminate construction within the greater sage-grouse foraging habitat within the Strawberry Reservoir Management Area, allowing Alternative II-A to remain in compliance with the standards and guidelines for all Management Areas. Proposed mitigation to restrict the timing and location of construction within the developed recreation Management Areas crossed by Alternative II-B and II-D would reduce, but not fully eliminate impacts to these areas.

3.14.6.5 Region III

The reference lines under all action alternatives in Region III cross BLM and USFS lands and state-owned lands in Utah (**Figure 2-14**). USFS lands are located in the Dixie National Forest in Utah. The BIA/Tribal lands crossed by Alternative III-B include a portion of the Moapa River Indian Reservation southwest of Moapa. Residential uses in the vicinity of Moapa are mixed with croplands. **Table 3.14-19** summarizes impact parameters for each alternative in Region III.

Table 3.14-19 Region III Alternative Route Land Use Impact Parameters

Impact Parameter	Description	Alternative III-A	Alternative III-B	Alternative III-C
Jurisdiction	BLM (miles/percent of alternative)	208/75%	212/75%	238/77%
	Fillmore	70	70	69
	Cedar City	42	37	37
	St. George	25	0	0
	Caliente	22	67	90
	Las Vegas	50	37	41
	USFS (Dixie National Forest)	16/6%	0	0
	Bureau of Indian Affairs/Tribal	0	14/5%	0
	State	14 /5%	11/3%	10/3%
	Private	38/14%	48/17%	61/20%
		Total (miles)	276	285
State	County			
Utah	Beaver	32	33	33
	Iron	46	56	56
	Millard	76	76	74
	Washington	48	0	0
Nevada	Clark	51	51	47
	Lincoln	22	68	99
Designated Utility Corridors ¹	Length within RMP designated corridors (miles/percent of alternative) ²	68/25%	65/23%	41/13%
	Length within WWEC designated corridors (miles/percent of alternative) ³	153/55%	77/27%	45/15%
	Total (miles/percent of alternative)	170/62%	127/45%	80/26%
Co-location	Greenfield/Co-located mileage	73/203	140/145	96/213
Dixie National Forest miles-acres 250-foot ROW /acres 2-mile corridor	1 General Management Area	3 – 102/9,558	--	--
	2B Roaded Natural Recreation	2 – 57/1,458	--	--
	4C Wildlife Habitat (Shrub Areas)	0/1,613	--	--
	5A Big Game Winter Range	5 – 148/5,216	--	--
	6A Livestock Grazing	7 – 223/5,958	--	--
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	0	14	4
	Construction disturbance (acres)	0	9	4
	Operation disturbance (acres)	0	2	0
	Number of center pivots crossed by reference line (count)	0	0	0
	Number of center pivots within Project corridor (count)	12	4	4

Table 3.14-19 Region III Alternative Route Land Use Impact Parameters

Impact Parameter	Description	Alternative III-A	Alternative III-B	Alternative III-C
Livestock Grazing	Construction disturbance (acres)	3,552	3,211	3,533
	Estimated decreased construction-related reductions (AUMs/percent of total AUMs) ⁴	178/<1%	161/<1%	177/<1%
	Operation disturbance (acres)	970	791	866
	Long-term decreased reductions (AUMs) ⁴	49/<1%	40/<1%	43/<1%
Communities	Count within 2-mile transmission line corridor	2	8	9
Structures within 500 feet of reference line	Residential (count)	7	2	2
	Commercial/Industrial (count)	7	6	7
	Agricultural (count)	1	0	1
	Outbuilding (count)	10	9	10
	Total (count)	25	17	20
Structures within 200 feet of reference line	Residential (count)	2	1	1
	Commercial/Industrial (count)	3	3	4
	Agricultural (count)	0	0	0
	Outbuilding (count)	4	4	4
	Total (count)	9	8	9

¹ Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

² Corridors identified by the BLM and the USFS in their respective land management plans.

³ Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

⁴ The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.

Note: Discrepancies in totals due to rounding.

Alternatives III-A, III-B, and III-C cross through counties listed in **Table 3.14-20**. Existing and future land use spatial data, in a digital or paper map format, were not available for all counties in the region. This is because the majority of unincorporated lands outside of municipal areas are federal or state lands; or because the zoning designations describe the existing/planned/future land use. Most of the affected counties allow for the development of large transmission lines and associated facilities through zoning districts. Two counties require review by the board of county commissioners. Four counties require a Conditional Use or other type of permit or review. The development of transmission lines is not addressed in all zoning ordinances. These counties would require a consultation with the county planning agency to determine the procedure for permitting the proposed Project.

Table 3.14-20 Consistency with Applicable Land Use Plans and Policies in Region III

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Beaver County, Utah	Beaver County General Plan Beaver County Zoning Ordinance	Land Use- spatial data not available Future Land Use – spatial data not available Zoning – Multiple Use district: Electric transmission line is a conditional use.
Iron County, Utah	Iron County Zoning Ordinance	Land Use- spatial data not available Future Land Use – spatial data not available Zoning - Agriculture district: Electric transmission line is a conditional use.

Table 3.14-20 Consistency with Applicable Land Use Plans and Policies in Region III

Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Millard County, Utah	Millard County General Plan Millard County Zoning Ordinance Millard County Major Utility Corridor Map (2009a)	Land Use- spatial data not available Future Land Use – spatial data not available Zoning - Range & Forest, Agricultural districts: transmission lines 140 kV or larger authorized by a Conditional Use permit within designated and mapped major utility corridor.
Washington County, Utah	Washington County General Plan Washington County Zoning Code	Land Use- spatial data not available Future Land Use – Open Space Multiple Use, Open Space Conservation, Agricultural to Residential Transition Zoning - Open Space Conservation, Open Space, Agricultural districts: Public utilities and transmission lines are a conditional use of Open Space districts; not specified for Agricultural districts.
Clark County, Nevada	Clark County Comprehensive Plan Clark County Multiple Species Habitat Conservation Plan	Land Use- Public, Woodland Recreation Future Land Use – Public, Woodland Recreation Zoning - Rural Open Land, Open Space, Industrial districts: to acquire ROW for transmission lines, the proposed route shall be submitted to the board of county commissioners for review and recommendation.
Lincoln County, Nevada	Lincoln County Master Plan Lincoln County Public Land Plan (1996) Southeast Lincoln County Habitat Conservation Plan	Land Use- Public, Woodland Recreation Future Land Use – Public, Woodland Recreation Zoning – Almost all of reference lines on public land. All other districts: to acquire ROW for transmission lines, the proposed route shall be submitted to the board of county commissioners for review and recommendation.

Avoidance and exclusion areas occur within the ROWs and corridors under Alternative III-C only.

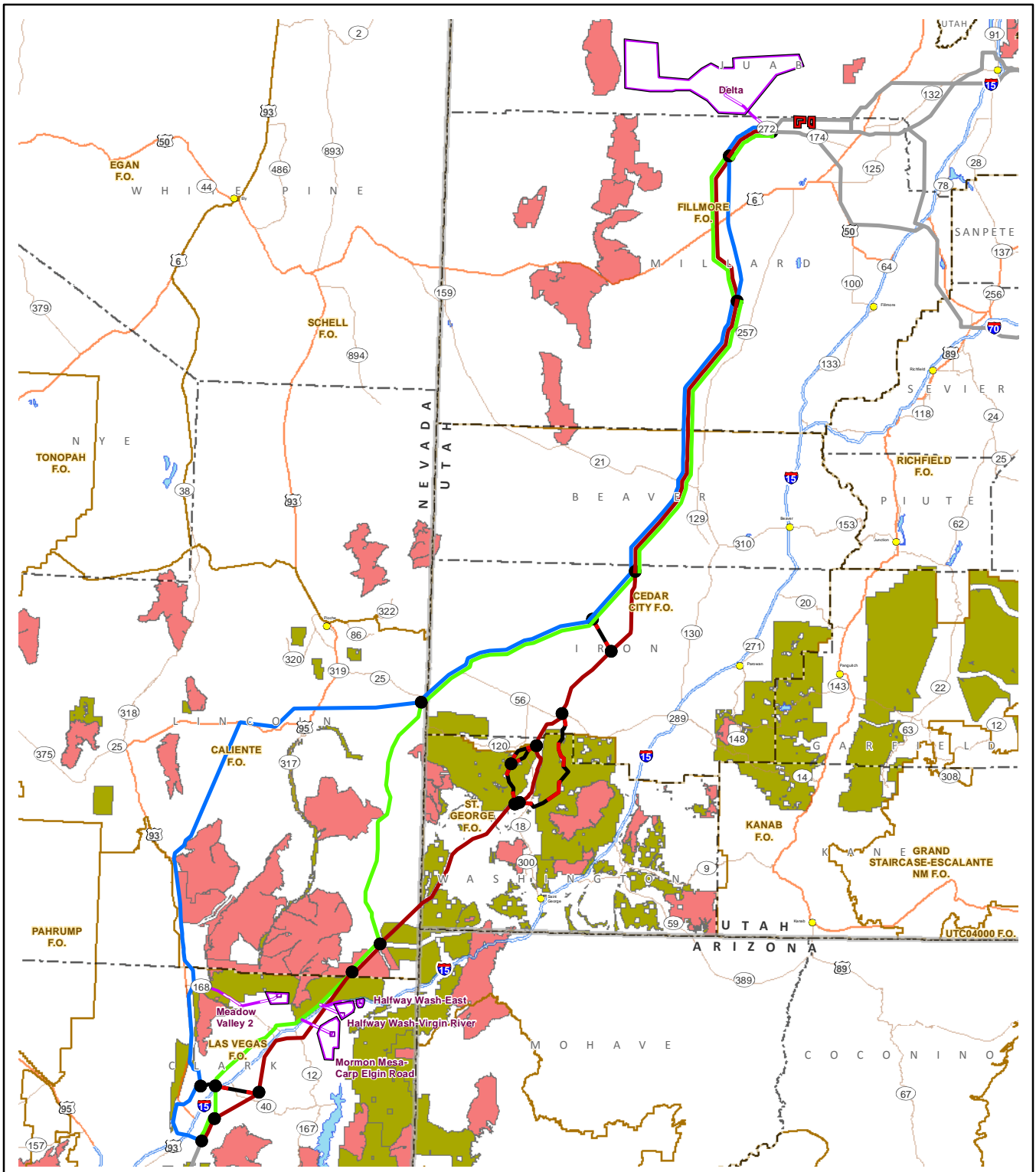
Table 3.14-21 summarizes the avoidance areas and exclusion areas by Alternative. **Figure 3.14-17** identifies all Region III avoidance areas and exclusion areas.

Table 3.14-21 Region III Avoidance and Exclusion Areas by Alternative

Avoidance/Exclusion	Alternative III-A	Alternative III-B	Alternative III-C
Avoidance	No Avoidance Areas Under This Alternative	No Avoidance Areas Under This Alternative	Coyote Springs Valley ACEC
Reference Line Crossing of Avoidance (miles) ¹	0	0	1
Exclusion	No Exclusion Areas Under This Alternative	No Exclusion Areas Under This Alternative	Kane Springs ACEC
Reference Line Crossing of Exclusion (miles) ¹	0	0	9

¹ Avoidance/exclusion area is within corridor but not crossed by reference line if number of miles is 0.

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		<p>Terminal Siting Area</p> <p>● Node</p> <p>DEIS Alternative Routes</p> <p>— Applicant Proposed III-A</p> <p>— Agency Preferred III-B</p> <p>— Alternative III-C</p> <p>— Alternative Variation or Connector</p> <p>— Segment not in this Region</p>	<p>Potential Ground Electrode Siting Area</p> <p>Potential Ground Electrode Site</p> <p>Potential Ground Electrode Overhead Electrical Line</p> <p>BLM Field Office Boundary</p> <p>National Forest Boundary</p>	<p>Designated Exclusion Area</p> <p>Designated Avoidance Area</p> <p>Conservation Easement with Transmission Line Stipulations or Prohibitions</p> <p>WMAs with Transmission Line Stipulations or Prohibitions</p>	<p>TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p>Figure 3.14-17 Region III Designated Exclusion/Avoidance Areas, Conservation Easements and WMAs with Transmission Line Stipulations/Prohibitions</p> <p>0 10 20 40 Miles 0 10 20 40 km</p> <p>1:2,000,000</p>
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Alternative III-A (Applicant Proposed)

Approximately 81 percent of the 276-mile Alternative III-A route would be located on BLM or USFS-managed lands; an additional 5 percent would be located on state lands. Approximately 62 percent of the route would be within a BLM or WWEC-designated utility corridor (68 miles and 153 miles, respectively) and 203 miles would be co-located with other ROWs. The remainder of the route mileage is not located within a designated corridor. No avoidance or exclusion areas would be crossed under the Alternative III-A route.

The ROW for this alternative overlaps with 8 acres of the Toquop disposal lands in the Caliente FO. This may affect the ability of this area to be utilized for agricultural production in the future; however, the reference line does not cross through the disposal lands so it may be possible to keep all project components out of the area. Mitigation Measure **LU-1** provides for coordination with land managers regarding the placement of project components. If it is not possible to locate project components outside of the Toquop disposal lands this alternative may affect the ability to designate this area for other uses.

Under Alternative III-A, approximately 38 miles (14 percent) would be located on private land. No agricultural cropland or center pivots would be affected by the 250-foot-wide transmission line ROW; there would be 12 center pivots located with the 2-mile transmission line corridor.

An estimated 3,552 acres (178 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 970 acres (49 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be 7 residences, 7 commercial/industrial structures, 1 agricultural structure, and 10 outbuildings within 500 feet of the proposed reference line. There would be 2 communities (Central, Utah and Jackman, Nevada) and 1 national historic landmark within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the community.

Under Alternative III-A, approximately 16 miles of the 250-foot-wide transmission line ROW would be located on NFS lands within the Dixie National Forest. The reference line, the 250-foot-wide transmission line ROW, and the 2-mile transmission line corridor would pass through approximately 7 miles of areas managed for livestock grazing, 5 miles of areas managed for big game winter range, 2 miles of areas managed for Roaded Natural Recreation, and 3 miles in areas with only general forest management direction. **Appendix C**, Section C.4 contains the relevant Standard and Guidelines for each of the management areas. Development of a transmission line generally would be compatible with the management prescriptions for these areas; however, construction timing restrictions would apply within big game winter range management areas for protection of wildlife resources, and temporary roads would be need to reclaimed within one season after intended use.

Additional portions of the 2-mile transmission line corridor also would encompass acreage managed for wildlife habitat. Development of access roads and support facilities within these areas generally would be compatible with the management goals (see **Appendix C**, Section C.4).

Alternative III-B (Agency Preferred)

Approximately 75 percent of the 285-mile Alternative III-B route would be located on BLM-managed lands; an additional 3 percent would be located on state lands and 5 percent would be on tribal lands (the Moapa

Reservation). Alternative III-B contains 65 miles in BLM-designated corridors and 77 miles in the WWEC corridor. A total of 145 miles would be co-located with other ROWs. No avoidance or exclusion areas would be crossed under this alternative. The crossing of the Moapa Reservation would be within a utility corridor administered by the BLM; therefore, no additional BIA approval would be required if the alternative route remains within the designated BLM-administered utility corridor through the Moapa Indian Reservation. The use of portions of the 2-mile transmission line corridor areas would have to be negotiated between the Proponents and the Moapa Tribe. The Tribe has the authority to negotiate the location, management, and compensation for the transmission line through the Reservation and also could choose to deny the application to cross their Reservation. The outcome of this negotiation is beyond the scope of this EIS.

This alternative would cross the Yucca Mountain rail line land withdrawal area. Surface entry and mining claims are precluded (DOE 2005); however, ROWs are not precluded through this area therefore neither the Caliente FO nor the Nevada State Office view this as incompatible with the intended land use. The ROW also overlaps with 62 acres of the Crestline disposal lands and 8 acres of the Toquop disposal lands in the Caliente FO. Mitigation Measure **LU-1** provides for coordination with land managers regarding the placement of project components. It may be possible to keep project components out of the Toquop disposal lands but it is unlikely that the same would be true for the Crestline disposal lands because the reference line passes through those lands. This alternative may affect the ability of the area to be designated for other uses.

Under Alternative III-B, approximately 48 miles (17 percent) would be located on private land. Alternative III-B would require 14 acres of additional ROW clearing, 9 acres of construction disturbance, and 2 acres of permanent removal of croplands. No center pivots would be located along the project reference line; there would be four center pivots located within the 2-mile transmission line corridor.

An estimated 3,211 acres (161 AUMs) would be removed from grazing allotments due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 791 acres (40 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

There would be 2 residences, and 6 commercial/ industrial structures within 500 feet of reference line. There would be 8 communities, 1 park, and 1 school within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the communities.

Alternative III-C

Approximately 77 percent of the 308-mile Alternative III-C route would be located on BLM-managed lands; an additional 3 percent would be located on state lands. Alternative III-C would have 41 miles in BLM-designated utility corridors and 45 miles in the WWEC corridor. A total of 213 miles would be co-located with other ROWs. Approximately 1 mile of an avoidance area (Coyote Springs Valley ACEC) and 9 miles of an exclusion area (Kane Springs ACEC) would be crossed by the transmission reference line.

This alternative would cross the Yucca Mountain rail line land withdrawal area. Surface entry and mining claims are precluded (DOE 2005); however, ROWs are not precluded through this area therefore neither the Caliente FO nor the Nevada State Office view this as incompatible with the intended land use. The ROW also overlaps with 205 acres of the Caliente disposal lands in the Caliente FO. This may affect the ability of this area to be utilized for agricultural production in the future. Mitigation Measure **LU-1** provides for coordination with land managers regarding the placement of project components; however, it is unlikely that

all project components would be located outside of these disposal lands because the reference line passes through those lands. This alternative may affect the ability of the area to be designated for other uses.

Approximately 61 miles (20 percent) would be located on private land. Alternative III-C would require 4 acres of additional ROW clearing, 4 acres of construction disturbance, and no permanent removal of croplands. No center pivots would be located along the project reference line; there would be four center pivots located within the 2-mile transmission line corridor.

An estimated 3,533 acres (177 AUMs) would be removed from grazing allotment due to surface disturbance associated with construction activities. Once construction is complete, areas not required for operations would be reclaimed. As described in Section 3.5.6.2, reclamation of herbaceous-dominated plant communities would require a minimum of 3 to 5 years to establish adequate ground cover to prevent erosion and provide forage for wildlife species and livestock. In areas with soil reclamation constraints, low regional annual precipitation rates, and the invasion and spread of noxious and invasive weed species, community recovery is anticipated to be long-term and may not be successful. For more detail on reclamation, see Section 3.5.6.2. Over the life of the project, 866 acres (43 AUMs) would be lost from livestock grazing. This acreage comprises less than 1 percent of total AUMs available on these allotments.

No center pivots would be crossed by the 250-foot-wide transmission line ROW. There would be 2 residences and 7 commercial/industrial structures within 500 feet of the reference line.

There would be nine communities within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the communities.

Alternative Variations in Region III

The land ownership crossed by the alternative variations and other key impact parameters are summarized in **Table 3.14-22**.

Alternative Connector in Region III

The Moapa Alternative Connector comprises 13 miles located on lands managed by the BLM in the Las Vegas FO. Two miles are located within designated utility corridors: 2 miles in a BLM-designated corridor and 0.25 mile in the WWEC corridor. A total of 3 miles are co-located with other ROWs. The connector corridor does not include any avoidance/exclusion areas. No crop production is within the Project corridor. There are no structures within 500 feet of the reference line. There are no communities within the 2-mile transmission line. An estimated 161 acres (8 AUMs) would be removed from grazing allotments from construction impacts and 33 acres (2 AUMs) due to operational impacts.

The Avon Alternative Connector is located in the Cedar City FO and comprises 4 miles located on lands managed by the BLM; 3 miles on private lands and less than 1 mile on state lands. It is not located within designated utility corridors and it is not co-located with any other ROWs. The connector corridor does not include any avoidance/exclusion areas. No crop production is within the Project corridor. An estimated 103 acres (5 AUMs) would be removed from grazing allotments due to construction impacts and 21 acres (1 AUM) due to operational impacts. There are no structures within 500 feet of the reference line. There is one community (Avon, Utah) within the 2-mile transmission line corridor. There are no identified incompatible designated land uses within the community.

Table 3.14-22 Impact Parameters of Alternative Variations and Comparative Portions of Alternatives in Region III

Impact Parameter	Description	Ox Valley East Alternative Variation	Comparable (Portions of Alternative III-A)	Ox Valley West Alternative Variation	Comparable (Portions of Alternative III-A)	Pinto Alternative Variation	Comparable (Portions of Alternative III-A)
Jurisdiction	BLM (miles)	0	--	1	--	7	3
	Cedar City	0	0	<1	0	4	3
	St. George	0	0	0	0	3	0
	Private (miles)	<1	3	<1	3	1	6
	USFS (miles)	16	12	15	12	21	14
	State	0	0	0	0	0	1
	Total (miles)	16	15	17	15	29	24
Designated Utility Corridors ¹	Length within RMP designated corridors (miles/percent of alternative) ²	2/8%	14/88%	2/13%	14/93%	2/7%	15/63%
	Length within WWEC designated corridors (miles/percent of alternative) ³	<1/5%	12/80%	<1/5%	12/80%	1/3%	14/58%
	Total (miles/percent of alternative)	2/8%	14/88%	2/13%	14/93%	2/7%	16/66%
Co-location	Greenfield /Co-located mileage	16/0	0/15	16/0	0/15	29/0	0/24
Avoidance/Exclusion Areas Crossed	Avoidance (miles)	6	0	6	0	20	0
	Exclusion (miles)	0	0	0	0	0	0
	Description	Dixie National Forest	N/A	Dixie National Forest	N/A	Dixie National Forest	N/A
Dixie National Forest miles-acres 250-foot ROW / acres 2-mile corridor	General Management Area	7 – 206/10,173	3 -102/6,598	6 - 178/7,167	3 -102/6,598	6 – 182/10,699	3 – 102/9,556
	2B Roaded Natural Recreation	<1 – 11/618	2 – 57/1,458	1 – 23/446	2 -57/1,458	1 – 32/1,661	2 – 57 /1,458
	4C Wildlife Habitat - Brushy Range	0	0/1,613	0	0/1,613	5 – 158/4,796	0/1,613
	5A Big-Game Winter Range	3 – 82/2,057	2 -75/1,637	3 – 82/2,057	2 -75/1,637	1 – 28/795	1 – 44/736
	6A Livestock Grazing	5 – 158/2,703	6 – 187/5,262	6 – 174/1,598	6 – 187/5,262	7 – 213/7,032	7 – 223/5,958
	9A Riparian Management	0	0	0	0	1 – 14/227	0
	10B Municipal Water Supply Watersheds	<1 -13/944	0	<1 – 13/944	0	0/77	0
Agricultural Lands	Additional ROW clearing and vegetation disturbance (acres)	0	0	0	0	0	0
	Construction disturbance (acres)	0	0	0	0	1	0
	Operation disturbance (acres)	0	0	0	0	<1	0

Table 3.14-22 Impact Parameters of Alternative Variations and Comparative Portions of Alternatives in Region III

Impact Parameter	Description	Ox Valley East Alternative Variation	Comparable (Portions of Alternative III-A)	Ox Valley West Alternative Variation	Comparable (Portions of Alternative III-A)	Pinto Alternative Variation	Comparable (Portions of Alternative III-A)
Livestock Grazing	Construction disturbance (acres)	276	247	263	247	427	328
	Estimated decreased AUMs (AUMs/percent of total AUMs) ⁴	14/<1%	12/<1%	13/<1%	12/<1%	21/<1%	16/<1%
	Operation disturbance (acres)	100	94	99	94	105	112
	Long-term decreased AUMs (AUMs) ⁴	5/<1%	5/<1%	5/<1%	5/<1%	5/<1%	6/<1%
Structures within 500 feet of reference line	Residential (count)	1	0	1	0	0	0
	Commercial/Industrial (count)	0	0	0	0	0	0
	Agricultural (count)	0	0	0	0	0	0
	Outbuilding (count)	1	0	0	0	0	0
	Total (count)	2	0	1	0	0	0
Structures within 200 feet of reference line	Residential (count)	0	0	0	0	0	0
	Commercial/Industrial (count)	0	0	0	0	0	0
	Agricultural (count)	0	0	0	0	0	0
	Outbuilding (count)	1	0	0	0	0	0
	Total (count)	1	0	0	0	0	0

¹ Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

² Corridors identified by the BLM and the USFS in their respective land management plans.

³ Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

⁴ The AUM decrease was calculated based on an average number of AUMs per acre for the grazing allotment acreage lost.

Note: Discrepancies in totals due to rounding.

Alternative Ground Electrode Systems in Region III

A ground electrode system of approximately 600 acres in size would be necessary in Region III within 50 to 100 miles of the southern terminal as discussed in Chapter 2.0. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided by the proponent. The ground electrode system alternative locations in Region III are depicted in Chapter 2.0 on **Figure 2-14**. The conceptual locations are located on BLM lands that are not within SDAs, croplands, or private lands containing residences or other built-environment uses. Initial and permanent disturbances to grazing from the proposed action alternatives from the construction and operation of ground electrode systems in conceptual areas in Region III would be as described above in Section 3.14.6.2 Impacts Common to All Alternative Routes and Associated Facilities.

Region III Conclusion

Alternatives III-A, III-B, and III-C have similar impacts to most of the parameters discussed. Alternative III-A would utilize the greatest amount of designated corridors (170 miles and 62 percent of the route), whereas Alternative III-B would utilize 127 miles (45 percent of the route), and Alternative III-C would utilize the fewest (80 miles and 26 percent of the route). Alternative III-C has the greatest amount of co-located mileage (213) and Alternative III-B has the fewest (145). Alternative III-B would create the greatest disturbance to agricultural lands and Alternative III-A would create the fewest. No avoidance or exclusion areas would be crossed by Alternatives III-A or III-B; however, Alternative III-C would cross 1 mile of the Coyote Springs Valley ACEC Avoidance Area and 9 miles of the Kane Springs ACEC Exclusion Area. Livestock grazing impacts would be fairly similar between the applicant preferred route and the agency preferred alternative in Region III.

The alternative variations in Region III include the Ox Valley East, Ox Valley West, and Pinto variations. No portions of these variations are co-located and they all cross through avoidance areas in the Dixie National Forest (6 miles for the Ox Valley East and West variations and 20 miles for the Pinto Variation).

The alternative connectors in Region III include the Moapa and Avon connectors. Two miles of the Moapa Connector are located within designated corridors and 3 miles are co-located with other ROWs. No miles of the Avon Connector are located within designated corridors or co-located.

3.14.6.6 Region IV

Land ownership crossed by the alternatives in Region IV includes BLM, DOE, Bureau of Reclamation, NPS, and private. BLM lands are within the Las Vegas FO; NPS lands consist of the Lake Mead National Recreation Area; and private lands include the Boulder City annexation area, described under the Southern Terminal Impacts in Section 3.14.7.1, Impacts from Terminal Construction, Operation, and Decommissioning and shown on **Figures 3.14-5** and **3.14-6**. The Bureau of Reclamation and DOE lands also are crossed. **Table 3.14-23** summarizes land ownership and other impact parameters for each alternative in Region IV. The proportion of proposed IV-A, IV-B, and IV-C alternatives within designated utility ROWs and corridors is relatively low; however, as shown on **Figure 3.14-5**, the alternative routes are generally located within other existing linear corridors, and along linear roadways. Based on a GIS analysis of land cover types and a review of recent aerial photography of the project corridors, there are no producing croplands within the project corridors or ROWs under any alternative within Region IV. Grazing allotments are designated on BLM lands contained within project corridors in Region IV; however, a review of BLM allotment management summaries indicate there are currently no permitted grazing activities on BLM grazing allotments. Most of the structures affected by Alternative IV-A are located in the city of Henderson, Nevada.

Table 3.14-23 Region IV Alternative Route Land Use Impact Parameters

Impact Parameter	Description	Alternative IV-A	Alternative IV-B	Alternative IV-C
Jurisdiction	BLM (Las Vegas FO) (miles/percent of alternative)	25/68%	8/21%	8/18%
	Private (miles/percent of alternative)	6/16%	16/41%	19/45%
	Bureau of Reclamation (miles/percent of alternative)	6/16%	0	0
	DOE (miles/percent of alternative)	0	1/2%	2/5%
	NPS (miles/percent of alternative)	0	14/36%	14/32%
	Total (miles)		37	39
Nevada	Clark County	37	39	44
Designated Utility Corridors ¹	Utility Corridors designated in BLM RMPs ² (miles/percent of alternative)	6/16%	5/13%	5/11%
	West-wide Energy Corridor ³ (miles/percent of alternative)	15/41%	6/15%	6/13%
	Total (miles/percent of alternative)	15/41%	6/15%	6/13%
Co-location	Greenfield/Co-located mileage	0/37	12/27	12/33
Livestock Grazing	Currently no permitted grazing activities on BLM grazing allotments along this alternative.			
Communities	Count within 2-mile transmission line corridor	2	1	1
Structures within 500 feet of reference line	Residential (count)	11	9	9
	Commercial/Industrial (count)	3	3	3
	Agricultural (count)	0	0	0
	Outbuilding (count)	0	9	9
	Total (count)	14	12	12
Structures within 200 feet of reference line	Residential (count)	0	0	0
	Commercial/Industrial (count)	2	0	0
	Agricultural (count)	0	0	0
	Outbuilding (count)	0	0	0
	Total (count)	2	0	0

¹ Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

² Corridors identified by the BLM and the USFS in their respective land management plans.

³ Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

Note: Discrepancies in totals due to rounding.

Alternatives IV-A, IV-B, and IV-C cross through the counties and local and federal entities listed in **Table 3.14-24**. The development of transmission lines is not addressed in all zoning ordinances. These governmental units would require a consultation with their planning agency to determine the procedure for permitting the Proposed Project.

Table 3.14-24 Consistency in Region IV with Applicable Land Use Plans and Policies

Regulating Agency	Plan, Policy, or Regulation	Proposed Project in Agency Designated Land Management Districts
Clark County, Nevada	Clark County Comprehensive Plan Title 30 Development Code Clark County Multiple Species Habitat Conservation Plan	Land Use- Public, Woodland Recreation Future Land Use – Public, Woodland Recreation Zoning - Rural Open Land, Open Space, Industrial districts: to acquire ROW for transmission lines, the proposed route shall be submitted to the board of county commissioners for review and recommendation.

Table 3.14-24 Consistency in Region IV with Applicable Land Use Plans and Policies

Regulating Agency	Plan, Policy, or Regulation	Proposed Project in Agency Designated Land Management Districts
City of Henderson, Nevada	City of Henderson Comprehensive Plan City of Henderson College Area Plan Henderson Municipal Code	Land Use – no available spatial data Future Land Use – Low Density Residential, Public/Semi-Public, High Density Residential, Highway Commercial Zoning – Residential (RH-24, RS-1A, DH): major utilities are a conditional use.
Boulder City, Nevada	Boulder City Conservation Easement Agreement and Boulder City Master Plan	Land Use (city)- Open Lands, Parks and Recreation, Land Use (Eldorado Valley) - Energy, Preserve Land Use (city)- Open Lands, Parks and Recreation, Land Use (Eldorado Valley) - Energy, Preserve, Open Lands Zoning - Alternatives IV-B and IV-C are partially outside of existing utility ROWs, and crossing through multiple zoning districts. The alternatives shall be submitted to the board of county commissioners for review and recommendation.
National Park Service	Lake Mead National Recreation Area General Management Plan & Alternatives, 1986	No approved utility corridors in Proposed Project corridors. The proposed route crosses area designated Environmental Protection Subzone. Proposed project is not consistent with General Management Plan (NPS 2011). Per the General Management Plan, the NPS generally would oppose granting any further corridors (NPS 1986).

Avoidance and exclusion areas occur within the ROWs and Project corridors under all alternatives.

Table 3.14-25 summarizes the SDAs that also are avoidance areas and exclusion areas within Project corridors. **Figure 3.14-18** identifies Region IV designated avoidance and exclusion areas.

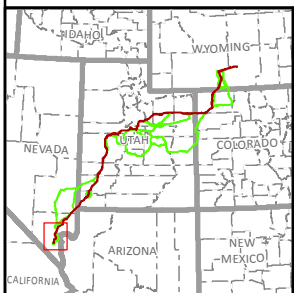
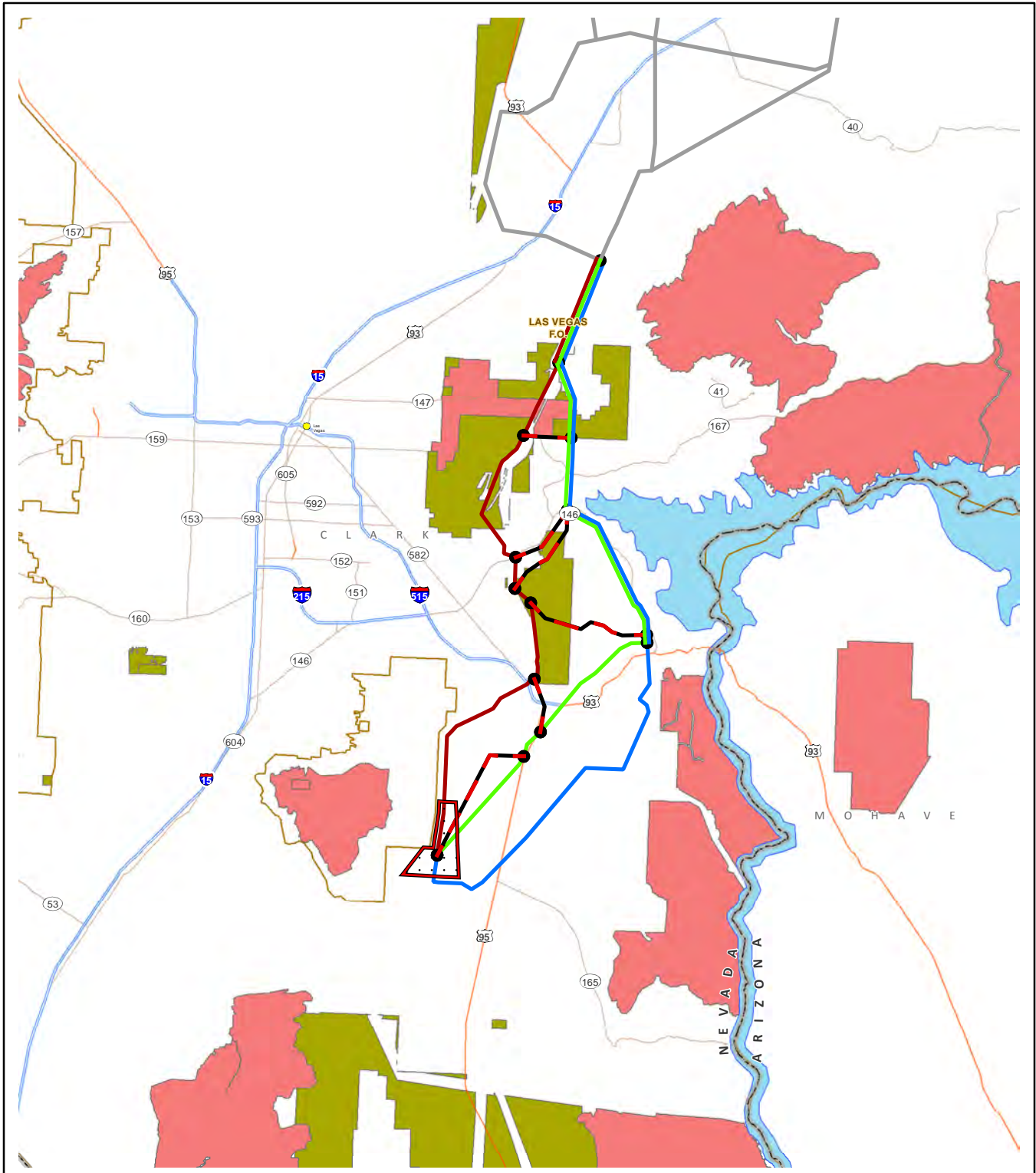
Table 3.14-25 Avoidance and Exclusion Areas in Region IV Corridors

Avoidance/Exclusion	Alternative IV-A	Alternative IV-B	Alternative IV-C
Avoidance	Rainbow Gardens ACEC River Mountains ACEC	Rainbow Gardens ACEC	Rainbow Gardens ACEC
Reference Line Crossing of Avoidance Areas (miles)	11	2	2
Exclusion	Sunrise Mountain ISA	None	None
Reference Line Crossing of Exclusion Areas (miles)	1	0	0

Alternative IV-A (Applicant Proposed and Agency Preferred)

Over 80 percent of the 37-mile Alternative IV-A route would be located on federally managed lands. Unlike the other alternatives in Region IV, Alternative IV-A would cross through Bureau of Reclamation land. Six miles, equaling 16 percent of the route, would be crossed. Approximately 15 miles (41 percent) of the Alternative IV-A route is within a designated utility corridor; 6 miles of BLM-designated corridors and 15 miles of designated WWEC corridor. The entire alternative route would be co-located with other ROWs. Designated avoidance areas in the Rainbow Gardens and River Mountains ACEC would be crossed by the reference line for 11 miles. An exclusion area in the Sunrise Mountain ISA would be crossed for 1 mile.

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Terminal Siting Area	Potential Ground Electrode Siting Area	Designated Exclusion Area
Node	Potential Ground Electrode Site	Designated Avoidance Area
DEIS Alternative Routes	Potential Ground Electrode Overhead Electrical Line	Conservation Easement with Transmission Line Stipulations or Prohibitions
Applicant Proposed/ Agency Preferred IV-A	Alternative IV-B	WMAs with Transmission Line Stipulations or Prohibitions
Alternative IV-C	BLM Field Office Boundary	
Alternative Variation or Connector	National Forest Boundary	
Segment not in this Region		

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Figure 3.14-18
Region IV
Designated Exclusion/Avoidance Areas, Conservation Easements and WMAs with Transmission Line Stipulations/Prohibitions

0 2.5 5 10 Miles
0 2.5 5 10 km
1:500,000

Under Alternative IV-A, approximately 8 miles (19 percent) would be located on private land. There would be 11 residential structures and 3 commercial/industrial structures within 500 feet of the proposed reference line. There would be two communities (Henderson and Boulder City) within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the communities.

Alternative IV-B

Approximately 59 percent of the 39-mile Alternative IV- route would be located on federally managed lands. Alternative IV-B contains 5 miles in BLM-designated utility corridors and 6 miles in the WWEC corridor (a total of 15 percent). A total of 27 miles would be co-located with other ROWs. Designated avoidance areas would be crossed by the reference line for 2 miles in the Rainbow Gardens ACEC, and no exclusion areas would be crossed. General Management Plan for the Lake Mead NRA, while not specifically identifying the Alternative IV-B route area as a designated ROW avoidance area, indicates that the NPS generally would oppose granting any further corridors; instead, additional use of existing corridors would be favored in the event there is a justified need for additional utility lines through the NRA (NPS 1986). The proposed route is not within a designated corridor, and the NPS has indicated that the proposed development is not consistent with the NRA's General Management Plan (NPS 2011).

Under Alternative IV-B, approximately 16 miles (41 percent) would be located on private land. There would be 9 residential structures and 3 commercial/industrial structures within 500 feet of reference line. There would be one community (Boulder City) within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the community.

Alternative IV-C

Approximately 55 percent of the 44-mile Alternative IV-C route would be located on federally managed lands with 5 miles in BLM-designated utility corridors and 6 miles in the WWEC corridor (a total of 13 percent). A total of 33 miles would be co-located with other ROWs. Designated avoidance areas would be crossed by the reference line for 2 miles in the Rainbow Gardens ACEC, and no exclusion areas would be crossed. As discussed under Alternative IV-B, the NPS has indicated that the proposed development is not consistent with the NRA's General Management Plan (NPS 2011).

Under Alternative IV-C, approximately 19 miles (45 percent) would be located on private land. There would be 9 residential structures and 3 commercial/industrial structure within 500 feet of the proposed reference line. There would be one community (Boulder City) within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the community.

Alternative Variation in Region IV

The land ownership crossed by the alternative variation and other key impact parameters are summarized in **Table 3.14-26**. No cropland, grazing areas, or structures would be within either of the Project corridors. There would be one community (Boulder City) within the 2-mile transmission line corridor (see Section 3.18, Public Health and Safety). There are no identified incompatible designated land uses within the community.

Alternative Connectors in Region IV

The land ownership crossed by the alternative connectors and other key impact parameters are summarized in **Table 3.14-27**. None of the connectors fall within designated utility corridors. No cropland would be within the Project corridors. Every proposed connector would cross an avoidance area except for the Railroad Pass Connector. The Sunrise Mountain Connector would cross 1 mile of an exclusion area in the Sunrise Mountain ISA.

Table 3.14-26 Impact Parameters of Marketplace Alternative Variation and Comparative Portions of Alternative IV-B in Region IV

		Marketplace Alternative Variation	Comparable (portion of Alternative IV-B)
Jurisdiction	BLM (Las Vegas FO) (miles)	3	0
	Private (miles)	5	7
	DOE (miles)	1	<1
	NPS (miles)	0	0
	Total (miles)	8	7
Designated Utility Corridors ¹	Length within RMP designated corridors (miles/percent of alternative) ²	<1/2%	0/0%
	Length within WWEC designated corridors (miles/percent of alternative) ³	<1/2%	0/0%
	Total (miles/percent of alternative)	<1/2%	0/0%
Co-location	Greenfield/Co-located mileage	5/3	0/7
Avoidance/ exclusion		0	0
Livestock Grazing	Currently no permitted grazing activities on BLM grazing allotments along this alternative.		
Communities	Count within 2-mile transmission line corridor	1	1
Structures within 500 feet of reference line	Residential (count)	0	0
	Commercial/Industrial (count)	0	1
	Agricultural (count)	0	0
	Outbuilding (count)	0	0
	Total	0	1
Structures within 200 feet of reference line	Residential (count)	0	0
	Commercial/Industrial (count)	0	0
	Agricultural (count)	0	0
	Outbuilding (count)	0	0
	Total	0	0

¹ Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

² Corridors identified by the BLM and the USFS in their respective land management plans.

³ Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

Note: Discrepancies in totals due to rounding.

Table 3.14-27 Impact Parameters of Alternative Connectors in Region IV

Impact Parameter	Description	Sunrise Mountain Alternative Connector	Lake Las Vegas Alternative Connector	Three Kids Mine Alternative Connector	River Mountain Alternative Connector	Railroad Pass Alternative Connector
Jurisdiction	BLM (Las Vegas FO) (miles)	3	0	1	2	0
	Private (miles)	0	1	1	0	3
	Bureau of Reclamation (miles)	0	2	3	1	<1
	NPS (miles)	0	1	1	4	0
	Total (miles)	3	4	5	7	3
Designated Utility Corridors ¹	Length within RMP designated corridors (miles/percent of alternative) ²	0	0	0	0	0
	Length within WWEC designated corridors (miles/percent of alternative) ³	1	0	0	0	<1
	Total (miles/percent of alternative)	1/33%	0	0	0	0
Co-location	Greenfield /Co-located mileage	3/0	0/4	0/5	0/7	0/3
Avoidance/Exclusion	Avoidance (miles)	2	1	3	3	0
Areas Crossed	Exclusion (miles)	1	0	0	0	0
	Description	Rainbow Gardens ACEC and Sunrise Mountain ISA	River Mountains ACEC	River Mountains ACEC	River Mountains ACEC	N/A
Livestock Grazing	Currently no permitted grazing activities on BLM grazing allotments along this alternative.					
Communities	Count within 2-mile transmission line corridor	0	1	1	1	2
Structures within 500 feet of reference line	Residential (count)	0	0	0	0	0
	Commercial/Industrial (count)	0	1	0	1	0
	Agricultural (count)	0	0	0	0	0
	Outbuilding (count)	0	1	0	0	0
	Total	0	2	0	1	0
Structures within 200 feet of reference line	Residential (count)	0	0	0	0	0
	Commercial/Industrial (count)	0	1	0	1	0
	Agricultural (count)	0	0	0	0	0
	Outbuilding (count)	0	1	0	0	0
	Total	0	2	0	1	0

¹ Designated utility and West-wide Energy Corridors may be co-located, or overlap in some locations.

² Corridors identified by the BLM and the USFS in their respective land management plans.

³ Designated by the DOE in November 2008 pursuant to Section 368 of the Energy Policy Act of 2005.

Note: Discrepancies in totals due to rounding.

Region IV Conclusion

Alternatives IV-A, IV-B, and IV-C have similar impacts to most of the parameters discussed. Alternative IV-A would utilize the greatest amount of designated corridors (15 miles and 41 percent of the route), whereas Alternatives IV-B and IV-C utilize approximately 6 miles (15 percent and 13 percent, respectively) of their routes. Alternative IV-A is co-located with existing ROWs for its entire length (37 miles). Alternatives IV-B and IV-C are approximately 60 percent co-located and 40 percent Greenfield. Alternatives IV-B and IV-C cross 2 miles of an avoidance area in the Rainbow Gardens ACEC. Alternative IV-A crosses 11 miles of avoidance areas in the Rainbow Gardens and River Mountain ACECs (6 miles and 5 miles, respectively), and 1 mile of exclusion area in the Sunrise Mountain ISA. Currently, there are no permitted grazing activities on BLM grazing allotments in Region IV; therefore, there would be no impacts to livestock grazing in Region IV for any alternative.

The Marketplace Alternative Variation would be the only Alternative Variation in Region IV. Approximately 2 percent of the 8-mile route would be located within a designated corridor. Three miles of the route would be co-located with existing ROWs and 5 miles would be Greenfield. No avoidance or exclusion areas would be crossed by the Marketplace Variation.

The Alternative Connectors in Region IV include the Sunrise Mountain, Lake Las Vegas, Three Kids Mine, River Mountain, and Railroad Pass Connectors. One mile (33 percent) of the Sunrise Mountain Alternative Connector would be located in a designated utility corridor; however, no utilities currently exist within this corridor. None of the other alternative connectors would utilize designated corridors but they are entirely co-located with existing utilities. The Railroad Pass Connector is the only one that would not cross through avoidance or exclusion areas. The Sunrise Mountain Connector crosses through the Rainbow Gardens ACEC and the Sunrise Mountain ISA. The Lake Las Vegas, Three Kids Mine, and River Mountain Connectors all cross through the River Mountains ACEC; however, the Lake Las Vegas has the shortest crossing distance of the three.

3.14.6.7 Residual Effects

Land use mitigation measures would reduce impacts through structure siting. If applied, there would be no residual effects. If this measure cannot be applied, residual impacts would consist of land use that would be inconsistent with planned goals and uses.

Agriculture mitigation measures would reduce impacts through structure placement and construction scheduling. Residual impacts would comprise a loss of some agricultural lands as identified above and some restrictions in future placement of center pivots.

Range-related mitigation measures would reduce impacts through structure placement and construction scheduling, maintenance of grazing access, and speed limits. Residual impacts would comprise a loss of AUMs, forage, and potential loss of livestock from vehicular travel.

3.14.6.8 Impacts to Land Use Resources from the No Action Alternative

Under the No Action Alternative, there would be no impacts to land use resources as the Proposed Project would not be developed.

3.14.6.9 Irreversible and Irretrievable Commitments of Resources

All operation impacts to land use described above within the 2-mile transmission line corridor would be irretrievable until transmission line decommissioning, after which time all land uses could be reclaimed. However, reclamation activities may have limited success in areas with poor soils, some vegetation communities would take years to reestablish, and some areas may never return to their former vegetation cover and composition. As such, these impacts may represent an irreversible commitment of range resources. Additionally, changes in land use around the proposed transmission line could occur as

a result of its placement and long term operation. These changes are unlikely to be returned to previous use after transmission line decommissioning and should therefore be considered irreversible.

3.14.6.10 Relationship Between Local Short-term Uses and Long-term Productivity

Implementation of the project would result in the conversion some project lands from existing uses to use as ROW corridors. In the short term, the current productivity of lands for agricultural and grazing would be reduced and lands would be unavailable for other uses such as energy production. Long-term impacts to grazing include the disturbance of vegetation covers requiring extended time (10 to 100 years) for recovery, and the potential for weedy annual species such as halogeton and cheatgrass to become established in localized areas for extended periods of time. The project also could result in long term changes to productivity if land use in the area surrounding the project shifts to a more industrial use as a result of the transmission line placement and is lost as an area high visual quality or residential use.

3.15 Special Designation Areas

SDAs are units of land managed by federal or state agencies for the protection and enhancement of specific resource values. SDAs may be Congressionally or agency-designated. Congressionally designated SDAs within the Project analysis area include NWRs, national monuments, WAs, WSAs, WSRs, NCAs, NHTs, and other similar management areas. Agency-designated SDAs include BLM ACECs and USFS IRAs and unroaded/undeveloped areas (URUD). Recreation areas and wildlife management areas identified in this section as designated land use areas are described in more detail in Section 3.13, Recreation Resources. MOAs are described Section 3.16, Transportation.

3.15.1 Data Sources

Information regarding special designations within the analysis area was obtained from a review of existing published sources and agency land use management plans. SDAs (including USFS IRAs) were identified using GIS data from the USFS, the BLM, and the states of Wyoming, Colorado, Utah, and Nevada. Current land use information was obtained from available GIS data, topographic maps, and internet-based tools including GoogleEarth™. A list of the land use plans used in the development of this section is presented in **Tables 1-3** and **1-4**. Vegetation species are presented in a manner consistent with the NRCS Plants Database (NRCS 2010), unless otherwise specified.

3.15.2 Analysis Area

The analysis area for special designations comprises all SDAs with portions of land within the 2-mile transmission line corridors and terminal areas for the various alternatives. The 2-mile transmission line corridor was selected because it encompasses all surface disturbances from construction of the transmission line construction as well as development of access roads and other construction support facilities. In addition, noise and other disturbances from transmission line construction generally would dissipate to background levels well within the 2-mile transmission line corridor. For purposes of clarity, SDAs have been broken out into sets of four maps each; each set containing a separate figure for each region. **Figures 3.15-1** through **3.15-4** depict the NCA, national monument, NRA, NWRs, research natural areas, and ACECs. **Figures 3.15-5** through **3.15-8** identify the wilderness, proposed wilderness, WSA, and WSRs. NHTs, IRAs, and URUD areas are depicted on separate sets of maps and are included with the appropriate discussions in Section 3.15.3. SDAs that are near, but not within, the 2-mile transmission line corridor are depicted on the maps but are shown in grey (i.e., a “special management area” per the map legend) and are unlabeled.

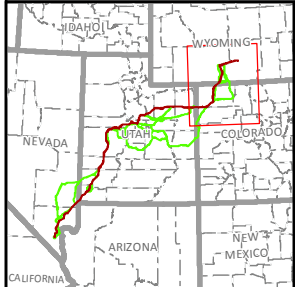
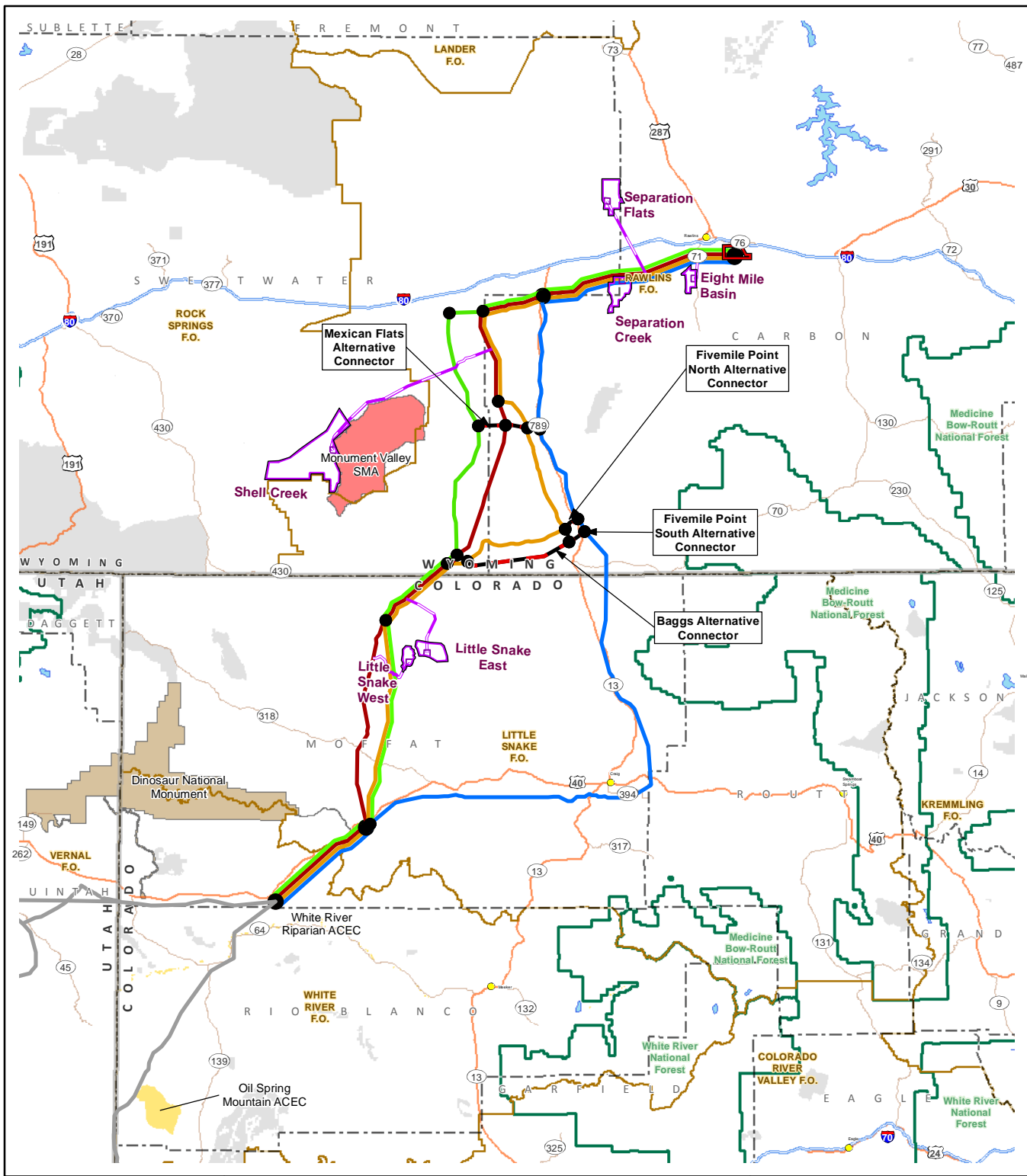
3.15.3 Baseline Description

3.15.3.1 National Wildlife Refuges

The National Wildlife Refuge System, managed by the USFWS, is a national system of public lands and waters set aside to conserve America's fish, wildlife, and plants. The analysis area includes portions of two of the four refuges comprising the Desert NWR complex in Region III (see **Figure 3.15-3**).

- Pahranaagat NWR (5,380 acres): Established to provide habitat for migratory birds, especially waterfowl.
- Desert NWR (1.5 million acres): Established for the protection, enhancement, and maintenance of desert bighorn sheep.

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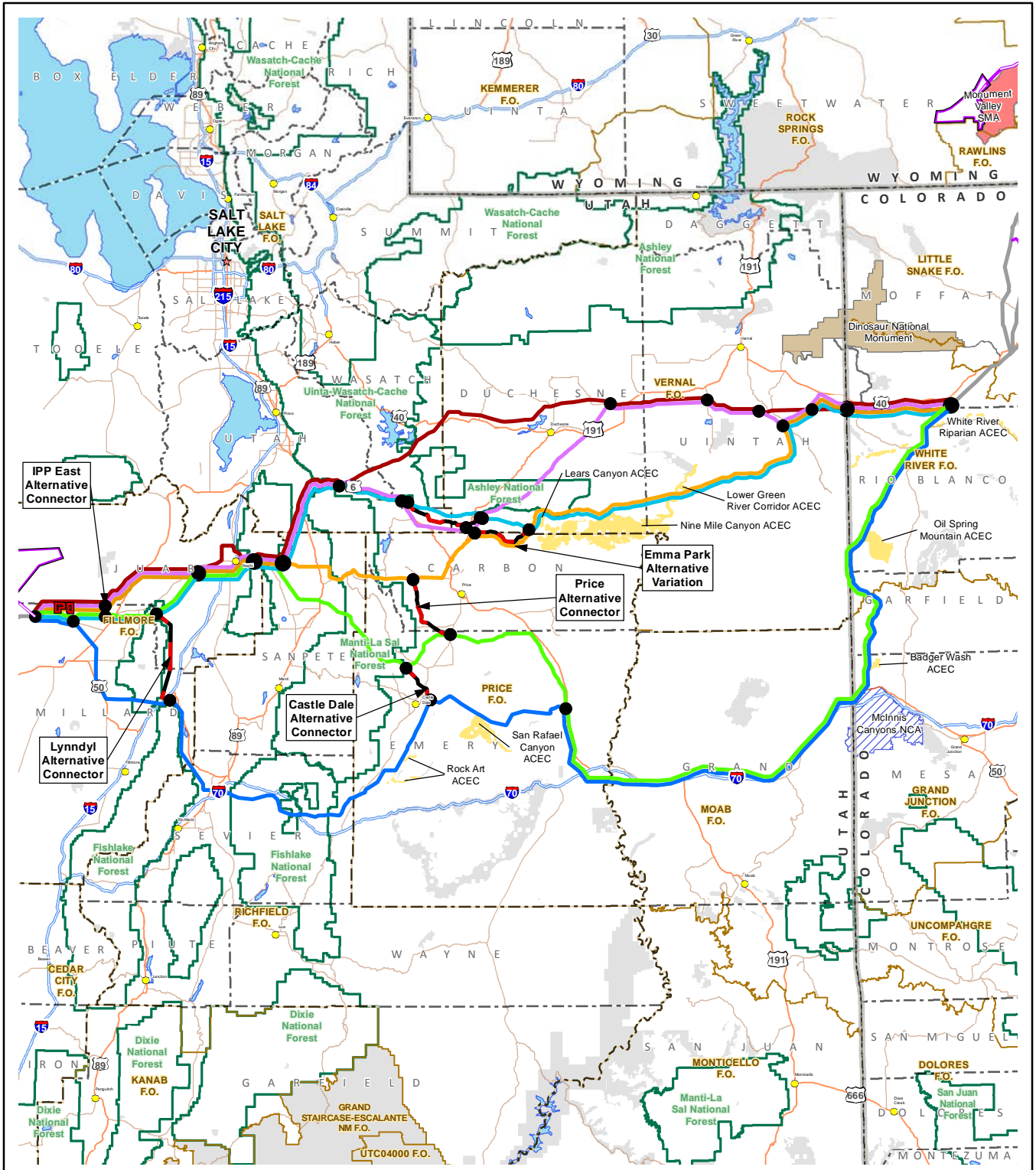


Terminal Siting Area	BLM FO Boundary	SDAs crossed by Project
Node	National Forest Boundary	ACEC
DEIS Alternative Routes	Potential Ground Electrode Siting Area	NCA
Applicant Proposed I-A	Potential Ground Electrode Site	National Monument
Alternative I-B	Potential Ground Electrode Site	NRA
Alternative I-C	Potential Ground Electrode Site	NWR
Agency Preferred I-D	Potential Ground Electrode Site	SMA
Alternative Variation or Connector	Potential Ground Electrode Overhead Electrical Line	SDA not crossed by Project
Segment not in this Region		

TRANSWEST EXPRESS TRANSMISSION PROJECT
 Figure 3.15-1
 Region I
 Special Designation Areas
 ACEC, NCA, National Monument, NWR, SMA

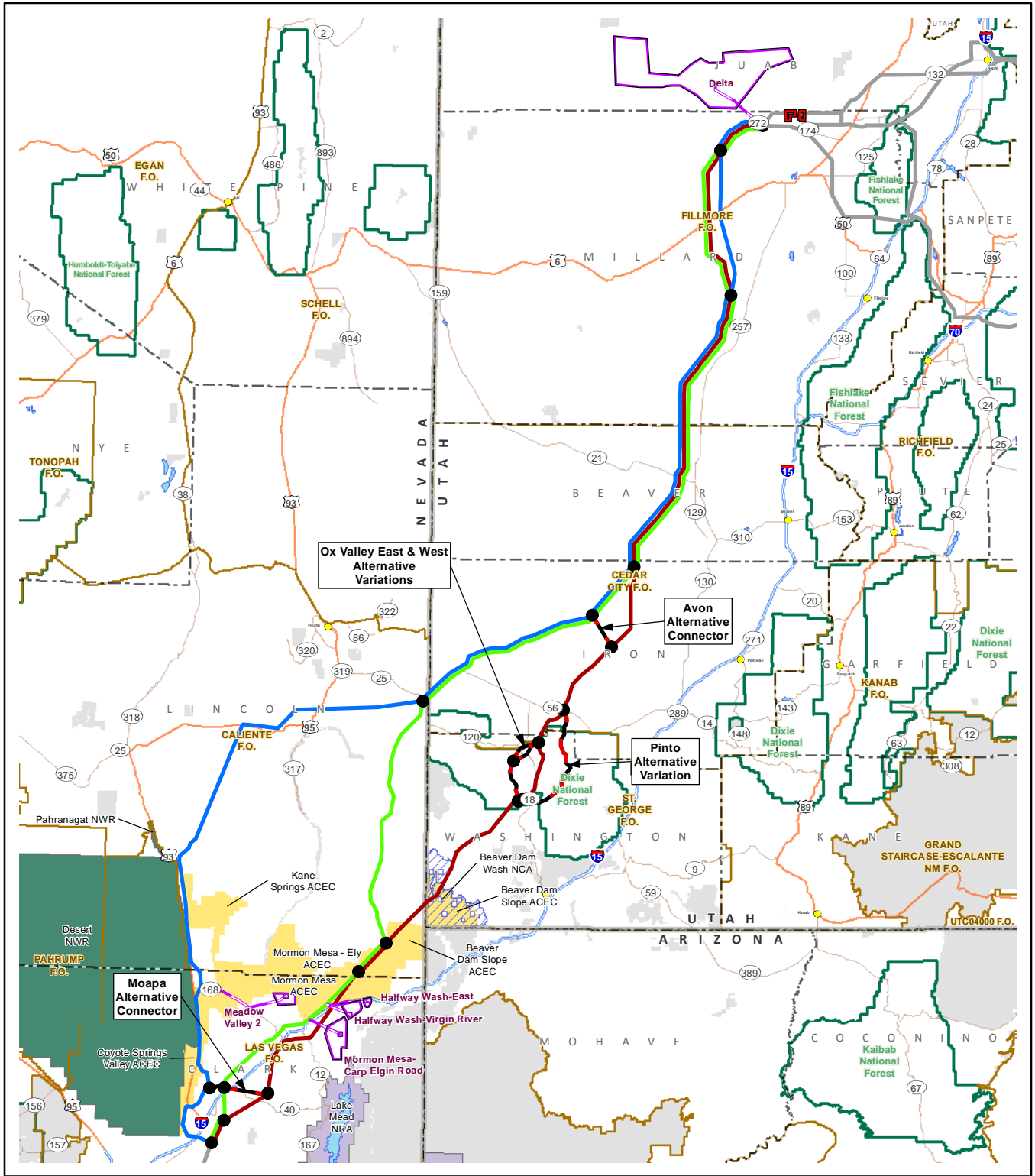
0 5 10 20 Miles
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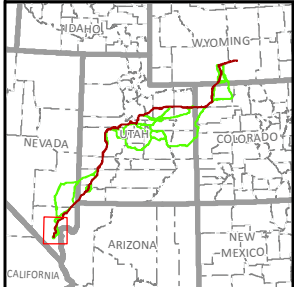
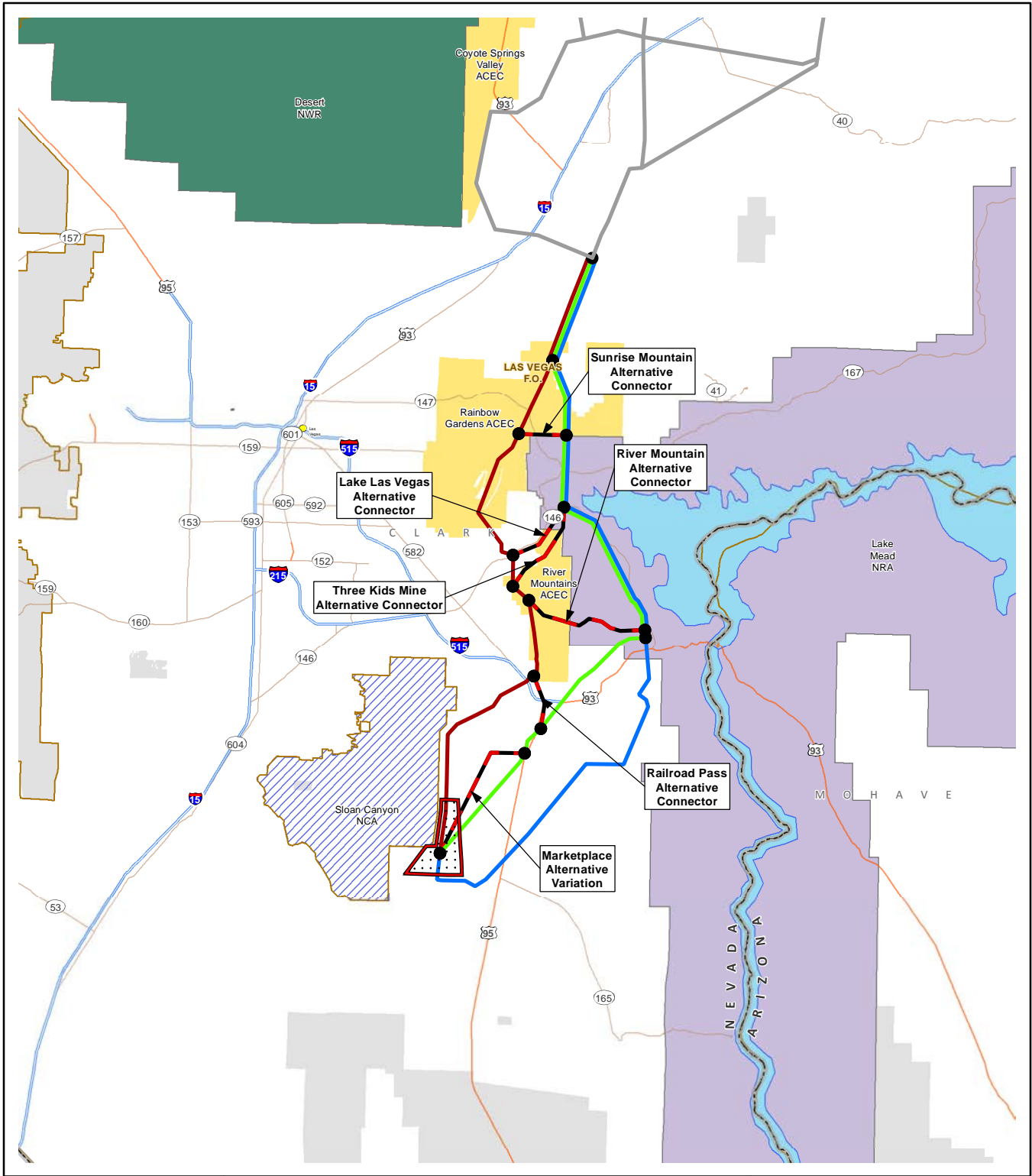
<p>Terminal Siting Area Terminal Siting Area</p> <p>Node Node</p> <p>DEIS Alternative Routes</p> <ul style="list-style-type: none"> Applicant Proposed II-A Alternative II-B Alternative II-C Alternative II-D Alternative II-E Agency Preferred II-F Alternative Variation or Connector Segment not in this Region 		<p>BLM FO Boundary BLM FO Boundary</p> <p>National Forest Boundary National Forest Boundary</p> <p>Potential Ground Electrode Siting Area Potential Ground Electrode Siting Area</p> <p>Potential Ground Electrode Site Potential Ground Electrode Site</p> <p>Potential Ground Electrode Overhead Electrical Line Potential Ground Electrode Overhead Electrical Line</p>		<p>SDAs crossed by Project</p> <ul style="list-style-type: none"> ACEC NCA National Monument NRA NWR SMA SDA not crossed by Project 	
<p>Map of Region II</p>		<p>TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p>Figure 3.15-2 Region II Special Designation Areas ACEC, NCA, National Monument, NWR, SMA</p>			
<p>Scale: 0 10 20 40 Miles 0 10 20 40 km</p> <p>Scale: 1:2,250,000</p>					

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<p>Terminal Siting Area</p> <p>● Node</p> <p>DEIS Alternative Routes</p> <p>— Applicant Proposed III-A</p> <p>— Agency Preferred III-B</p> <p>— Alternative III-C</p> <p>— Alternative Variation or Connector</p> <p>— Segment not in this Region</p>		<p>— BLM FO Boundary</p> <p>— National Forest Boundary</p> <p>— Potential Ground Electrode Siting Area</p> <p>— Potential Ground Electrode Site</p> <p>— Potential Ground Electrode Overhead Electrical Line</p>		<p>SDAs crossed by Project</p> <p>— ACEC</p> <p>— NCA</p> <p>— National Monument</p> <p>— NRA</p> <p>— NWR</p> <p>— SMA</p> <p>— SDA not crossed by Project</p>		<p>TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p>Figure 3.15-3</p> <p>Region III</p> <p>Special Designation Areas</p> <p>ACEC, NCA, National Monument, NWR, SMA</p>	
		<p>0 10 20 40 Miles</p> <p>0 10 20 40 km</p> <p>1:2,000,000</p>					

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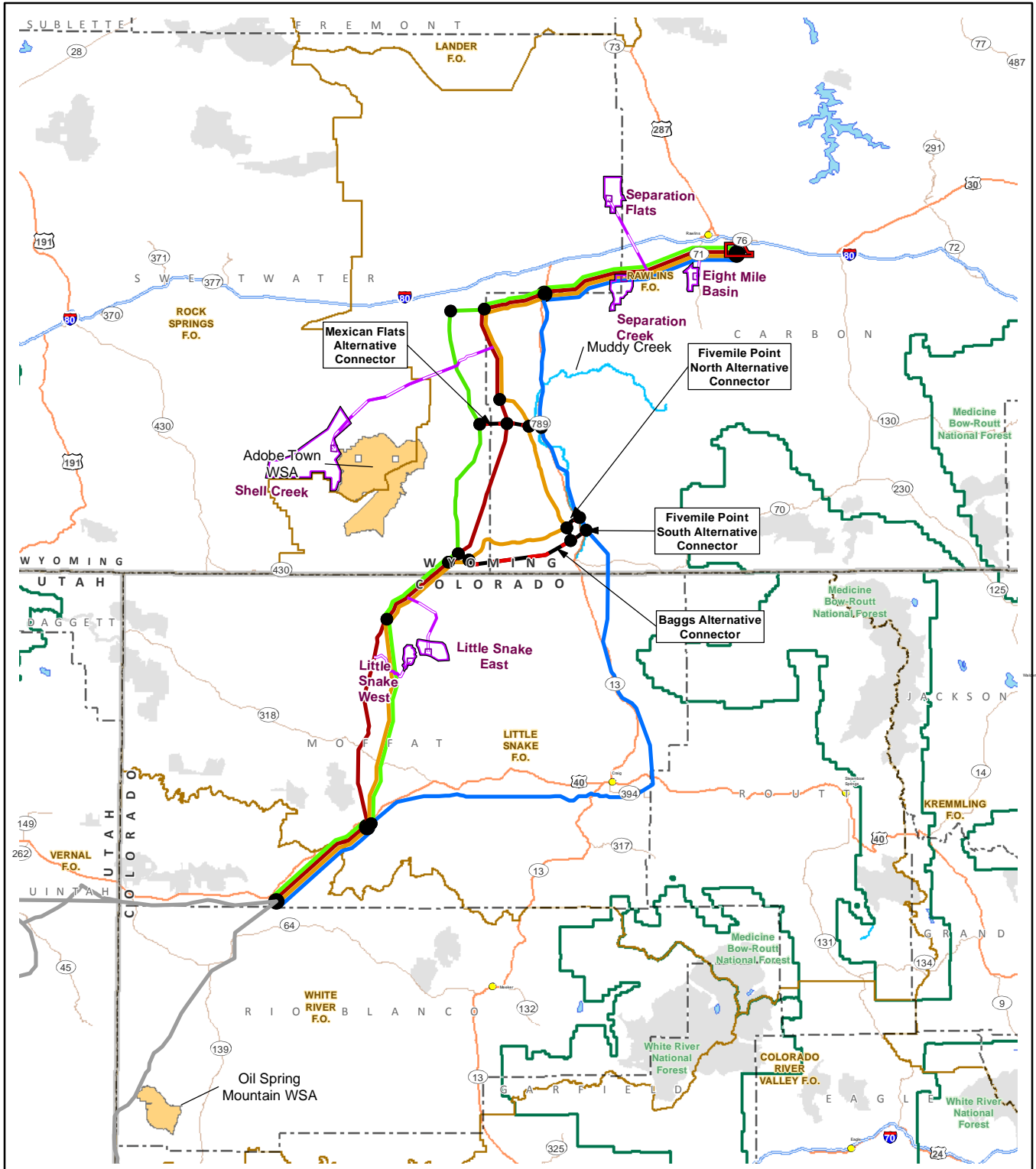


Terminal Siting Area	BLM FO Boundary
Node	National Forest Boundary
DEIS Alternative Routes	SDAs crossed by Project
Applicant Proposed/ Agency Preferred IV-A	ACEC
Alternative IV-B	NCA
Alternative IV-C	National Monument
Alternative Variation or Connector	NRA
Segment not in this Region	NWR
	SMA
	SDA not crossed by Project

TRANSWEST EXPRESS TRANSMISSION PROJECT
 Figure 3.15-4
 Region IV
 Special Designation Areas
 ACEC, NCA, National Monument,
 NWR, SMA

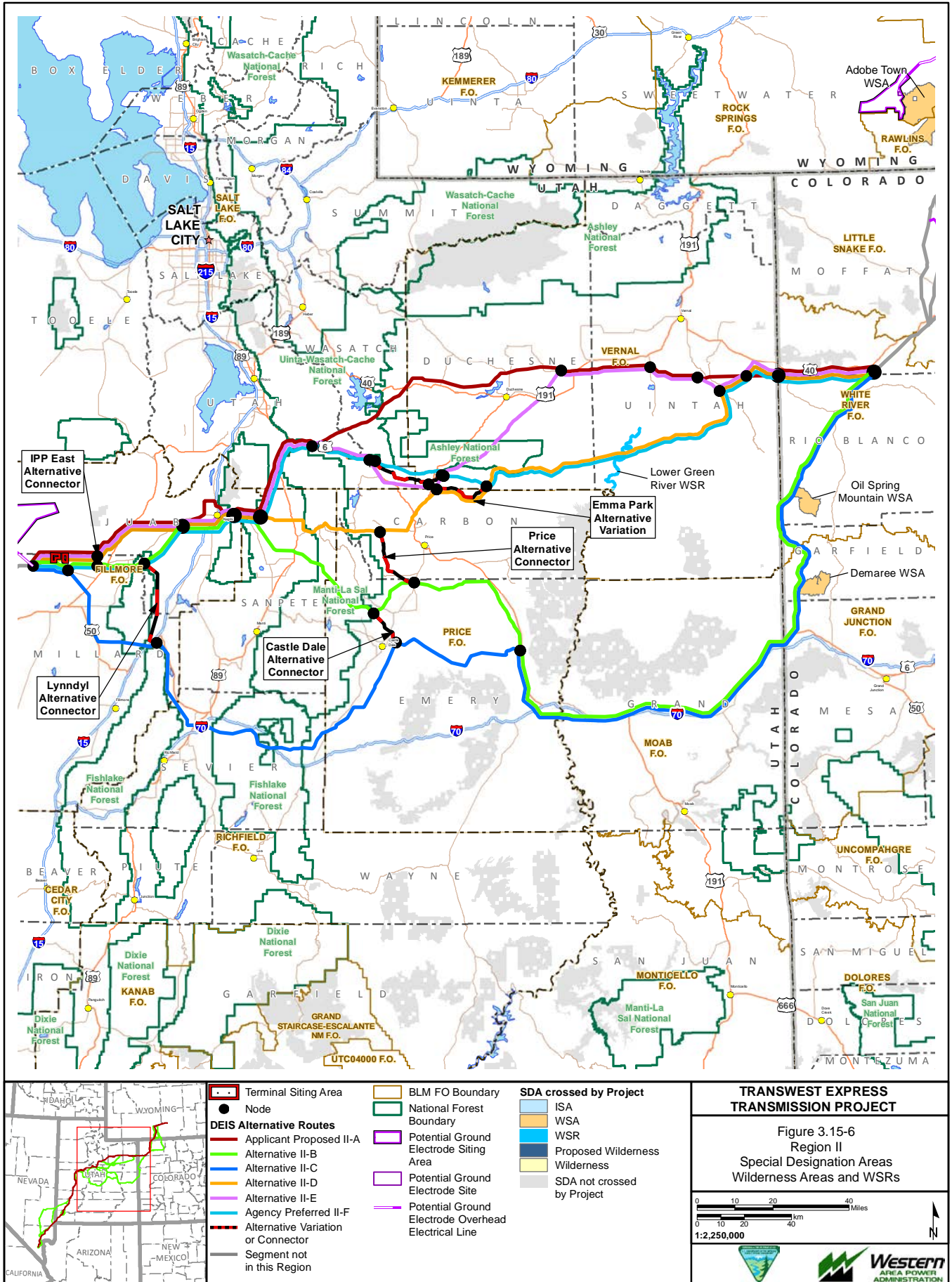
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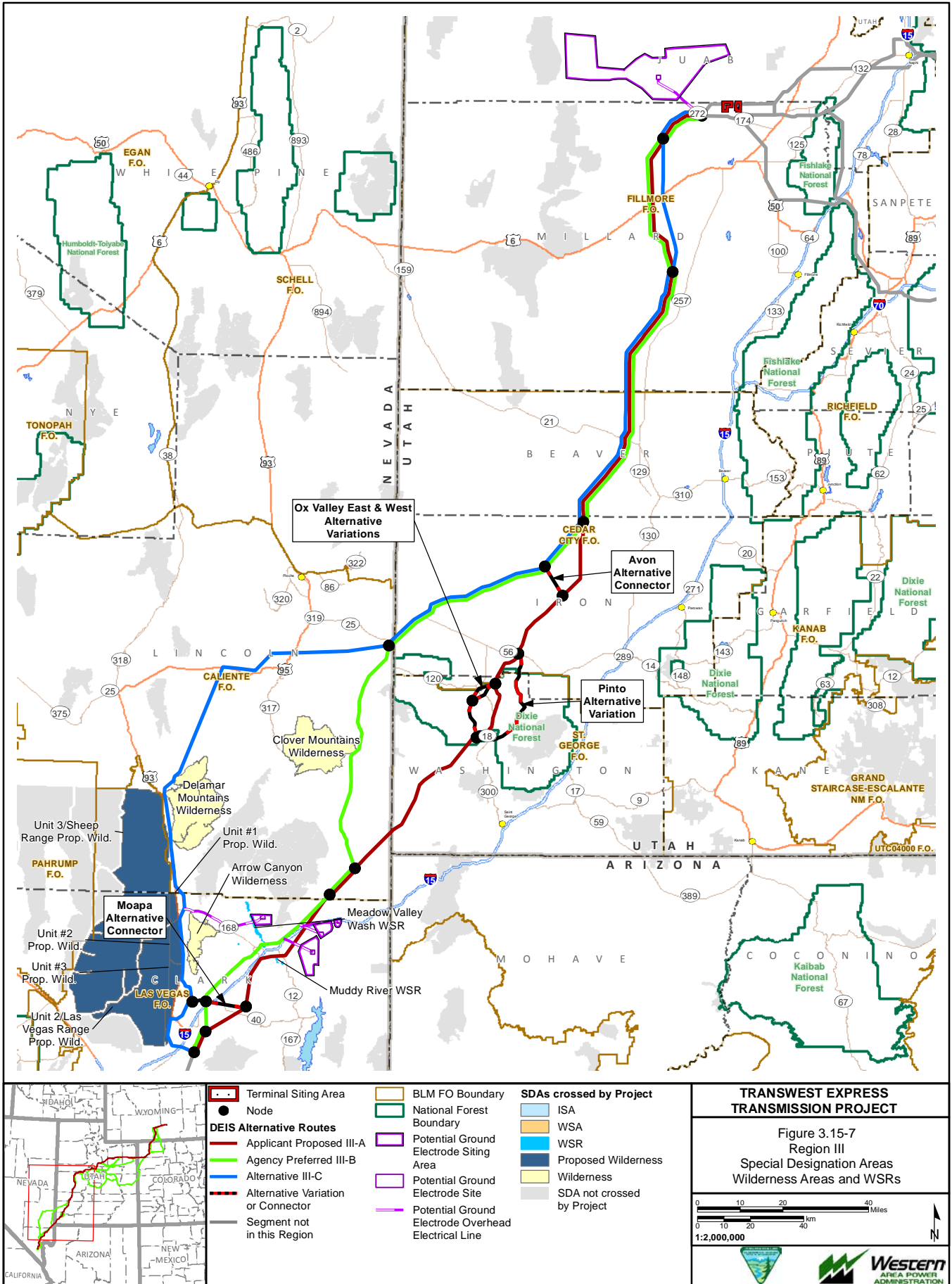


	<p> Terminal Siting Area</p> <p> Node</p> <p>DEIS Alternative Routes</p> <p> Applicant Proposed I-A</p> <p> Alternative I-B</p> <p> Alternative I-C</p> <p> Agency Preferred I-D</p> <p> Alternative Variation or Connector</p> <p> Segment not in this Region</p>	<p> BLM FO Boundary</p> <p> National Forest Boundary</p> <p> Potential Ground Electrode Siting Area</p> <p> Potential Ground Electrode Site</p> <p> Potential Ground Electrode Overhead Electrical Line</p>	<p>SDAs crossed by Project</p> <p> ISA/Wilderness</p> <p> WSA</p> <p> Proposed Wilderness</p> <p> Wilderness</p> <p> SDA not crossed by Project</p>	<p>TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p>Figure 3.15-5 Region I Special Designation Areas Wilderness Areas and WSRs</p> <p>0 5 10 20 Miles 0 5 10 20 km</p> <p>1:1,500,000</p>
	<p>Exported On: 6/5/2013</p>			

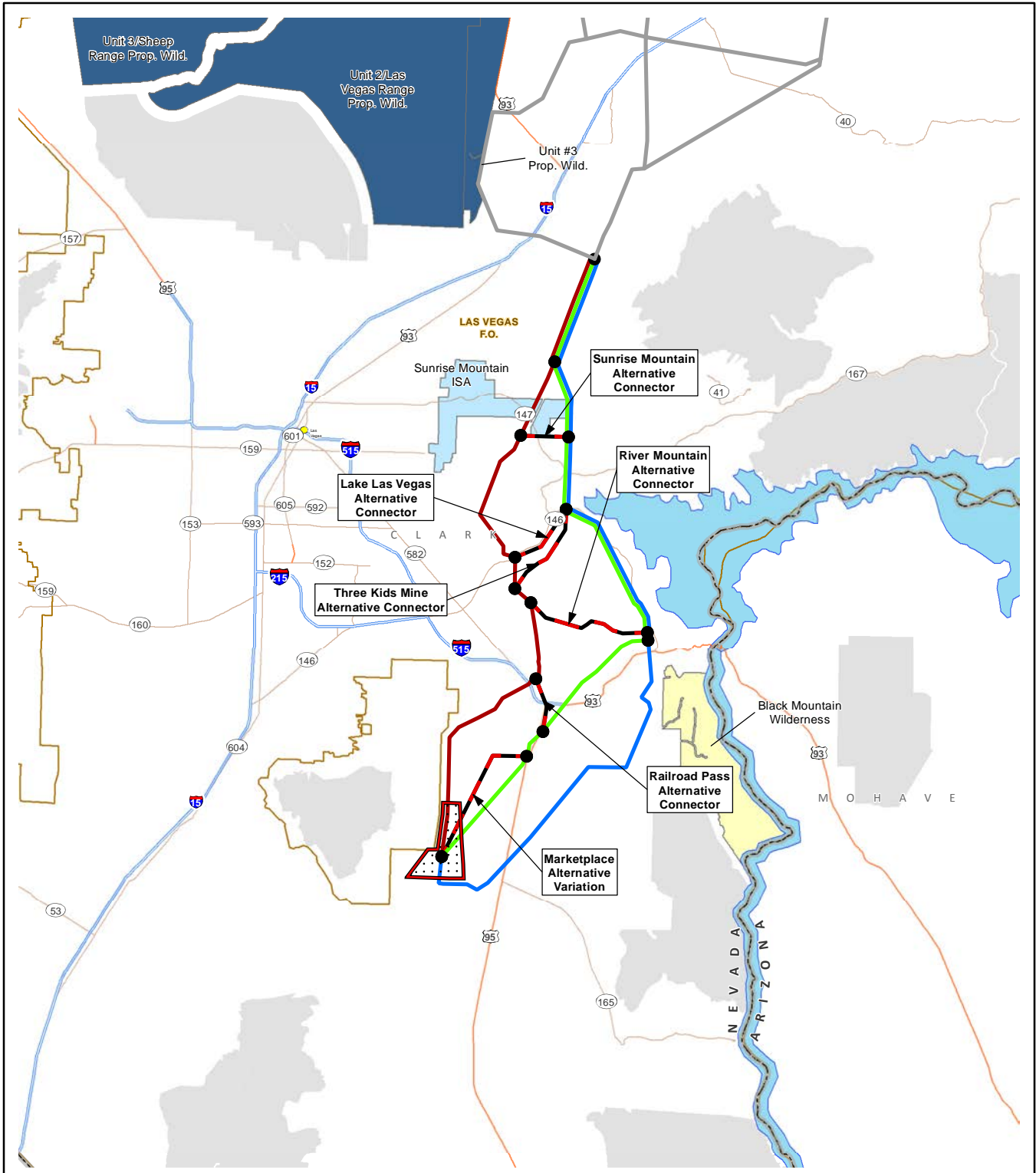
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	<ul style="list-style-type: none"> Terminal Siting Area Node DEIS Alternative Routes Applicant Proposed/ Agency Preferred IV-A Alternative IV-B Alternative IV-C Alternative Variation or Connector Segment not in this Region 	<ul style="list-style-type: none"> BLM FO Boundary National Forest Boundary SDAs crossed by Project ISA WSA WSR Proposed Wilderness Wilderness SDA not crossed by Project 	<p style="text-align: center;">TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p style="text-align: center;">Figure 3.15-8 Region IV Special Designation Areas Wilderness Areas and WSRs</p> <div style="text-align: center;"> <p>0 2.5 5 10 Miles 0 2.5 5 10 km</p> <p>1:500,000</p> </div> <div style="text-align: right;"> </div> <div style="text-align: right;"> </div>
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As part of the Lincoln County Conservation, Recreation, and Development Act of 2004 (PL 108–424), administrative jurisdiction over approximately 8,382 acres of land along the eastern boundary of Desert NWR and west of U.S. Highway 93 was transferred from the USFWS to the BLM for use as a utility corridor.

3.15.3.2 National Monuments

National Monuments, established through the Antiquities Act of 1906, may be presidentially or congressionally designated to protect “objects of historic or scientific interest.” The Dinosaur National Monument is the only national monument to occur within the analysis area. It is managed by the NPS.

Per 2006 NPS Park Management Policy, per the Organic Act and the General Authorities Act, actions would not be allowed that would impair integrity of resources or values whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or identified in the park’s general management plan or other relevant NPS planning documents as being of significance. Before approving a proposed action that could lead to an impairment of park resources and values, an NPS decision-maker must consider the impacts of the proposed action and determine, in writing, that the activity will not lead to an impairment of park resources and values. Actions cannot be approved that individually or cumulatively would:

- Be inconsistent with a park’s purposes or values;
- Affect the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process;
- Create an unsafe or unhealthful environment for visitors or employees, or diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values;
- Unreasonably interfere with park programs or activities, or an appropriate use, or the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park; or NPS concessioner or contractor operations or services.

Utility ROWs over lands administered by the Park Service are governed by statutory authorities in 16 USC 5 (electrical power transmission and distribution, radio and TV, and other forms of communication facilities) and 16 USC 79 (electrical power, telephone, and water conduits). If not incompatible with the public interest, rights-of-way issued under 16 USC 5 or 79 are discretionary and conditional upon a finding by the Service that the proposed use will not cause unacceptable impacts on park resources, values, or purposes. ROWs may be issued only pursuant to specific statutory authority, and generally only if there is no practicable alternative to such use of NPS lands.

The Dinosaur National Monument includes more than 200,000 acres of river canyons, mountains, and basins and contains world renowned geological and paleontological resources, important prehistoric petroglyphs and pictographs, and historic-era artifacts. This area also provides habitat for more than 1,000 native species of plants and animals and provides recreational access to the Yampa River (see Section 3.13, Recreation Resources).

The portions of Dinosaur National Monument within Region I are located in the far west portion of the National Monument and include the National Monument entrance from Highway 40 north of Elk Springs, Colorado, and portions of the approximately 12-mile Deerlodge access road closest to Highway 40 (see **Figure 3.15-1**). The ROW for the portion of the Deerlodge road that is within the analysis area is approximately 200 feet wide, and is surrounded by private land. There is an 800-foot scenic easement (400 feet on either side of the road) on portions of Deerlodge Road closer to national monument recreation areas; however, the NPS has not yet purchased the scenic easement within the analysis area.

The average daily traffic using Deerlodge Road is less than 350 vehicles. Most traffic along Deerlodge Road occurs from May through September as rafters and kayakers take advantage of higher flows in the Yampa River from winter snow melt. Deerlodge Road is plowed in the winter, but may be closed during the winter months due to snow and snowdrifts (NPS 2013).

The NPS is currently preparing an EA for a proposed road improvement project, which includes resurfacing, restoring, reconstructing, bank stabilization measures, and installing new drainage measures along Deerlodge Road. The proposed project may be constructed in two phases, depending on available funds. Phase I (proposed for 2013) would include bank stabilization along the Yampa River near milepost 9.5, and Phase II (proposed for 2016) would include the pavement rehabilitation and other parking area modifications (NPS 2013). The portion of Deerlodge road within the analysis area would be upgraded during Phase II.

The portions of the Dinosaur National Monument within Region II comprise a very small portion of national monument lands west of the Harper's Corner entrance road on Highway 40 near Dinosaur, Utah.

3.15.3.3 Wilderness Areas and Wilderness Study Areas

The Wilderness Act of 1964 established the National Wilderness Preservation System and a process for federal agencies to recommend wilderness areas to Congress. Wilderness, as defined by the Wilderness Act, is untrammeled (free from man's control), undeveloped, and natural, offering outstanding opportunities for solitude or primitive and unconfined recreation. Wilderness Areas have been designated within existing national parks, NWRs, national Forests, and BLM-managed public lands to be managed to preserve wilderness characteristics. Agencies typically recommend areas for wilderness designation; however, the public at large can develop its own wilderness proposal for introduction by any member of Congress.

With the passage of FLPMA in 1976, Congress directed the BLM to inventory public land for wilderness characteristics including the appearance of naturalness; outstanding opportunities for solitude or primitive and unconfined recreation; special features and values (such as ecological, geological, educational, historical, scientific, and scenic values), and manageability (adequate size; i.e., at least 5,000 acres of public lands or of sufficient size to make preservation practicable). WSAs contain wilderness characteristics and are managed to preserve those values until Congress either designates them as wilderness or releases them for other uses. ISAs are areas formally identified as "natural" or "primitive" prior to the passage of the FLPMA. These are lands identified by the wilderness review required by Section 603 of the FLPMA and for all intents and purposes are managed as WSAs until Congress either designates them as wilderness or releases them for other purposes. Four wilderness areas, three WSAs, and one ISA are located on BLM land within the analysis area. Additional information on WSAs and ISAs is presented in Section 3.12, Visual Resources.

The USFWS conducts wilderness reviews to identify and recommend Refuge System lands and waters for congressional designation. Five portions within the Desert NWR complex have been proposed for wilderness status via the National Wilderness Preservation System. See **Table 3.15-1** and **Figures 3.15-5** through **3.15-8**.

Table 3.15-1 Designated Wilderness, Wilderness Study Areas, and Proposed Wilderness within Special Designations Analysis Area

Region	State	Management Entity	Name	Area Designation	Acreage
I	Wyoming	Rock Springs FO	Adobe Town	BLM WSA	87,051
II	Colorado	Grand Junction FO	Demaree ¹	BLM WSA	21,050
	Colorado	White River FO	Oil Spring Mountain ¹	BLM WSA	18,260

Table 3.15-1 Designated Wilderness, Wilderness Study Areas, and Proposed Wilderness within Special Designations Analysis Area

Region	State	Management Entity	Name	Area Designation	Acreage
III	Nevada	Caliente FO	Delamar Mountains	Designated Wilderness	111,328
	Nevada	Caliente FO	Clover Mountain	Designated Wilderness	85,748
	Nevada	USFWS	Unit #1	Proposed Wilderness	7,663
	Nevada	USFWS	Unit #2	Proposed Wilderness	17,404
	Nevada	USFWS	Unit #3	Proposed Wilderness	21,989
	Nevada	USFWS	Unit 2/Las Vegas Range	Proposed Wilderness	127,596
	Nevada	USFWS	Unit 3/Sheep Range	Proposed Wilderness	375,458
	Nevada	Las Vegas FO	Arrow Canyon	Designated Wilderness	27,585
IV	Nevada	Las Vegas FO	Black Mountain	Designated Wilderness	17,220
	Nevada	Las Vegas FO	Sunrise Mountain ¹	BLM ISA (ISA; NV-050-0420)	10,240

¹ Managing entity does not recommend area for future wilderness designation.

Source: BLM 2008a,b; 1997a,b; 1987.

3.15.3.4 Wild and Scenic Rivers

WSRs were established by the Wild and Scenic Rivers Act of 1968 to protect and preserve designated rivers throughout the nation in their free-flowing condition and to protect and preserve their immediate environments. To meet the eligibility criteria, a waterway must be “free-flowing” and, along with its adjacent land area, must possess at least one “outstandingly remarkable value.” The Act provides three levels of protection: wild, scenic, and recreational. “Wild” rivers are free of dams, generally inaccessible except by trail, and represent vestiges of primitive America. “Scenic” rivers are free of dams, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads. “Recreational” rivers are readily accessible by road or railroad, may have some development along their shorelines, and may have been dammed in the past.

Within the Rawlins FO (Region I, see **Figure 3.15-5**), the Muddy Creek was determined eligible for WSR “recreational” status, based on hydrological factors such that the evaluated portions of the creek serve as a “textbook” example of stream rehabilitation for land managers. However, the Rawlins FO ultimately determined that the creek segments did not meet suitability factors and would be given no further consideration for inclusion within the National Wild and Scenic Rivers System (NWSRS) (BLM 2002). Accordingly, this stream has not been carried forward for analysis in this EIS.

Portions of the Lower Green River (Region II, BLM Vernal FO) within the analysis area have been found to be eligible and recommended as suitable for inclusion into NWSRS and are shown on **Figure 3.15-6**. The Lower Green River segment (30 miles) extends from the public land boundary south of Ouray, Colorado, to the Carbon County line in Utah. The Lower Green segment continues through the Price FO to just north of Green River, Utah, for a total of 115 miles. There is a tentative classification of “Scenic” for both river segments.

The Lower Green River segment is largely protected from mineral development disturbance by either being closed to mineral leasing or by no surface occupancy (NSO) stipulations. NSO stipulations within the Vernal FO correlate with ROW avoidance areas. The river segments are in a limited or closed OHV category, with most of the segments limited to designated routes. The Lower Green River is protected with both Class I

and II VRM categories (see Section 3.12, Visual Resources, for a description of visual management categories). The Price FO segment of the Lower Green River is outside of the analysis area.

Within the Las Vegas FO (Region III, see **Figure 3.15-7**), there are two rivers that have been designated as eligible for the NWSRS and are protected under the Wild and Scenic Rivers Act until a suitability analysis has been completed. The suitability analysis will be completed as part of the RMP amendment process, which currently is underway. There is a tentative classification of "recreational" for an 11-mile section of the Muddy River and a tentative classification of "scenic" for an 11-mile Meadow Valley Wash riparian area. Both rivers have outstanding remarkable wildlife, cultural, and fish features. Suitability of these river segments has not yet been determined.

Table 3.15-2 provides an overview of classification criteria for "scenic" and "recreational" designations. Per BLM Manual 8351, which provides direction for identification, evaluation, and management of WSRs, new transmission lines, natural gas lines, etc., are discouraged unless specifically authorized by other plans, orders, or laws. Where no reasonable alternate location exists, additional or new facilities should be restricted to existing ROWs. Where new ROWs are unavoidable, locations and construction techniques shall be selected to minimize adverse effects on wild, scenic, or recreational river area related values and fully evaluated during the site selection process. These requirements also apply to river segments that have been found to be eligible for consideration as components of the NWSRS through the RMP process, but for which suitability has not yet determined.

Table 3.15-2 Classification Criteria for WSR "Scenic" and "Recreational" Areas

Criteria	Scenic	Recreational
Accessibility	Accessible in places by road. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable.	Readily accessible by road or railroad. The existence of parallel roads or railroads on one or both banks as well as bridge crossings and other river access points is acceptable.
Shoreline Development	Largely primitive and undeveloped No substantial evidence of human activity. The presence of small communities or dispersed dwellings or farm structures is acceptable. The presence of grazing, hay production, or row crops is acceptable. Evidence of past or ongoing timber harvest is acceptable, provided the forest appears natural from the riverbank.	Some development. Substantial evidence of human activity. The presence of extensive residential development and a few commercial structures is acceptable. Lands may have been developed for the full range of agricultural and forestry uses. May show evidence of past and ongoing timber harvest.
Water Resource Development	Free of impoundment	Some existing impoundment or diversion. The existence of low dams, diversions, or other modifications of the waterway is acceptable, provided the waterway remains generally natural and riverine in appearance.

Table 3.15-2 Classification Criteria for WSR “Scenic” and “Recreational” Areas

Criteria	Scenic	Recreational
Water Quality	<p>No criteria prescribed by the Wild and Scenic Rivers Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all WUS be made fishable and swimmable.</p> <p>Therefore, rivers will not be precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable Federal and State laws.</p>	

Source: BLM 2008c.

3.15.3.5 National Conservation Areas

NCA’s are designated by Congress to conserve, protect, enhance, and manage public lands for the benefit and enjoyment of present and future generations. **Table 3.15-3** identifies the three BLM NCA’s within the analysis area, which include the McInnis Canyons NCA in Colorado (**Figure 3.15-2**), the Beaver Dam Wash NCA in Utah (**Figure 3.15-3**), and the Sloan Canyon NCA, in Nevada (**Figure 3.15-4**).

Table 3.15-3 BLM National Conservation Areas

Region	Name	Management Description
Region II	McInnis Canyons NCA (123,400 acres)	<p>Managed for the core objective of multiple uses, allowing for as wide a range of activity as possible, while protecting the resources of the CCNCA for future use and enjoyment. Per the Colorado Canyons NCA RMP (BLM 2004), “ROW proposals will be reviewed and approved on a case-by-case basis and will be subject to constraints, sensitive resource areas, and issues identified in the Colorado Canyons NCA RMP and other applicable documents and policies.” Utility line proposals, from the I-70 corridor to the Colorado River or in the upper Black Ridge road area, will be required to be located underground and along the edge of or within roadways, or within the railroad ROW. Additions or modifications to aboveground utilities will only be considered within the existing utility corridors where aboveground facilities presently exist. Underground utility proposals also will be considered in these existing corridors.</p>
Region III	Beaver Dam Wash NCA (63,500 acres)	<p>Managed to protect important biological, ecological, historical, and scenic resources as well as diverse recreational opportunities. The NCA also provides critical habitat for Mojave Desert tortoises, a federally threatened species. Three major utility corridors, excluded from the NCA, contain roads that access electrical and natural gas transmission lines and fiber-optic cable lines. Per the St. George RMP, new ROW and temporary use permits are strongly discouraged within the Beaver Dam Slope ACEC and shall only be authorized if no reasonable alternative exists and impacts to tortoises and their habitat can be mitigated. Surface disturbance (before restoration) resulting from all ROW in the ACECs shall not exceed 40 acres through the life of the project. Construction of unpaved roads could occur only if positive benefits to tortoise management would occur and would require concurrence from the USFWS. Paving would not be allowed. Speed limits exist within the ACEC. The BLM St. George Field Office is preparing a Management Plan to address recreation uses and facilities while protecting the special values of the NCA.</p>
Region IV	Sloan Canyon NCA (48,000 acres)	<p>Managed to conserve, protect, and enhance the cultural, archaeological, natural, wilderness, scientific, geological, historical, biological, wildlife, educational, and scenic resources of this area. Established in 2002, the conservation area encompasses approximately 48,000 acres. The area features significant archaeological sites, scenic vistas, important wildlife habitat, and opportunities for primitive recreation.</p>

BLM 2004, 1999.

3.15.3.6 National/State Scenic Byways and Backways

National or state scenic byways and backways provide an opportunity for the public to experience landscapes with significant outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities. Impacts to scenic byways and backways are discussed in Section 3.12, Visual Resources, and Section 3.13, Recreation.

3.15.3.7 Designated National Trails

Introduction

The National Trails System is a network of historic, scenic, and recreation trails created by the National Trails System Act of 1968 (as amended) to “promote the preservation of, public access to, travel within, and enjoyment and appreciation of the open air, outdoor areas and historic resources of the Nation” [16 USC 1241].

- A *national scenic trail* is a congressionally designated trail that is a continuous and uninterrupted extended, long-distance trail so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant resources, qualities, values, and associated settings and the primary use or uses of the areas through which such trails may pass. NSTs may be located so as to represent desert, marsh, grassland, mountain, canyon, river, forest, and other areas, as well as landforms that exhibit significant characteristics of the physiographic regions of the Nation (BLM Manual 6280).
- A *national historic trail* is a congressionally designated trail that is an extended, long-distance trail, not necessarily managed as continuous, that follows as closely as possible and practicable the original trails or routes of travel of national historic significance. The purpose of a National Historic Trail is the identification and protection of the historic route and the historic remnants and artifacts for public use and enjoyment. A National Historic Trail is managed in a manner to protect the nationally significant resources, qualities, values, and associated settings of the areas through which such trails may pass, including the primary use or uses of the trail (BLM Manual 6280).
- A *national recreation trail* is a trail designated by the Secretary of the Interior, or delegated officer, through a standardized process, including a recommendation and nomination by the BLM. National Recreation Trails provide a variety of compatible outdoor recreation uses in or reasonably accessible to urban areas or high-use areas. (BLM Manual 6280). National recreation trails are discussed in Section 3.13, Recreation.

Within the analysis area, there is one NST and one NHT:

- Old Spanish NHT (located within Region II and Region III)
- CDNST (located within Region I)

Additionally, the Overland and Cherokee trails are currently under a feasibility study to be amended to the California NHT. Both trails are located within Region I.

National Trail Management

NSTs and NHTs are formally administered by the NPS, BLM, or USFS; however, the land along the national trails is in both public and private ownership and may include tribal lands. In 2006, a memorandum of understanding (06-SU-11132424-196) was signed by the BLM, NPS, USFWS, USFS, USACE, and FHWA to encourage long-term interagency coordination under the authority of the National Trails System Act of 1968. Subsequent to this memorandum, the BLM has developed a series of National Trails System manuals (BLM Manuals 6250, 6280, and 8353) to provide administrative and management guidance. Once congressionally designated, administering agencies are required to develop a Comprehensive Management Plan (CMP) or trailwide Comprehensive Plan. BLM policy establishes that the CMP or trailwide

Comprehensive Plan is a strategic document through which the administration agency defines the nature and purpose(s) of the trail, selects the National Trail ROW, and provides general aspirational goals for the National Trail. If developed, the trailwide CMP (and other reference documents), is then used to provide information about national trails in the development of land use planning documents (e.g., BLM FO RMPs and USFS LRMPs). For the BLM, in cases where a trail is under study or has been recommended as suitable for designation and Congress has not yet acted to designate the trail, the appropriate federal agency manages the values, characteristics, and settings of the trail in accordance with FLPMA.

To date, the Old Spanish NHT does not have a trailwide Comprehensive Plan. A Comprehensive Plan was prepared for the Continental Divide NST in 1985 and amended in 2009.

Analysis Considerations for National Trails

Federal agencies must consider the effects of proposed actions on NSTs and NHTs under NEPA and the National Trails System Act of 1968 [16 U.S.C. 1246]. The law states that “other uses along the trail, which will not substantially interfere with the nature and purposes of the trail, may be permitted by the Secretary charged with the administration [management] of the trail. Reasonable efforts shall be made to provide sufficient access opportunities to such trails and, to the extent practicable, efforts shall be made to avoid activities incompatible with the purposes for which such trails were established.” In addition, Section 9 (a) [16USC1248] states that “The Secretary of the Interior or the Secretary of Agriculture as the case may be, may grant easements and rights-of-way upon, over, under, across, or along any component of the national trails system in accordance with the laws applicable to the national park system and the national forest system, respectively: Provided, That any conditions contained in such easements and rights-of-way shall be related to the policy and purposes of this Act.” Analysis considerations for Designated National Trails under NEPA and the National Trails System Act of 1968 [16 U.S.C. 1246], include:

- The extent to which the proposed action would affect the BLM’s ability to effectively manage the nature and purposes of the trail, trail resources, qualities, values, uses (including public access and enjoyment) and associated settings; and
- The extent to which a proposed action would require a major relocation of the National Trail Management Corridor in order to provide for the conservation and enjoyment of the nationally significant resources, qualities, values, and associated settings of the areas through which such trails may pass, or the primary use or uses of the trail.

Additional Considerations for National Historic Trails

NHTs differ from “regular” trails, which generally can be described, inventoried, and managed as one linear route. The Federal Geographic Data Committee Federal Trail Data Standards describe NHTs as an informal “corridor,” rather than a single line on a map. Each “NHT corridor” is comprised of the trail route (both congressionally designated as well as the route and sites where history actually occurred if different from the designated route), associated heritage sites, and recreation and/or interpretive trail/road/sites that people can use.

Per BLM Manual 6280, NHTs are to be managed “to recognize the nationally significant resources, qualities, values, and associated settings of the areas through which such trails may pass, including the primary use or uses of the trail. Federal Protection Components associated with the National Historic Trail, including high potential historic sites, and high potential route segments, as well as auto tour routes are identified by the National Trail administering agency through the trailwide Comprehensive Plan.” The National Trails System Act of 1968 and other applicable legislation defines “high potential routes” as those offering visitors a high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of an historic route. “High potential historic sites” refers to those sites related to the route or sites in close proximity thereto, which provide opportunity to interpret the historic significance of the trail during the period of its major use. To meet the goals of the National Trails System Act for NHTs, federal agencies must identify and protect not only the

physical remnants of high potential route segments and high potential historic sites (16 USC 16 1251) associated with the route, but its nature and purposes as well.

Three primary assessment tools are used to characterize NHTs: Condition Category classification, VRI data, and historic integrity assessments.

The NHT Condition Categories are federal standard classifications designed to assess the comparative character of visible trail remnants observed at the time of mapping for all NHTs. NHT Condition Categories Encompass: 1) documentation of the historic location; and 2) presence (or lack) of visible trail remnants and/or artifacts that provide evidence of the historic route. There are six NHT Condition Categories:

- NHT I – Location verified, evident, and unaltered
- NHT II – Location verified and evident with minor alteration
- NHT III – Location verified with little remaining evidence
- NHT IV – Location verified and permanently altered
- NHT V – Location approximate or not verified
- NHT VI – Location verified with historic reconstruction

NHT Condition Categories are applicable to the heritage resource component of the NHT and not to the recreation or interpretive components, and do not reflect the character or integrity of the NHT setting or surrounding landscape.

The VRI process provides land managers with a means for determining visual values. VRI classes represent the relative value of the visual resources and provide the basis for considering visual values in the resource management planning process. In the BLM or USFS VRI process, public lands are divided into Scenic Quality Rating Units (SQRUs) and rated on apparent scenic quality, which is determined using seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. Class A: 19 or more points, B: 12-18 points, Class C: 11 or less points. Section 3.12, Visual Resources, provides more information regarding VRI. As discussed in Section 3.12, Visual Resources, the Project would result in no less than a minus four (-4) points in total. Thus, Class A could be reduced to Class B based on an existing SQRU score of 19 to 22, and Class B could be reduced to Class C if the existing SQRU were in the 12 to 15 point range.

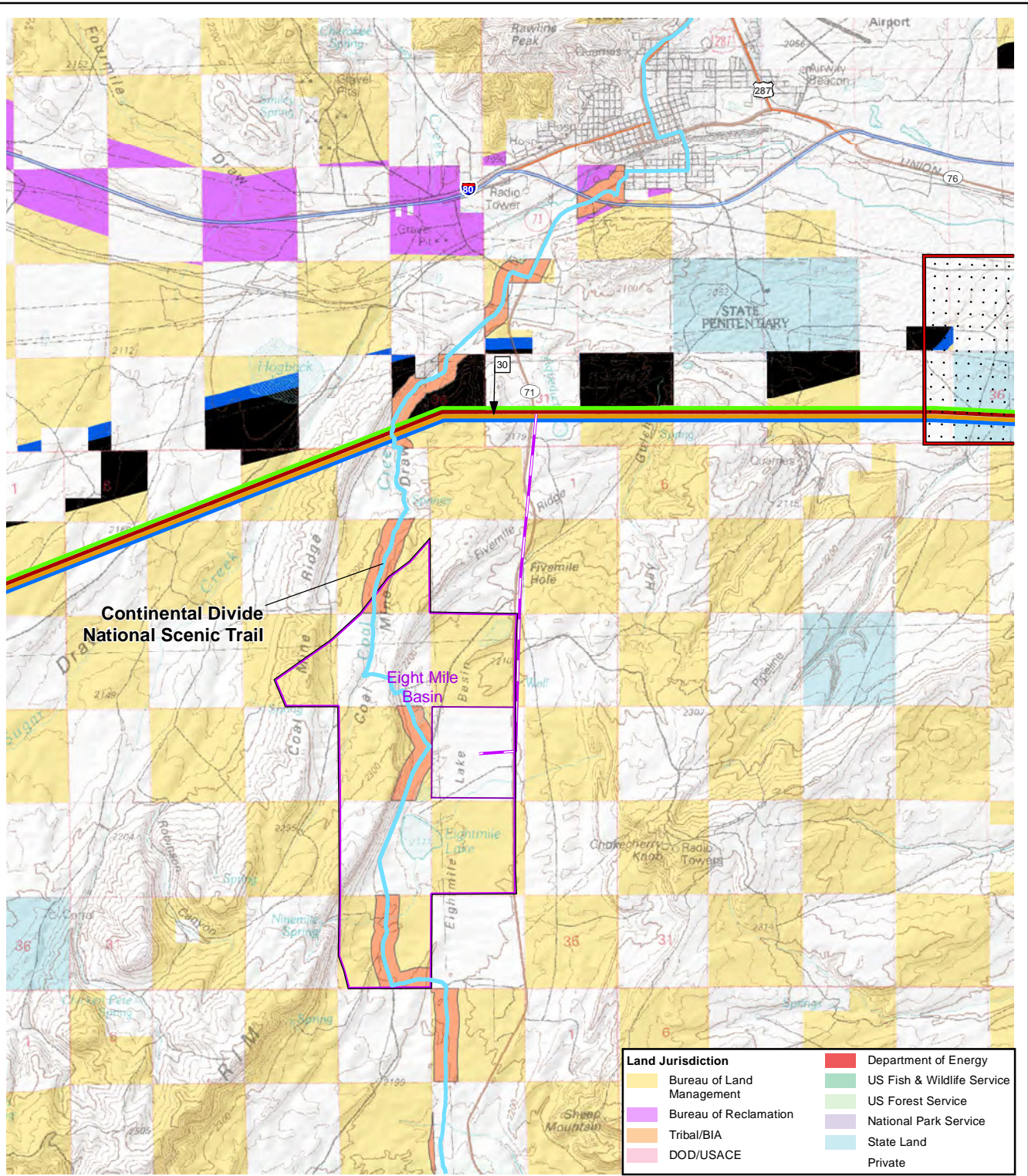
The NRHP defines historic integrity as “a property’s historic identity evidenced by the survival of physical characteristics from the property’s historic or pre-historic period. The seven qualities of integrity are location, setting, feeling, association, design, workmanship, and materials.” Historic Integrity is determined by the extent to which the general character of the historic period is evident and the degree to which incompatible features obscuring that character are present (and in some cases, whether they can be reversed) (AECOM 2012).

National Trails within the Analysis Area

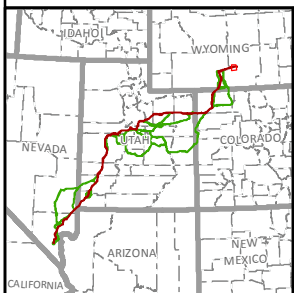
Continental Divide National Scenic Trail

There is one NST within Region I of the analysis area: the CDNST (**Figure 3.15-9**). The 3,100-mile CDNST runs along the Rocky Mountains from Canada to Mexico. Administered by the USFS, a CMP was developed in 1985 and amended in 2009. As stated in the CMP, the trail’s nature and purpose is “to provide for high-quality scenic, primitive hiking and horseback riding opportunities and to conserve natural, historic, and cultural resources along the CDNST corridor” (USFS 2009a). The Rawlins FO RMP also provides management actions to emphasize interpretive and education opportunities, including designation of a 600-acre CDNST SRMA to emphasize interpretive and educational opportunities and to ensure the

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Land Jurisdiction	
	Bureau of Land Management
	Bureau of Reclamation
	Tribal/BIA
	DOD/USACE
	Department of Energy
	US Fish & Wildlife Service
	US Forest Service
	National Park Service
	State Land
	Private



	Terminal Siting Area		Potential Ground Electrode Siting Area
	Node		Potential Ground Electrode Site
	Applicant Proposed I-A		Potential Ground Electrode Overhead Electrical Line
	Alternative I-B		Continental Divide National Scenic Trail
	Alternative I-C		Special Recreation Management Area
	Agency Preferred I-D		Designated Utility Corridors
	Alternative Variation or Connector		WWEC FEIS
	Segment not in this Region		All
	Segment ID		RMP and LRMP
			All
			Underground Only

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.15-9
Region I
Continental Divide National Scenic Trail

0 0.5 1 2 Miles

0 0.5 1 2 km

1:100,000

continued availability of outdoor recreation opportunities associated with the trail. The SRMA contains the 82 miles of CDNST located on federal lands within the Rawlins FO. Recreation activities within the SRMA include backpacking, mountain biking, camping, hunting, OHV use, picnicking, and wildlife viewing. The SRMA is an avoidance area for linear utility systems.

The portion of the CDNST alignment and SRMA that potentially would be crossed by the Project is located south of Rawlins, Wyoming, approximately 3 miles south of Interstate Highway 80. The general area includes dispersed residential development, an existing transmission line and RMP-designated utility corridor, a state penitentiary, and a variety of industrial facilities. As a result, there are limited recreation opportunities along this section of the trail. The Rawlins FO's VRI has given this area a rating of Class B (medium, with a score of 17).

Overland and Cherokee Trails (Potential National Trails)

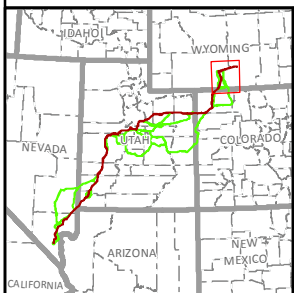
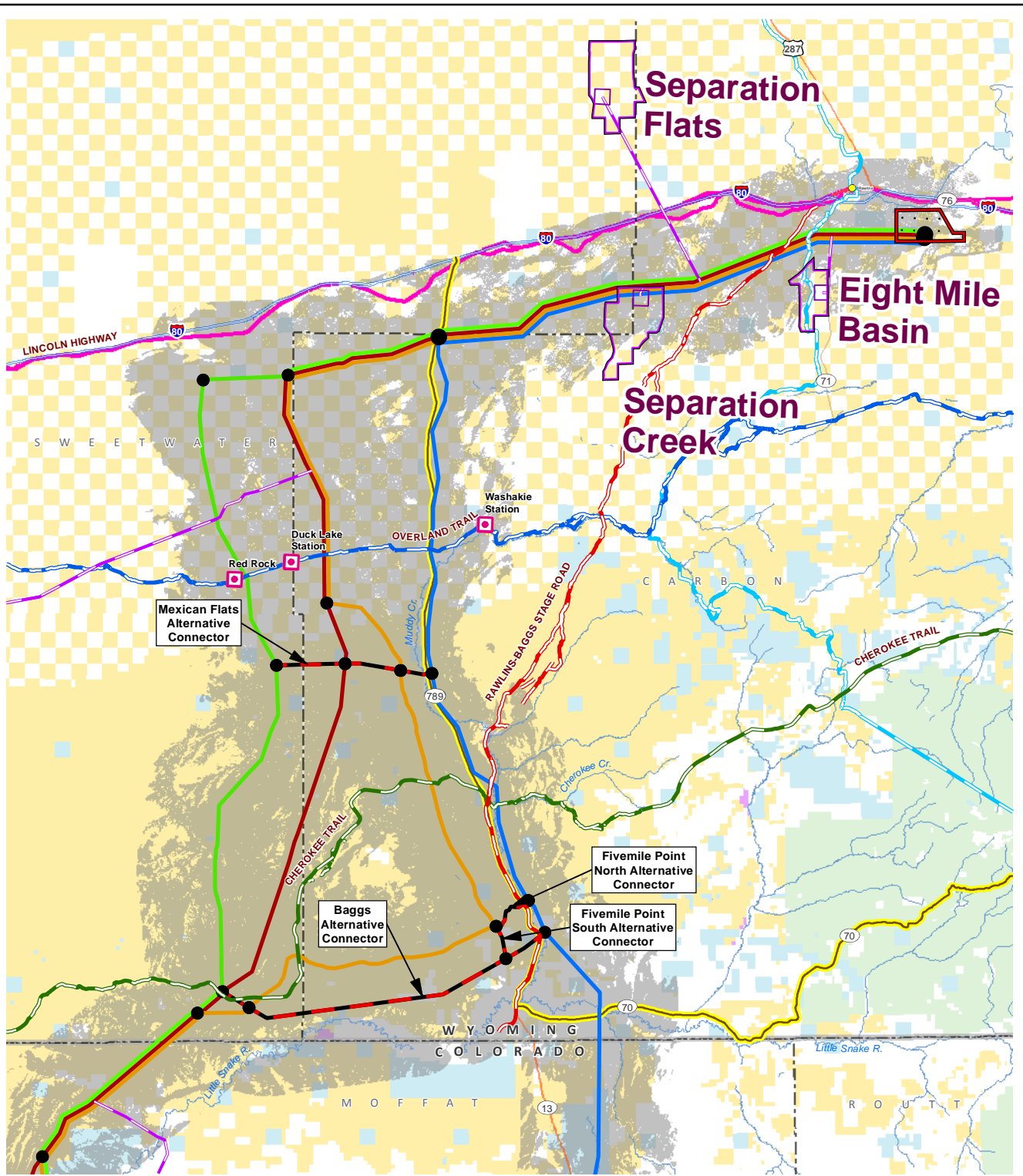
The Cherokee Trail is most commonly known for its use as an alternative route to the Oregon Trail, but it also served as a transportation route for freight, cattle, and passengers between Utah and Colorado to the Union Pacific Railroad in Wyoming. One segment of the southern route of the Cherokee Trail eventually became known as the Overland Trail, which was heavily used by emigrants and prospectors largely as an alternative route to the Oregon Trail. The Overland and Cherokee trails currently are under a feasibility study to be amended to the California NHT (Four Trails Feasibility Study Revisions/Environmental Assessment project: Revisions to Feasibility Studies for Oregon, Mormon Pioneer, California, and Pony Express NHT). A CMP was developed by the NPS for the California NHT in 1999, which likely would be modified after the completion of the feasibility study for the Overland and Cherokee Historic Trails. As stated in the California NHT 1999 CMP, the nature and purpose of the California NHT is to “enable all people to envision and experience, in a coherent and convenient way, the heritage and impacts on the western overland migration” (NPS 1999).

The BLM Rawlins FO has provided management direction in their 2008 RMP to protect resources associated with these historic trails, including a NSU stipulation within 0.25 mile or the visual horizon to the trail, whichever is closer (see **Appendix C**). The RMP also stipulates that actions resulting in linear crossings of the trails will occur in previously disturbed areas and will be managed in accordance with BMPs. The RMP provides no management with regard to compliance with the BLM National Trails Manuals series, recently released. NHT Condition Category and historic integrity assessment data are not available for these trails.

The Overland Trail traverses the Rawlins FO for approximately 18 miles and generally is parallel to I-80. There are three portions of the Overland Trail that potentially would be crossed by the Project alternatives within Region I. **Figure 3.15-10** shows the location of the Overland and Cherokee trails as related to the alternatives. From east to west, the trail crossing locations would be as follows:

- Along Highway 789, approximately 18 miles south of the intersection of Highway 789 and I-80. The 38-mile section of Highway 789 from Baggs to I-80 is part of the 205 mile Outlaw Trail Scenic Highway. There is an interpretive sign located on Highway 789 where the Overland Trail crosses the highway. The trail crossing would be located on private land within the confines of a designated utility corridor. Scenic quality is low in this area (Class C, with an SQRU score of 6). East of Highway 789, the Overland Trail generally parallels the Muddy Creek. Washakie Station, one of the few associated historic sites with standing ruins, is located less than 4 miles east of the highway.
- Approximately 16 miles south of Wamsutter, Wyoming, about 1 mile west of the Overland Trail's intersection with Wamsutter Road. The crossing would be located approximately 0.4 mile south of the Eureka Headquarters road and directly adjacent to an unnamed oil and gas access road. The Duck Lake Station, an associated historic site, would be about 4 miles to the west of the crossing. Nothing remains at this site. There are no associated recreation areas located near these trail segments and there are numerous well pads and an access road in the area. Scenic quality is low

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- Terminal Siting Area
- Node
- DEIS Alternative Routes**
- Applicant Proposed I-A
- Alternative I-B
- Alternative I-C
- Agency Preferred I-D
- Alternative Variation or Connector
- Transmission Line Visibility to 5 Miles
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line
- Associated Historic Site
- Overland Trail
- Cherokee Trail - Southern Route
- Rawlins-Baggs Stage Road
- Continental Divide National Scenic Trail
- Lincoln Highway
- Scenic Byways/Backways

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.15-10
Region I
Overland and Cherokee Trails

0 4 8 12 Miles
0 3 6 9 12 km

1:600,000

in this area (Class C, with an SQRU score of 6). The trail crossing would be located on BLM land, but would not be within a designated utility corridor.

- Approximately 16 miles south of Wamsutter, Wyoming, about 6 miles west of the Overland Trail's intersection with Wamsutter Road and immediately adjacent to the Eureka Headquarters road. Scenic quality is low in this area (Class C, with an SQRU score of 8). Duck Lake Station would be about 1.5 miles to the east of the proposed crossing. Red Rock, a historical inscription site, would be about 3.25 miles to the west of the proposed crossing, on private land. There are no recreation areas or interpretive features located near these trail segments. There are numerous well pads and access road in the area. The trail crossing would be located on private land within the confines of a designated underground utility corridor.

The Cherokee Trail traverses the Rawlins FO in an east-west direction, crossing Highway 789 approximately 6 miles south of Dad, Wyoming, and 15 miles north of Baggs, Wyoming. The Cherokee Trail continues west just north of Flat Top Mountain, then drops to the southwest and follows the Powder Rim along a series of small washes. There are five portions of the Cherokee Trail that potentially would be crossed by the Project alternatives. From east to west, the trail crossing locations would be as follows:

- Approximately 12 miles north of Baggs and less than 1 mile east of Highway 789. The trail crossing would be directly to the east of Muddy Creek and to the south of Cherokee Creek (which generally parallels the Cherokee Trail route in this area). These two perennial water sources are associated with the Cherokee Trail in that they undoubtedly influenced its location. There are no interpretive signs located on the Highway and no associated historic sites located near these trail segments. The trail crossing would be located in BLM lands, immediately east of (but outside of) a designated utility corridor. Scenic quality is average in this area (Class B, with an SQRU score of 12).
- Approximately 14 miles north of Baggs and approximately 3 miles west of Highway 789. The trail crossing would be 4 miles east of North Flat of Mountain and adjacent to an oil and gas access road. There are no associated historic sites, recreation areas, or interpretive features located near these trail segments. The trail crossing would be located on BLM land and would not be within a designated utility corridor. Scenic quality is average in this area (Class B, with an SQRU score of 12).
- Approximately 13 miles west of Baggs, Wyoming, near the convergence of Shell Creek Stock, Poison Butte, and W. Hangout Roads. The Cherokee Trail is located in a wash that ultimately drains into the Little Snake River. There are no associated historic sites, recreation areas, or interpretive features located near these trail segments. The trail crossing would be located on BLM land and would not be within a designated utility corridor. Scenic quality is low in this area (Class C, with an SQRU score of 9.5).
- Approximately 18 miles west of Baggs, Wyoming, and southeast of the Cherokee Trail Road. There are no associated historic sites, recreation areas, or interpretive features located near these trail segments. The trail crossing would be located on BLM land within a designated underground utility corridor. Scenic quality is average in this area (Class B, with an SQRU score of 12).
- Approximately 3.5 miles southwest of the crossing near Creek Stock/ Poison Butte / W. Hangout Roads and 2.5 miles southeast of the crossing 18 miles west of Baggs. There are no associated historic sites, recreation areas, or interpretive features near trail segments in this area. The trail crossing would be on BLMs lands and would not be within a designated utility corridor. Scenic quality is average in this area (Class B, with an SQRU score of 12).

Old Spanish National Historic Trail

The Old Spanish NHT was designated as such on December 4, 2002, by the Old Spanish Trail Recognition Act of 2002, to be co-administered by the BLM and NPS. The NHT consists of a trail network overlain on Native American trails that crossed the expanse of the Colorado Plateau and the Mojave Desert, followed by trappers and traders from the 1820s through 1840s to reach a variety of destinations, including but not

limited to California. Much of the network was later incorporated into improved wagon road travel routes. There are portions of the Old Spanish NHT in Regions II, III, and IV; however, inventoried analysis units (AUs) only occur in Regions II and III.



Although no Class III inventories or in-depth visual analyses have been conducted to date for the Project, the EIS analysis of impacts to the Old Spanish NHT was supported with data obtained from the National Historic Trails Inventory Project (AECOM 2012). The 2012 National Historic Trails Inventory Project was not conducted for the Project, but was a separate endeavor conducted by the BLM using American Recovery and Reinvestment Act (ARRA) funding and staff resources to develop and apply new inventory and management tools that include consistent standards for trail resource documentation, protection, use, and preservation. A total of six NHTs across the western U.S. were investigated as part of the 2012 NHT Inventory. Of these six trails, only the Old Spanish NHT is located within the analysis area.

The Old Spanish NHT inventory is organized by 52 distinct AUs (i.e., selected route segments, sites, features, or trail resources). Each trail segment within an AU was categorized under the NHT Condition Categories. In order to identify high potential route segments, the 2012 National Historic Trail Inventory Project considered NHT Condition Category in conjunction with two setting components, scenic quality and the historic integrity of the setting (described earlier in this section). These were combined to result in a composite setting rating.

	Scenic Class A	Scenic Class B	Scenic Class C
Retains Integrity	SI	SI	SII
Diminished Integrity	SII	SIII	SIII

The composite setting rating was then arrayed against NHT Condition Category to derive an overall rating.

	SI	SII	SIII
NHT I/II	Exceptional Expression of Northern Terminal Siting Area Values	Exceptional Expression of Northern Terminal Siting Area Values	Notable Expression of Northern Terminal Siting Area Values
NHT III	Notable Expression of Northern Terminal Siting Area Values	Evident Expression of Northern Terminal Siting Area Values	High potential segment
NHT IV-VI	Evident Expression of Northern Terminal Siting Area Values	High potential segment	High potential segment

The following sections discuss the general location of the Old Spanish Trail by region; agency management of the portions of the trail within the analysis area; and the trail resources, qualities, values, uses (including public access and enjoyment), and associated settings within the analysis area.

Region II Analysis Area Old Spanish Trail Segments and Analysis Units

Within the Region II analysis area, the Old Spanish NHT follows a portion of the Colorado River west of the community of Fruita in Mesa County, Colorado; it continues west into Grand County, Utah (BLM Moab FO) along a highway corridor (U.S. Route 6/US 50/I-70) just below the Book Cliffs mountain range. Thereafter, the trail turns north-northwest through the San Rafael Desert and reaches its northernmost point in the northern half of the San Rafael Swell in Emery County (BLM Price FO). The Old Spanish NHT main route continues in a generally southwestern direction across Utah, along the Highway 89 corridor until the town of Junction, Utah, at which point the trail enters Region III, crossing the mountains separating Highway 89 from the I-15 corridor at Cedar City (Iron County). Both the BLM Moab and Price FOs have included direction for Old Spanish NHT management within their 2008 RMPs. However, these RMPs do not address compliance with the recently released BLM National Trails Manuals series and have not defined a National Trail Management Corridor. The Moab RMP indicates that it will consider plan amendment, as necessary, to incorporate provisions of the forthcoming Old Spanish NHT CMP.

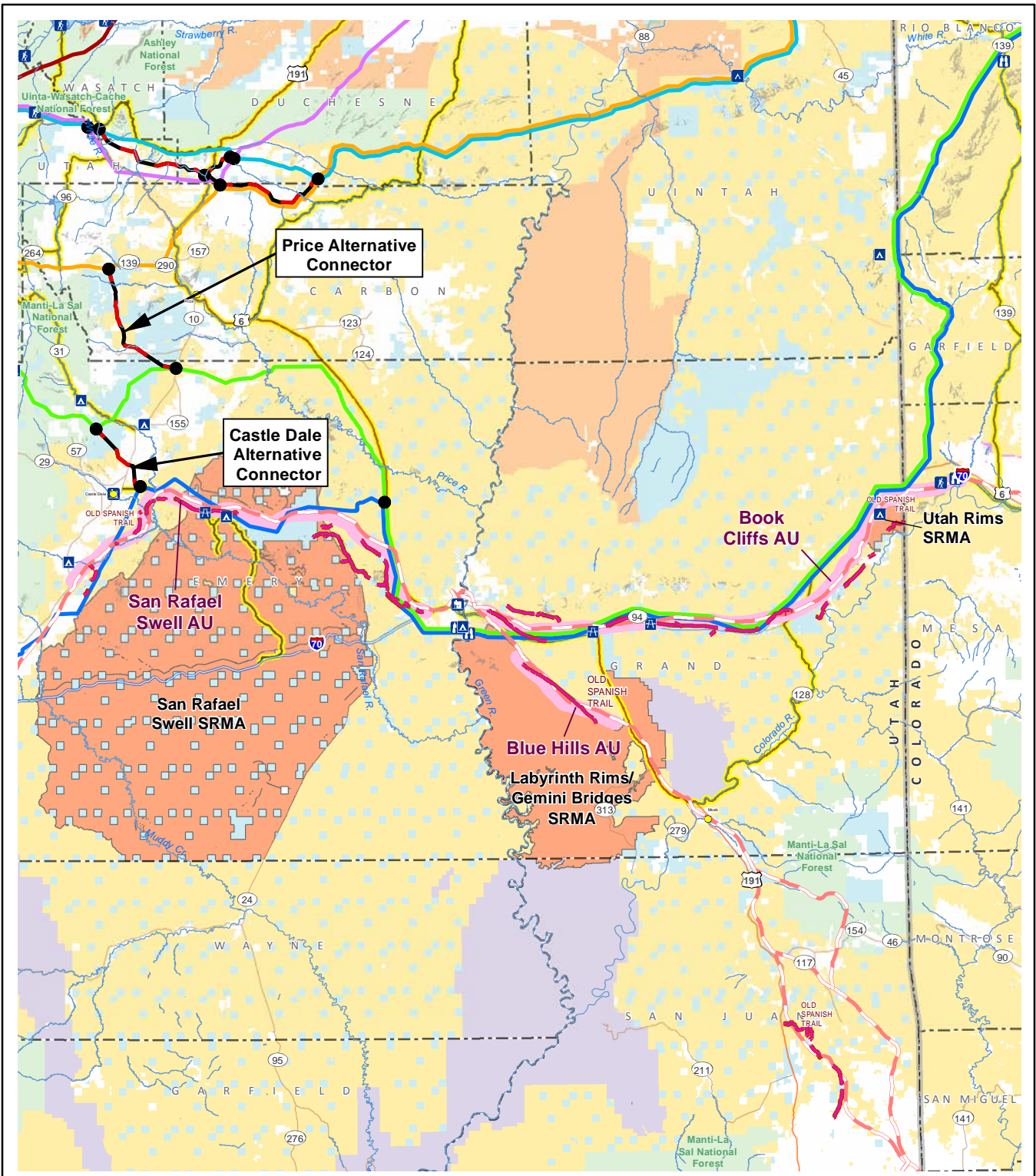
The Region II analysis area includes the three AUs inventoried as part of the 2012 NHT Inventory: Book Cliffs, Blue Hills, and the San Rafael Swell AUs. **Figure 3.15-11** identifies the location of each AU corridor, including associated historic sites and key recreation and natural features, as related to the alternatives within the analysis area.

The Book Cliffs AU (Moab FO) contains portions of the Old Spanish NHT northern route and generally is located along I-70 from the Colorado border to the Green River area. There are 62 miles of inventoried trail within the AU; approximately 11 miles are NHT-II and rated as Exceptional. The remaining 51 miles of trail are primarily considered to be High Potential. Condition Category II segments occur in the east and west portions of the AU (AECOM 2012).

The eastern portion of the Book Cliffs AU is located slightly south of and generally parallel to I-70. The Old Spanish NHT route is evident through this area as a two-track road or a long swale. Integrity of historic setting is retained, and scenic quality is average (Class B, with an SQRU score of 14), resulting in an overall setting rating of SI (AECOM 2012). The easternmost portion is partially located within the Utah Rims SRMA. The SRMA focuses on motorized, mechanized, and non-motorized route for the rapidly growing Grand Junction area and contains several camping areas. The portion of Highway 70 east of Highway 128 is part of the Dinosaur Diamond Prehistoric Byway.

The central portion of the Book Cliffs AU primarily is located along I-70. The OST trail route exists as a section of old highway or a barely evident grass swale. Trail segments in this area have diminished historic setting and low scenic quality (Class C, with SQRU scores of around 10) where it is adjacent to I-70 and railroad features, resulting in an overall rating of SIII (AECOM 2012). This portion of I-70 is not a part of the

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	DEIS Alternative Routes Applicant Proposed II-A Alternative II-B Alternative II-C Alternative II-D Alternative II-E Agency Preferred II-F Alternative Variation or Connector Transmission Line Visibility to 5 Miles	Old Spanish Trail (Inventoried) Old Spanish Trail (General) National Historic Trail Analysis Units Scenic Byways/Backways Campground Trailhead Museum Overlook Rest Area/Visitor Center Special Recreation Management Area	<p align="center">TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p align="center">Figure 3.15-11 Region II Old Spanish Trail</p> <p>0 5 10 20 Miles 0 5 10 20 km</p> <p>1:1,250,000</p>
	<p>Exported On: 4/18/2013</p>		

Dinosaur Diamond Prehistoric Byway. There is one rest stop along this portion of the highway at Thompson Springs (milepost 189). The rest stop offers brochures and maps and provides access for hiking and to nearby Native American rock art at Se-go Canyon.

The western portion of the Book Cliffs AU is located along I-70 west of Highway 191. The trail route is marked, variously, as a section of old highway, a single-track path, or a barely evident grass swale. At least one inscription from 1837 occurs within this segment. Integrity of historic setting is retained in the west sections of this AU (especially along the northern portion), and scenic quality is average (Class B, with an SQRU score of 11.5), resulting in an overall rating of SI in the northern segment (AECOM 2012). This portion of I-70 adjacent to the trail is part of the Dinosaur Diamond Prehistoric Byway. The Crescent Junction rest stop (located at milepost 181, at the turnoff to Highway 191) offers a view of the Cisco Desert and Bookcliffs, but has no interpretive sites. The Moab FO RMP includes a management decision to acquire public access to the site of the Old Spanish NHT ford of the Green River, upstream from the town of Green River, Utah, for the purpose of developing an interpretive site. To date, there is no interpretive site located in this area; however, the John Wesley Powell museum is located in the Town of Green River, adjacent to the modern river crossing, and offers historical interpretation displays and other visitor information.

The Blue Hills AU (Moab FO) contains portions of the Old Spanish NHT main route and generally is located south of the Green River, where the Old Spanish NHT main route joins the northern route. In places, the Old Spanish Trail route is visible as wagon ruts or a narrow swale; in other places, any trace of the trail has been obscured by a bladed road. Integrity of historic setting is retained throughout this AU with only a few intrusions, and scenic quality is average (Class B, with an SQRU score of 11.5) over most of the AU, resulting in an overall rating of SI. There are 13 miles of inventoried trail within the AU; approximately 3 miles are NHT-II and rated as Exceptional. An additional 0.5 mile of trail is rated as Notable. The remaining 10 miles of inventoried trail is considered to be High Potential. The northern portion of this AU is located within the Labyrinth Rims/Gemini Bridges SRMA. The portion of the SRMA nearest this AU is mostly managed for river recreation, and there are no developed camping areas located near the trail segment. Highway 191 (which is a portion of the Dinosaur Diamond Prehistoric Byway) is located to east of the trail segments. A small airport is located at the south end of the AU.

The San Rafael Swell AU (Price FO) includes portions of the Old Spanish NHT northern route and generally is located between Green River and Castle Dale, Utah. There are 58 miles of inventoried trail within the AU; approximately 15 miles are NHT-II and rated as Notable. The remaining 43 miles of trail are considered to be High Potential.

Trail segments are generally located west of Highway 6 just north of the turnoff from I-70 and the Town of Green River (Lost Springs Wash/Trail Springs Wash and Green River Crossing-Cottonwood Wash to Big Flat trail segments), and within portions the San Rafael Swell between Little Cedar Mountain recreation area and Castle Dale, Utah (the Big Flat to Walker Flat trail segments). The trail route is marked, variably, by a two-track, bladed gravel roads, and swales. Integrity of historic setting varies along this AU. Overall, historic setting is retained, but somewhat diminished. Scenic quality primarily is low (Class C, with SQRU scores of 6.5 and 7) within the AU, with the exception of the Green River Crossing to Big Flat segments, which are rated as average (Class B with an SQRU scores of 15.5 and 11.5). The overall rating of San Rafael Swell AU is SIII (AECOM 2012).

The Lost Springs Wash/Trail Springs Wash Segment is managed to preserve the historic character of the landscape, while providing for recreation opportunities and other resources values (BLM 2008). The area provides motorized recreation (limited to designated route), is VRM III, and is a ROW avoidance area except where the designated utility corridor crosses the trail. There are no identified historic or interpretive sites within this area.

The Green River Crossing (via Cottonwood Wash) to Big Flat segment is managed to preserve the historic character of the landscape while providing for recreation opportunities and other resources values (BLM 2008). The area provides motorized recreation (limited to designated routes), contains VRM I, II, and

III areas, and allows ROWs only in the designated utility corridor. There are two areas within this segment that were important watering places and appear to have been used extensively for camping (Big Hole and Little Hole). There also is one potential historic site in this area, the possible Gunnison Expedition camp (AECOM 2012).

The Big Flat to Walker Flat segment and portions of the Green River Crossing to Big Flat segment largely parallel County Road 401 (also known as the Green River cutoff). There is interpretive signage in several locations along County Road 401. The trail segments nearest to Little Cedar Mountain are located on state lands and are not included in the 2012 NHT Inventory. For the purposes of this analysis, it was assumed that the quality of these trail segments is similar to the rest of Big Flat to Walker Flat, and that these segments also would be rated as High Potential. The Big Flat to Walker Flat segment is managed for motorized recreation uses, and there are several recreational areas near the trail, most notably the Wedge Overlook/Buckhorn Drive Scenic Backway. There is a visitor center at the junction of Wedge Road and County Road 401. The area contains VRM I, II, and III areas and allows ROWs only in the designated utility corridor. The portion of the AU within the San Rafael Swell also is part of the San Rafael Swell SRMA. The SRMA is managed to provide motorized and recreational opportunities and contains numerous hiking and OHV trails, largely located to the south of the Old Spanish Trail segments. There are no identified historic or interpretive sites within this area; however, the Museum of San Rafael in Castle Dale, Utah, contains displays of Old Spanish NHT artifacts.

Portions of the Fishlake National Forest located southwest of the San Rafael Swell AU also contain segments of the Old Spanish Trail. The 2012 NHT Inventory did not inventory trail segments on non-BLM lands, thus there is no information regarding the Scenic Class, historic integrity, or resulting overall setting rating for these trail segments. BLM lands directly to the west of the NFS lands are Class C with an SQRU score of 9.5.

Region III Analysis Area Old Spanish Trail Segments and Analysis Units

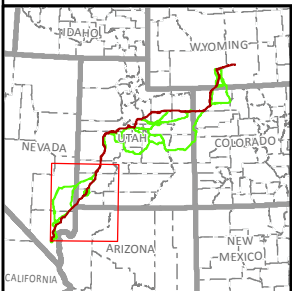
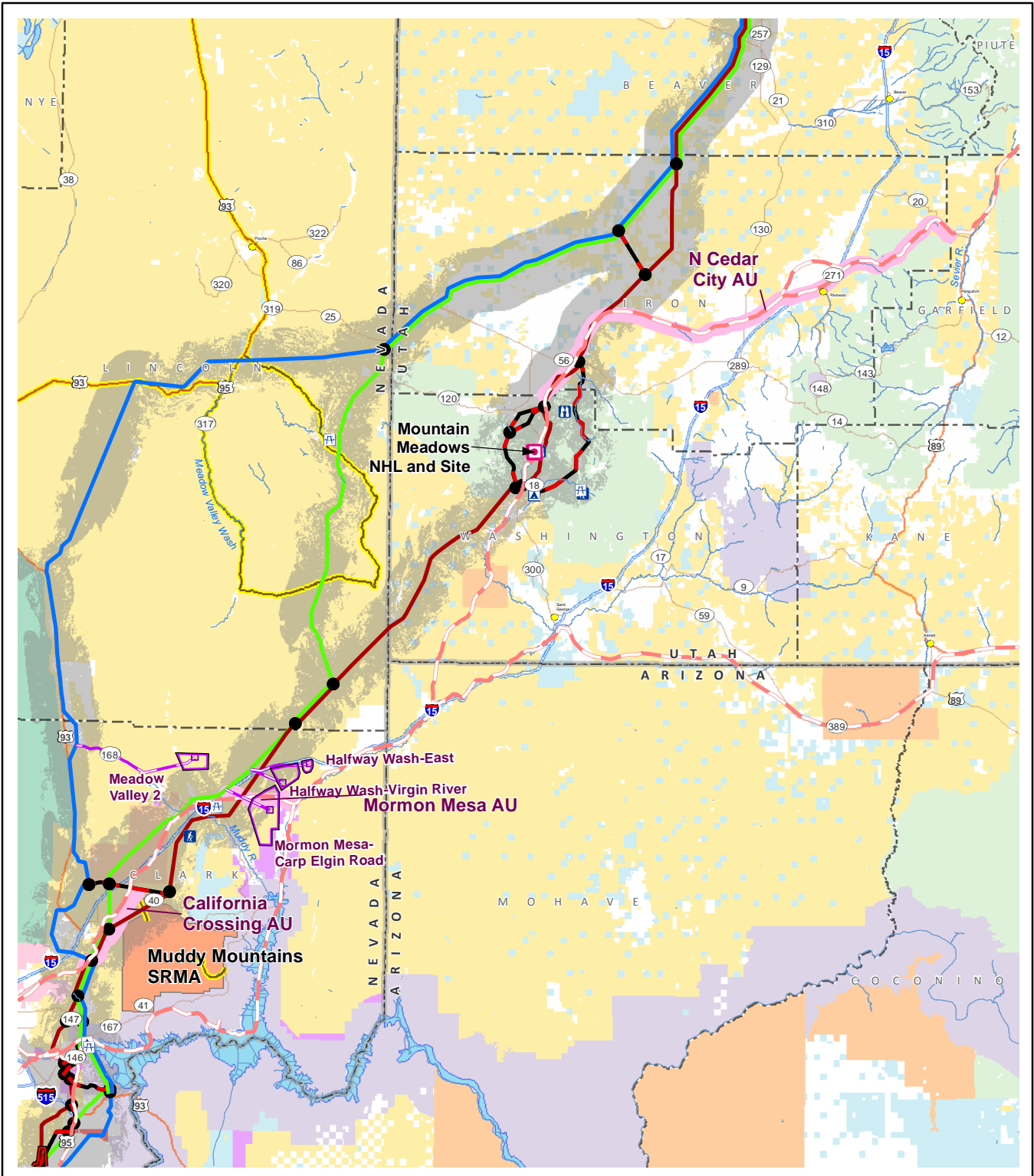
Within the Region III analysis area, the Old Spanish NHT continues west of Cedar City in Iron County, Utah (Cedar City FO), then turns south through the Dixie National Forest, and continues west and then south to the Mormon Mesa area near the Utah-Nevada border (St. George and Caliente FOs), rejoining I-15 and generally paralleling the highway corridor to Las Vegas in Clark County, Nevada (Las Vegas FO).

The St. George, Caliente, Cedar City, and Las Vegas FOs do not address the Old Spanish NHT or compliance with the BLM National Trails Manuals series in their RMPs and have not defined a National Trail Management Corridor. The Dixie National Forest LRMP provides some protection of the trail through management areas but does not address the Old Spanish NHT in its LRMP with regard to a defined National Trail Management Corridor or Management Plan.

The Region III analysis area includes three of the AUs inventoried as part of the 2012 NHT Inventory: N. Cedar City, Mormon Mesa, and California Crossing. **Figure 3.15-12** identifies the location of these AU corridors within the analysis area, including historic sites and key recreation and natural features as related to the alternatives and ground electrode areas within the analysis area. The general location of trail segments within the Dixie National Forest also is depicted on **Figure 3.15-12**.

The N Cedar City AU (Cedar City FO) includes portions of the Old Spanish NHT northern route. The AU generally is located northwest of Cedar City and directly north of Dixie National Forest. No NHT Condition Category is available for this AU because it is primarily located on private lands and the portion that is on BLM lands was not included in the 2012 National Historic Trails Inventory Report. The scenic quality in the portion of this AU within the analysis area is primarily Class C (SQRU score of 8.5), with a small portion of the trail within Class B (SRCU score of 13.5) on the eastern side of the AU. There are no associated historic sites, interpretive sites, or recreation areas located near these segments. Within the Dixie National Forest, the Old Spanish Trail generally parallels Mogotsu Creek north and west of Central, Utah. The Mountain Meadows NHL and Site, an associated historic site, is located along the trail. Highway 18, which

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	Terminal Siting Area		Old Spanish Trail (Inventoried)
DEIS Alternative Routes			Old Spanish Trail (General)
	Applicant Proposed III/IV-A**		National Historic Trail Analysis Units
	Alternative III/IV-B*		Scenic Byways/Backways
	Alternative III/IV-C		Historic Site
	Alternative Variation or Connector		Campground
	Transmission Line Visibility to 5 Miles		Trailhead
	Potential Ground Electrode Siting Area		Overlook
	Potential Ground Electrode Site		Rest Area/Visitor Center
	Potential Ground Electrode Overhead Electrical Line		Special Recreation Management Area
	* Agency Preferred Region III		
	** Agency Preferred Region IV		

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.15-12
Region III and IV
Old Spanish Trail

0 5 10 20 Miles
0 5 10 20 km

1:1,450,000

generally parallels the trail, is a popular route for motorized recreation. Trail segments within the Dixie National Forest (of which approximately 15 miles are in the analysis area, were not evaluated in the 2012 National Historic Trails Inventory Report for NHT Condition Category or composite setting ratings.

The Mormon Mesa AU (Las Vegas FO) includes portions of the Old Spanish NHT main route. The AU generally is located between I-15 and the Virgin River, near Logandale, Nevada. There are 12 miles of inventoried trail segments within the AU; approximately 8 miles are NHT-I and II and occur as a nearly continuous trail trace. These segments are rated as Exceptional. The remaining 4 miles are rated as Evident. Within the Mormon Mesa AU, the trail route can be seen but is utilized by OHVs in some locations. Remnants of stone retaining walls occur in segment where the trail traverses the escarpment between Mormon Mesa and the Virgin River floodplain. The Meadow Valley Wash and the Muddy River are located near the AU. Integrity of historic setting is retained throughout this AU, and scenic quality over most of the AU is average (Class B, with an SQRU score of 15) except for the easternmost area along the Virgin River, which has high scenic quality (Class A, with a SQRU score of 21), resulting in an overall rating of SI (AECOM 2012). There are no interpretive signs or recreation areas, but there is a rest stop located on the side of the highway opposite the trail segment. There are no associated historic sites located near these segments.

The California Crossing AU (Las Vegas FO) includes portions of the Old Spanish Trail main route. The AU is located about 20 miles northeast of Las Vegas, east of I-15, near the intersection of I-15 and Highway 93 (the Great Basin Highway). There are 3 miles of inventoried trail within the AU; approximately 1 mile is NHT II and rated as Exceptional. The remaining 2 miles are rated as High Potential. At most locations within the inventoried 3-mile segment, no specific trail location or trace could be identified. One segment with well-sorted gravels and two faint ruts was identified. Integrity of historic setting is retained with only a few minimal intrusions. Scenic quality is low (Class C, with a SQRU score of 8.5), resulting in an overall rating of SII (AECOM 2012). There are no associated historic sites, interpretive sites, or recreation areas located near these segments.

3.15.3.8 Designated National Historic Landmarks and Districts

There is one NHL within the analysis area, the Mountain Meadows NHL and Site in Washington County in southwestern Utah. This NHL marks where 120 emigrants, most of them from Arkansas, were massacred by Mormon militiamen. The landmark and district is managed by the USFS and comprises as a discontinuous district made up of two parcels, capturing two known locations of the events that occurred from September 7 through 11, 1857, and later burial, commemoration, and memorialization efforts that continue to the present. The two parcels comprise approximately 760 acres of the existing approximately 3,000-acre NRHP historic district, which was listed in 1975. Impacts to the Mountain Meadows NHL and Site historic landmark and district are discussed in detail in Section 3.11, Cultural Resources; Section 3.12, Visual Resources; and Section 3.13, Recreation.

3.15.3.9 Designated Roadless Areas and Unroaded/Undeveloped Areas

Inventoried Roadless Areas

IRAs are identified as areas of NFS land currently inventoried for planning purposes as roadless. The 2001 Roadless Area Conservation Rule prohibits road construction, road reconstruction, and timber harvesting on IRAs on NFS lands. IRAs were designated primarily to preserve existing quality habitat sustained and supported by the absence of fragmentation from roads construction and mining or timber harvesting activities. Criteria for IRA designation are size (5,000 acres or more OR the area must be contiguous to existing wilderness, primitive areas, or potential wilderness; a self-contained ecosystem [such as an island]; or have physical terrain or natural conditions that would allow preservation) and lack of permanently authorized roads.

In addition, the Roadless Rule contains nine attributes that contribute to roadless area evaluation:

- High quality or undisturbed soil, water, and air;
- Sources of public drinking water;
- Diversity of plant and animal communities;
- Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land;
- Primitive, Semi-Primitive Non-Motorized, and Semi-Primitive Motorized classes of dispersed recreation that provide recreation opportunities in areas with wilderness-like attributes but allow mechanized travel;
- Reference landscapes of relatively undisturbed areas that serve as a barometer to measure the effect of development on other parts of the landscape;
- Natural appearing landscapes with high scenic quality;
- Traditional cultural properties and sacred sites; and
- Other locally identified unique characteristics, such as, uncommon geological formations, unique wetland complexes, or social, cultural, or historical characteristics.

Wilderness attributes may also be affected by land-disturbing activities that occur in IRAs. The specific categories of wilderness quality that are considered for impacts include:

- Untrammeled (Is the land unhindered and free from modern human control or manipulation?).
- Natural (Are the land's ecological systems substantially free from the effects of modern civilization?).
- Undeveloped (Is the land essentially without permanent improvements or modern human occupation?).
- Outstanding opportunities for solitude or primitive/unconfined recreation (Can the land provide a solitary and natural recreation experience?).
- Special features (Does the land possess special ecological, geologic, scenic, or other significance?).
- Manageability (Can the land be managed to meet the wilderness size criteria of 5,000 acres?).

The Roadless Rule does not prohibit special use developments, but generally does prohibit the construction or reconstruction of any roads associated with these uses within the boundaries of an IRA.

Unroaded/Undeveloped Areas

Pursuant to prior NFMA implementing regulations at 36 CFR 219.17 (as published in 36 CFR 200 to 299 [July 1, 2000 edition]), and using inventory procedures found in the Forest Service Handbook 1909.12, Chapter 71, the national forests each created an inventory of draft URUD areas. These were formally initiated with NOIs in 2002 (Federal Register 11 67[90]:31 178 and 67[91]:31761, respectively), with the purpose of identifying potential wilderness areas in the NFS during upcoming LRMP revision efforts. The Uinta National Forest, which completed its LRMP in 2003, has already evaluated draft URUD lands into LRMP management direction. For those national forests that did not complete their LRMP revisions (Fishlake, Dixie, Manti-La Sal, and Ashley national forests), this information represents the latest inventory data for areas with potential wilderness qualities or attributes. The 2005 draft inventories of URUD areas were based on direction in the Intermountain Region Planning Desk Guide: A Protocol for Identifying and Evaluating Areas for Potential Wilderness (USFS 2004). Wilderness attributes to be considered in the analysis of impacts to URUD areas are the same six attributes described under IRAs, above. However,

there is no policy, law, or directive guiding the management of identified draft URUD areas that lie outside of IRAs or wilderness areas; the only guidance for these areas is general forest or management area direction in the current LRMPs.

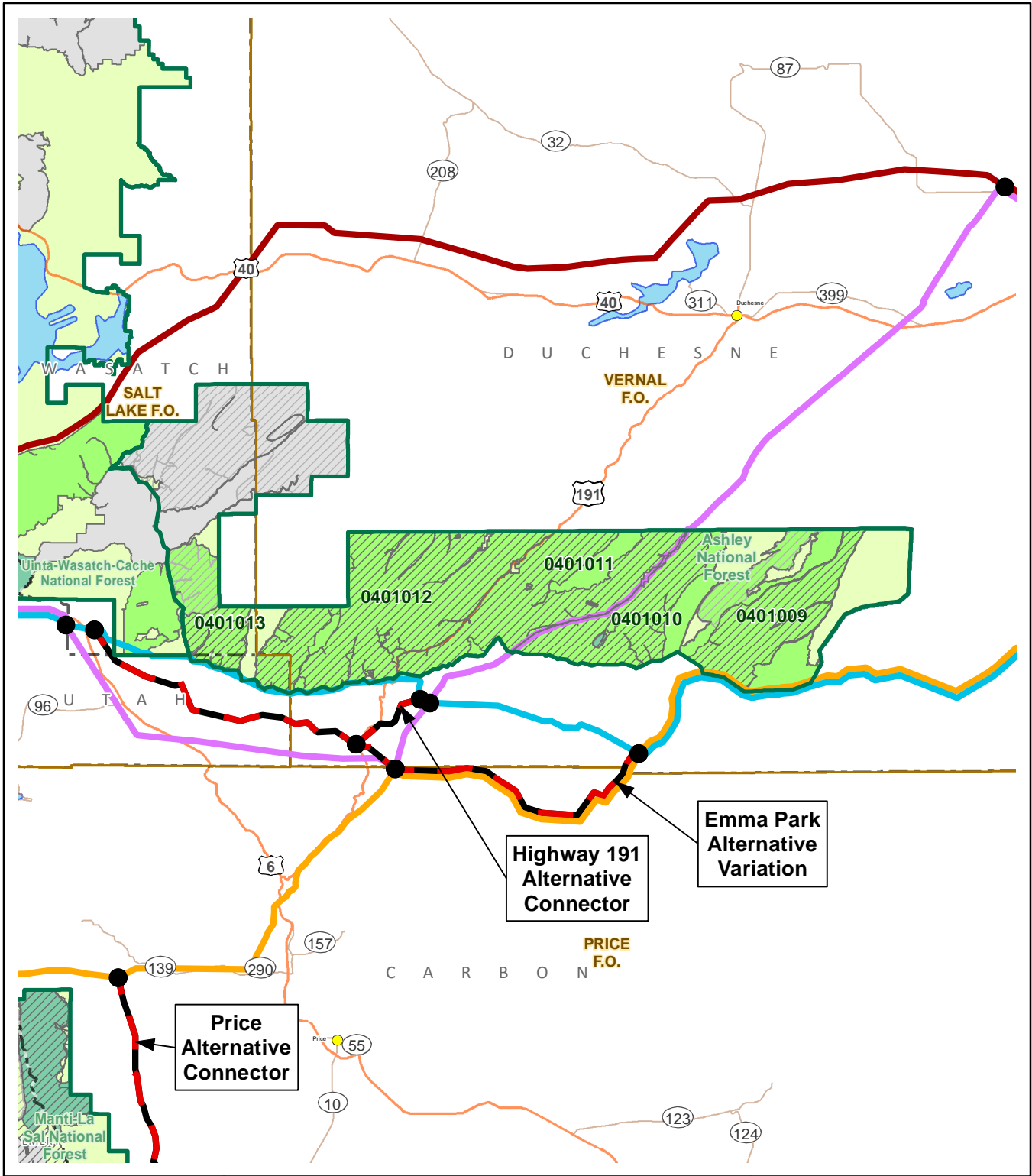
There are 31 IRAs and 26 URUD areas within the analysis area. These areas are listed in **Table 3.15-5** and shown on **Figures 3.15-13** through **3.15-16**. As shown on the figures, IRAs and URUD areas overlap considerably, but not entirely. **Appendix H** contains supporting information regarding the nine IRA natural resources attributes and the six wilderness attributes that apply to both IRAs and URUD areas.

Table 3.15-4 IRA/Unroaded-Undeveloped Areas in Analysis Area

National Forest	IRA/Unroaded-Undeveloped (URUD) Area	Acres IRA/URUD
Ashley (Region II)	IRA#401009/Alkali Canyon URUD	30,356/16,885
	IRA #0401010/Sowers Canyon East URUD	21,869/17,028
	IRA #0401011/Cottonwood Canyon URUD	30,039/25,989
	IRA #401012/First Canyon URUD/Right Fork Indian Canyon URUD	46,312/37,447/6,725
	IRA #401013/Mill Hollow Road URUD	11,892/6,128
Fishlake (Region II)	Browns Hole URUD	8,212
	Moroni Peak URUD	10,890
	Mount Terrill URUD	30,035
	North Pavant IRA/URUD	53,232/64,180
	Oak Creek IRA/URUD	16,755/78,296
	Oak Ridge URUD	12,478
	The Rocks URUD	6,266
Manti-La Sal (Region II)	Boulger-Black Canyon IRA/URUD	23,266/24,430
	Cedar Knoll IRA/URUD	22,483/28,349
	Coal Hollow IRA/URUD	6,264/7,094
	East Mountain IRA/URUD	30,680/28,302
	Nuck Woodward IRA/Nuck Woodward-Gentry Mountain URUD	12,071/24,567
	Oak Creek IRA/URUD	16,755/5,349
	Sanpitch IRA/URUD	29,107/21,680
Uinta ¹ (Region II)	IRA #418008/Chipman Creek	9,359
	IRA #418009/Willow Creek	18,049
	IRA #418015/Strawberry Ridge	17,274
	IRA #418016/Diamond Fork	35,210
	IRA #418017/Tie Fork	19,615
	IRA #418019/Soldier Summit	6,850
	IRA #418021/Hop Creek Ridge	6,250
	IRA #418028/Golden Ridge	33,976
	IRA #418029/Nephi	15,661
Dixie (Region II)	Atchinson IRA/URUD	17,663/24,306
	Bull Valley IRA/URUD	10,919/13,372
	Cove Mountain IRA/URUD	16,639/15,678
	Gum Hill IRA	3,182
	Kane Mountain IRA/URUD	8,016/9,635
	Moody Wash IRA/ Mogotsu IRA/ Moody Wash/Mogotsu URUD	31,857/16,771/58,994
	Pine Valley Mountain IRA/URUD	57,691/154,419

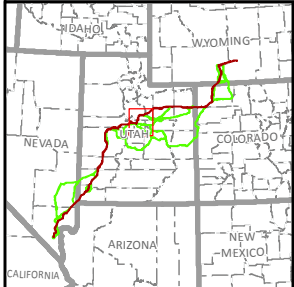
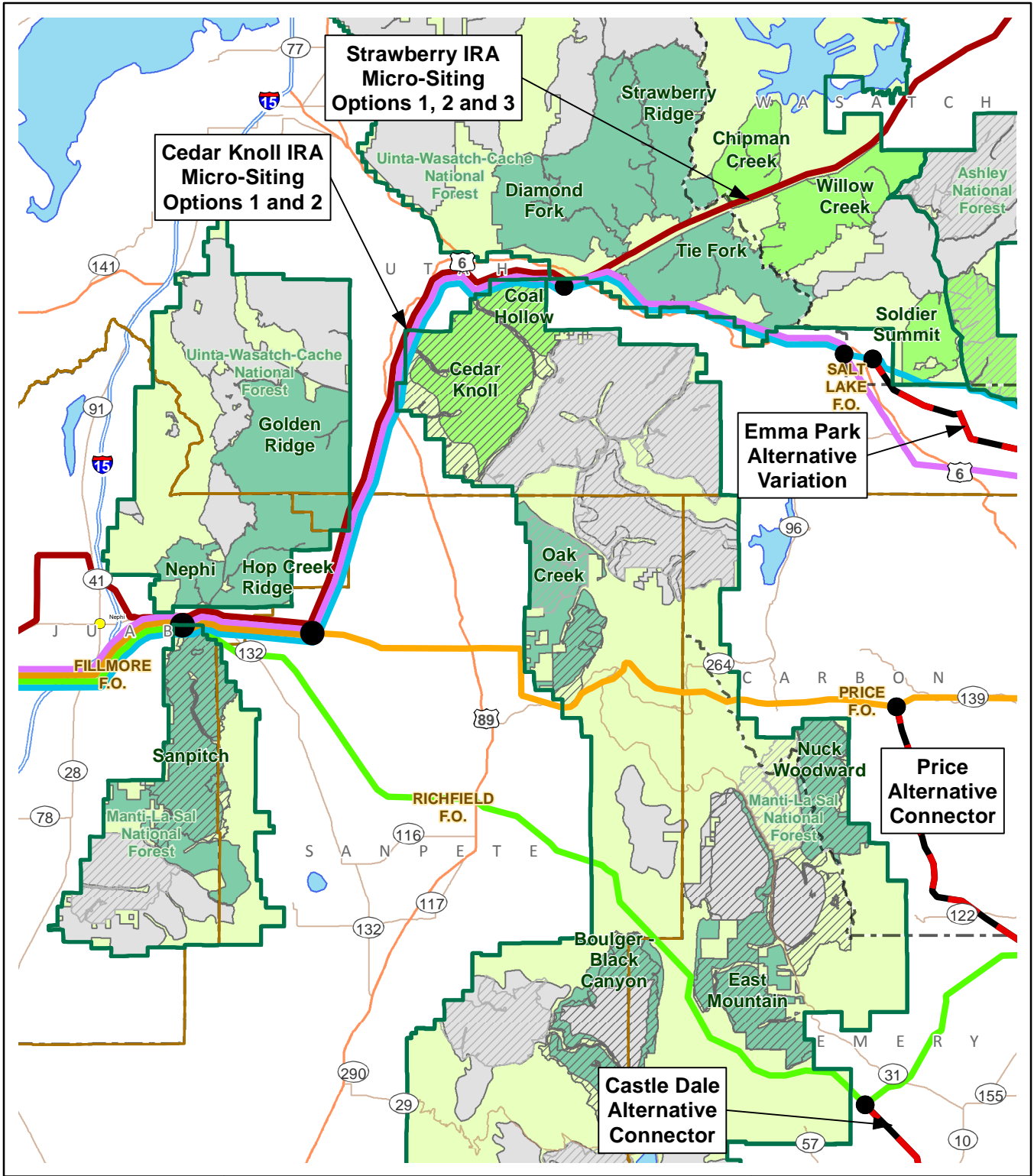
¹ Only lands within the Uinta National Forest portion of the Uinta-Wasatch-Cache National Forest are within the analysis area.

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<p>Terminal Siting Area</p> <p>● Node</p> <p>DEIS Alternative Routes</p> <ul style="list-style-type: none"> — Applicant Proposed II-A — Alternative II-B — Alternative II-C — Alternative II-D — Alternative II-E — Agency Preferred II-F — Alternative Variation or Connector — Segment not in this Region 		<p>— BLM FO Boundary</p> <p>— National Forest Boundary</p> <p>IRAs</p> <ul style="list-style-type: none"> — Crossed by ROW — Crossed by 2-mile Corridor — Outside of Analysis Area <p>URUD Areas</p> <ul style="list-style-type: none"> — Crossed by Analysis Area — Outside of Analysis Area 		<p align="center">TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p align="center">Figure 3.15-13 Region II Roadless Areas Ashley National Forest</p> <p>0 2.5 5 10 Miles 0 2.5 5 10 km 1:500,000</p> <p align="right">N</p> <p align="right"> </p>	
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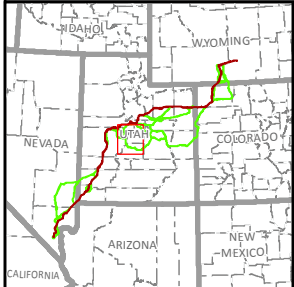
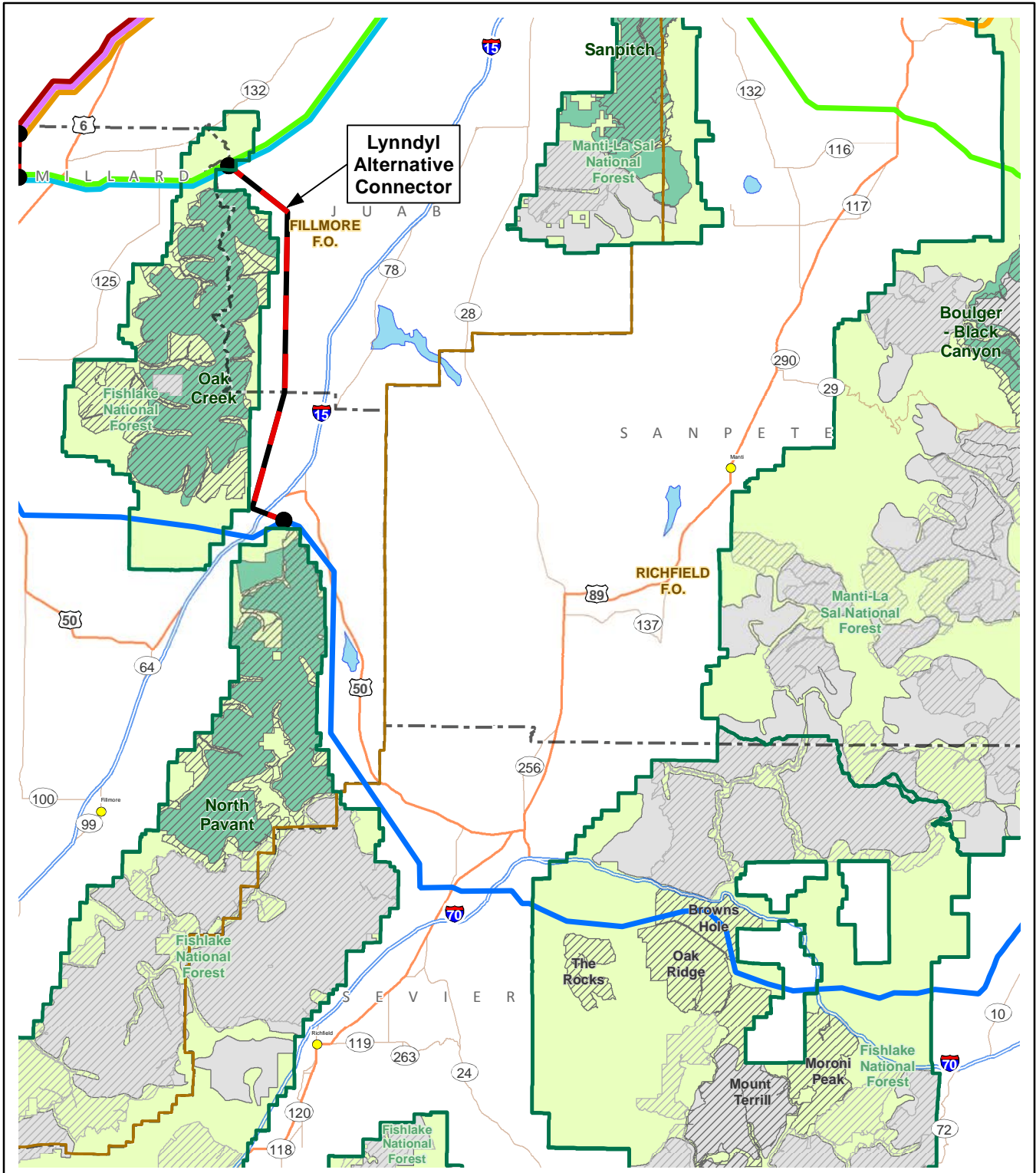


	Terminal Siting Area		BLM FO Boundary
	Node		National Forest Boundary
DEIS Alternative Routes			
	Applicant Proposed II-A		Crossed by ROW
	Alternative II-B		Crossed by 2-mile Corridor
	Alternative II-C		Outside of Analysis Area
	Alternative II-D	URUD Areas	
	Alternative II-E		Crossed by Analysis Area
	Agency Preferred II-F		Outside of Analysis Area
	Alternative Variation or Connector		
	Segment not in this Region		

TRANSWEST EXPRESS TRANSMISSION PROJECT
 Figure 3.15-14
 Region II
 Roadless Areas
 Uinta-Wasatch-Cache and
 Manti-La Sal National Forests

Scale: 0 to 10 Miles / 0 to 10 km
 1:500,000

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Terminal Siting Area	BLM FO Boundary	
Node	National Forest Boundary	
DEIS Alternative Routes		
Applicant Proposed II-A	Crossed by 2-mile Corridor	
Alternative II-B	Outside of Analysis Area	
Alternative II-C	URUD Areas	
Alternative II-D	Crossed by Analysis Area	
Alternative II-E	Outside of Analysis Area	
Agency Preferred II-F		
Alternative Variation or Connector		
Segment not in this Region		

TRANSWEST EXPRESS TRANSMISSION PROJECT

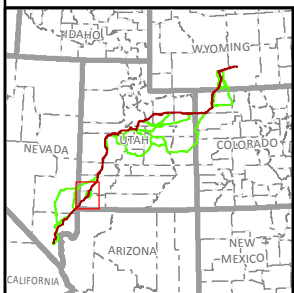
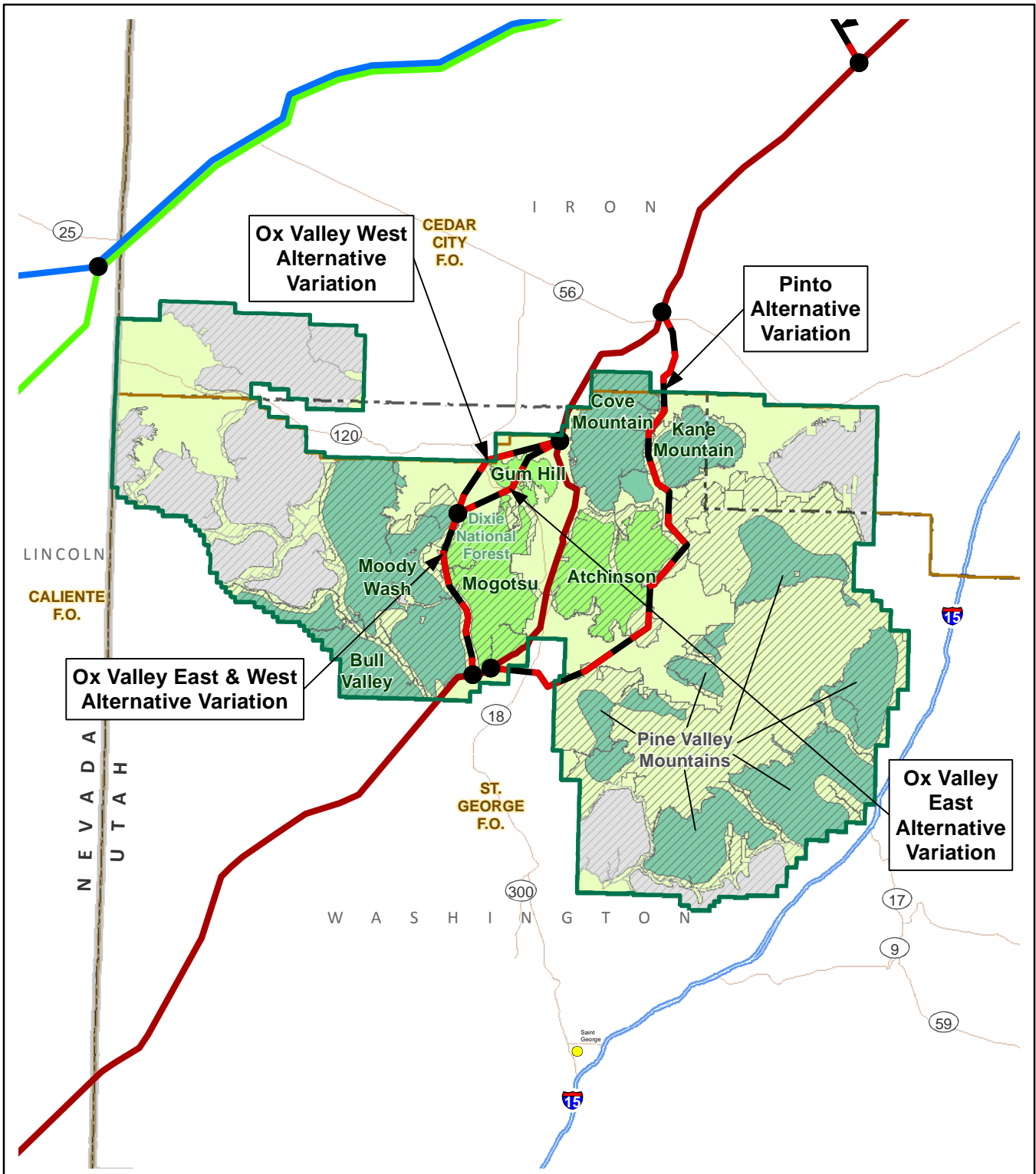
Figure 3.15-15
Region II
Roadless Areas
Fishlake National Forest

0 2.5 5 10 Miles
0 2.5 5 10 km

1:550,000

N

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Terminal Siting Area	BLM FO Boundary
Node	National Forest Boundary
DEIS Alternative Routes	
Applicant Proposed III-A	Crossed by ROW
Agency Preferred III-B	Crossed by 2-mile Corridor
Alternative III-C	Outside of Analysis Area
Alternative Variation or Connector	Crossed by Analysis Area
Segment not in this Region	Outside of Analysis Area
IRAS	
URUD Areas	

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.15-16
Region III
Roadless Areas
Dixie National Forest

0 2.5 5 10 Miles
0 2.5 5 10 km
1:500,000

3.15.3.10 Areas of Critical Environmental Concern

ACECs are an administrative designation made by the BLM through a land use plan. FLPMA defines an ACEC as an area "within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards."

To be designated as an ACEC, the area must meet the criteria of relevance and importance (as defined in BLM Manual 1613). An area meets the relevance criteria if it contains one or more of the following:

- A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).
- A fish and wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species, or habitat essential for maintaining species diversity).
- A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).
- Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the RMP process that it has become part of a natural process.

The value, resource, system, process, or hazard described in the relevance section must have substantial significance and values to meet the importance criteria. This generally means that the value, resource, system, process, or hazard is characterized by one or more of the following:

- Has qualities that are more than locally significant, giving it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
- Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
- Is recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.
- Has qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.
- Poses a significant threat to human life and safety or to property.

Private lands and lands administered by other agencies may be located within the boundaries of ACECs, but are not subject to the prescribed management of the ACEC.

Sixteen ACECs have been designated on BLM lands located within the analysis area. The applicable RMPs for each BLM FO identify the specific conditions and/or restrictions imposed within each of the ACECs. The ACECs located within the analysis area are tabulated in **Table 3.15-5** and shown on **Figures 3.15-1** through **3.15-4**.

3.15.3.11 Other Special Designation Areas

Special Management Areas

Other areas of special management have been designated because they contain strong characteristics of specific resources considered in special designation, but a determination by the agency has not been made or has been deferred.

The Monument Valley Special Management Area consists of 69,940 acres of BLM-administered lands in the Rock Springs FO with unique scenic features and the high potential for significant cultural and paleontological resources. It is managed to provide protection to wildlife, geologic, cultural, watershed, scenic, and scientific values. BLM has deferred designating this area an ACEC until additional cultural and paleontological surveys are completed to aid in the agencies' management determination.

State Wildlife Management Areas

The analysis area contains Wyoming WHMAs, Colorado state wildlife areas (SWA), hunting leases, and Utah WMAs. These WMAs have been established to preserve fish and wildlife habitat and to provide recreational opportunities including fishing, hunting, and wildlife viewing. Impacts to these areas are discussed in detail in Section 3.13, Recreation Resources.

Table 3.15-5 Areas of Critical Environmental Concern within the Analysis Area

BLM FO	ACEC	Relevance and Importance Values and Management Prescriptions ¹
Region I		
There are no ACECs in the analysis area.		
Region II		
White River FO, Colorado	Oil Spring Mountain WSA/ACEC (18,260 acres)	Designated for spruce-fir and biologically diverse plant communities, BLM sensitive species, and remnant vegetation associations. WSA is a ROW exclusion area but not recommended to be carried forward as wilderness. The proposed ACEC would be managed as a ROW avoidance area.
	White River Riparian ACEC (950 acres)	Designated for important biologically diverse plant communities, bald eagle roosts, Federally listed Colorado River squawfish below Taylor Draw Dam. ROW avoidance area; surface disturbance contingent upon avoidance of cottonwood communities, maintenance of utility as bald eagle habitat and properly functioning riparian community, and use of special reclamation techniques to accelerate recovery and reestablishment of habitat.
Grand Junction FO, Colorado	Badger Wash ACEC (1,520 acres)	Designated for sensitive plants; is a 680-acre hydrologic research area designed to study the effects of surface-disturbing activities on sediment yield; is designated as unsuitable for public utilities.
Vernal FO, Utah ²	Lears Canyon ACEC (1,375 acres)	Contains a natural system, specifically relict plant and Douglas fir-pinyon-juniper vegetation communities, serves as a scientific reference area. NSO for oil and gas development (ROW avoidance area); closed to motorized travel; managed as VRM II.
	Nine Mile Canyon ACEC (44,168 acres)	Nationally significant Fremont, Ute, archaic rock art and structures, and special status plant habitat. Managed as NSO for oil and gas development (ROW avoidance area); managed as VRM II within the canyon.
	Lower Green River Corridor ACEC (8,470 acres)	Significant riparian habitat and outstanding (Class A) scenic values; provides critical habitat for 4 special status fish species and 11 special status species. The lower segment of the Green River has scenic qualities and undeveloped natural areas producing high quality recreation opportunities, as well as rare and fragile archaeological sites.
Price FO, Utah	Rock Art ACEC (contains 13 units, 5,300 acres total)	Some of the best examples of prehistoric rock art in the Colorado Plateau. ROW exclusion area; NSO for oil and gas development; excluded from land treatments and range improvements except for watershed control structures to protect cultural resource values; OHV limited to designated roads and trails.
	San Rafael Canyon ACEC (15,200 acres)	Designated for scenic values. The San Rafael River has cut a channel creating what is known as the "Little Grand Canyon" as viewed from the Wedge. The Black Boxes are world renowned. ROW avoidance area; NSO for oil and gas; VRM II; excluded from land treatments and range improvements unless used to protect or improve riparian values; OHV limited to designated roads and trails.

Table 3.15-5 Areas of Critical Environmental Concern within the Analysis Area

BLM FO	ACEC	Relevance and Importance Values and Management Prescriptions ¹
Region III		
St. George FO, Utah	Beaver Dam Slope ACEC (48,519 acres)	Designated for desert tortoise habitat; also contains habitat for a diversity of desert plant and animal species, many of which are listed by state or federal agencies as special status species. Included in the area are the Joshua Tree National Natural Landmark and the Woodbury Desert Study Area. The study area has been the focus of desert wildlife and ecosystem research since the 1930s. Values within the ACEC are at risk from increasing levels of human encroachment, off-road travel, and various forms of outdoor recreation. The area is designated as a ROW avoidance area except in designated utility and transportation corridors.
Caliente FO, Nevada	Beaver Dam Slope ACEC (36,800 acres)	Critical desert tortoise habitat; managed primarily for recovery of the species including such actions as closure or major restrictions on mineral development, removal of livestock grazing, limited OHV use to designated roads and trails, limiting authorization of new ROWs, limitation of fire management activities, and prohibition of land disposals. Contains sensitive plant species populations.
	Kane Springs ACEC (57,190 acres)	Critical desert tortoise habitat; managed primarily for recovery of the species, including such actions as closure or major restrictions on mineral development, removal of livestock grazing, limited OHV use to designated roads and trails, limitation of fire management activities, and prohibition of land disposals. ROW limited to use of existing corridors. Contains sensitive plant species populations.
	Mormon Mesa – Ely ACEC (109,680 acres within CFO)	Designated for critical desert tortoise habitat; also contains sensitive plant species populations. Management prescriptions include such actions as closure or major restrictions on mineral development, removal of livestock grazing, limitation on OHV use to designated roads and trails, limitation of fire management activities, and prohibition of land disposals. ROW limited to use of existing corridors and the ACEC contains both ROW avoidance and exclusion areas.
Las Vegas FO, Nevada	Mormon Mesa ACEC (151,360 acres within LVFO)	Designated for critical desert tortoise habitat. Management as ROW avoidance area except within existing corridors; requires reclamation of temporary roads. OHV use is limited to designated roads and trails.
	Coyote Springs Valley ACEC (75,500 acres)	Designated for critical desert tortoise habitat. ROW avoidance area except within corridors. Closed to locatable minerals and solid leasables, livestock grazing, and commercial collection of flora. OHV use is limited to designated roads and trails.
Region IV		
Las Vegas FO, Nevada	Rainbow Gardens ACEC (37, 620 acres)	Geological, scientific, scenic, and sensitive plant values throughout the ACEC; cultural values on 320 acres. The ACEC contains sensitive soil "badland" areas as well as the Great Unconformity, a location where there are missing intervals of the geologic record. In ROW avoidance area except within corridors; reclamation of temporary roads is required. OHV use limited to designated roads and trails.
	River Mountains ACEC (5,617 acres)	Bighorn sheep habitat; scenic viewshed for Henderson and Boulder City. ROW avoidance area except within corridors; reclamation of temporary roads is required. OHV use is limited to existing roads and trails.

¹ BLM VRM classes are described in more detail in Section 3.12, Visual Resources.

² Per the 2008 RMP, within the Vernal FO, ROWs exclusion and avoidance areas are consistent with areas closed to oil and gas leasing or with a NSO stipulation, respectively.

Sources: BLM 2008a,b,c,d; 1997a,b.

National and State Recreation Areas

Congressionally designated NRAs, BLM recreation use areas, and SRMAs are located within the analysis area. These recreation areas have been established to provide recreational opportunities including OHV uses, boating, and various types of non-motorized recreation. Impacts to these recreation areas are discussed in detail in Section 3.13, Recreation Resources.

3.15.4 Impacts to Special Designations

This analysis identifies the impacts to SDAs that would occur from the construction, operation, and decommissioning of the proposed Project. The analysis focuses on the alternative transmission line routes within each Project region and associated alternative variations and connectors, the north and south terminal areas, and ancillary facilities described in detail in Sections 2.4 and 2.5 and **Appendix D**.

For impacts from the Northern and Southern terminals, the analysis considers a 1-mile area surrounding the terminal footprint. For transmission line impacts, the analysis considers a 250-foot-wide transmission line ROW, centered on the transmission reference line (125 feet on either side of the reference line), in relation to the entire SDA. For impacts from access roads, staging areas, and fly yards, the analysis considers a 2-mile transmission line corridor within which these facilities would be located, in relation to the entire SDA.

Quantification of impacts to SDAs is based upon the following:

- Miles of reference line within an SDA;
- Acres of an SDA within the 250-foot-wide transmission line ROW; and
- Acres of an SDA within the proposed 2-mile transmission line corridor.

The assessment of impacts to SDAs is based on the interests and land management objectives of local and federal landowners and management agencies as well as public concerns as identified through public scoping. Impact assessment generally focuses on conformance with the management objectives for the area and impact to the resource values for which the SDA was designated (for example, the relevant and important values of an ACEC, the roadless characteristics of an IRA, or the wilderness attributes of a wilderness area or URUD area).

3.15.4.1 Impacts from Terminal Construction, Operation, and Decommissioning

This section discloses impacts to land uses that would occur from construction and operation of the Northern and Southern terminals, which are common to all action alternatives.

Northern Terminal

The Northern Terminal site would be on private lands in Carbon County, Wyoming, approximately 2.5 miles southwest of the town of Sinclair, Wyoming. The Northern Terminal facilities would occupy 234 acres of private lands (see **Figure 2-16**).

The Northern Terminal would not disturb any lands within any SDAs. There are no IRAs within the Northern Terminal. There would be no conflicts with state or federally established, designated or reasonably foreseeable planned SDAs because none exist in or near the Northern Terminal.

Southern Terminal

The Southern Terminal facilities would be in the Eldorado Valley approximately 15 miles southwest of Boulder City, in Clark County, Nevada. The Southern Terminal site initially would occupy 415 acres on private lands (see **Figure 2-17**). The Southern Terminal would be located entirely within the Eldorado Valley on lands that have been annexed by Boulder City. The Southern Terminal would not disturb any lands within any SDAs. However, the Southern Terminal is adjacent to the Sloan Canyon NCA. The 48,000-acre NCA is managed to conserve, protect, and enhance the cultural, archaeological, natural, wilderness, scientific, geological, historical, biological, wildlife, educational, and scenic resources of this area. The portion of the NCA closest to the Southern Terminal is managed as a semi-primitive, non-motorized area allowing camping, hiking, and equestrian use and is classified as VRM II. The NCA would not be directly affected by the proposed terminal facilities; however, during construction, the quality of the uses in the area closest to the Southern Terminal could be temporarily reduced from construction noise and activity. Visual impacts during operations would be consistent with existing uses (see Section 3.12, Visual Resources, for a

discussion of visual impacts and mitigation measures). As discussed in the Section 3.14, Land Use, re-siting the Southern Terminal facilities within the Energy Expansion Area would move the Southern Terminal further from the Sloan NCA and Nelson/Eldorado SRMA. Impacts to the Nelson/Eldorado SRMA are discussed in Section 3.13, Recreation Resources. Impacts from decommissioning would be similar those discussed under construction.

Design Options 2 and 3

Under Design Option 2, the Southern Terminal would be located near the IPP in Millard County, Utah instead of at the Marketplace in Nevada. Design Option 2 would have no new or additional effects to SDAs because there are no SDAs within the relocated Southern Terminal. The Marketplace Southern Terminal location would become a substation, with effects similar to those described above.

Under Design Option 3, a substation would be constructed on BLM lands directly adjacent to the IPP within Millard County, Utah. Design Option 3 would have no new or additional effects to SDAs because there are no SDAs within the proposed location for the substation.

3.15.4.2 Impacts Common to All Alternative Routes and Associated Facilities

Impacts to SDAs in the four Project regions may occur during construction, operation, maintenance, and decommissioning of the transmission line and associated temporary and permanent facilities associated with the alternative routes, alternative variations, and alternative connectors. Potential impacts to SDAs from the construction and operation of the Project would depend on the relevant and important values of each SDA; therefore, each SDA is discussed separately in the regional analyses contained in Sections 3.15.4.3 through 3.15.4.6.

At the end of the Project's 50-year ROW grant, or when it is determined that the Project is no longer economical, the Project would be decommissioned and the area reclaimed. Impacts from decommissioning of the Project are expected to be very similar to the effects from construction activities as discussed in the following sections. Upon decommissioning, land use impacts from construction and operation of the Project would generally be reversible with successful vegetation reclamation.

To reduce impacts from the Project on SDAs, TransWest has committed to comply with all agency stipulations (**Appendix C, TWE-1**). If BLM stipulations cannot be met, additional mitigation could be required, as discussed in the sections below. Special IRA construction techniques would be employed as described in **Appendix D**, and would not require the establishment of roads within these areas.

Design Options 2 and 3

Under Design Option 2 there would be a series compensation station midway between the IPP and the Eldorado Valley. Exact locations have not been determined, but would be within the 2-mile transmission line corridor and thus included in the alternative analysis contained in the regional analysis below.

Design Option 3 would involve phased construction. Timing of impacts to SDAs would vary due to construction schedule differences but would not appreciably change surface disturbance or impacts to resources for which SDAs were designated. There would be a series compensation station midway between the Rawlins and IPP. Exact locations have not been determined, but would be within the 2-mile transmission line corridor and thus included in the alternative analysis contained in the regional analysis below.

3.15.4.3 Region I

SDAs within Region I are listed in **Table 3.15-6** and are shown on **Figures 3.15-1** and **3.15-5**. The table includes SDAs within the 250-foot-wide transmission line ROW as well as SDAs outside of the 250-foot-wide transmission line ROW but within the 2-mile transmission line corridor.

Table 3.15-6 Region I: SDAs Within 250-foot-wide Transmission Line ROW and 2-Mile Transmission Line Corridor

Managing Entity	SDAs	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
NPS	Dinosaur National Monument	0 acres within 250-foot ROW, 16 acres within 2-mile corridor	0 acres within 250-foot ROW, 16 acres within 2-mile corridor	0 acres within 250-foot ROW, 16 acres within 2-mile corridor	0 acres within 250-foot ROW, 16 acres within 2-mile corridor
NPS	CDNST	1 trail segment crossed	1 trail segment crossed	1 trail segment crossed	1 trail segment crossed
BLM Rawlins FO	CDNST SRMA	0.1 mile/4 acres within 250-foot ROW; 179 acres within 2-mile corridor	0.1 mile/4 acres within 250-foot ROW; 179 acres within 2-mile corridor	0.1 mile/4 acres within 250-foot ROW; 179 acres within 2-mile corridor	0.1 mile/4 acres within 250-foot ROW; 179 acres within 2-mile corridor
Overland Trail					
BLM Rawlins FO	Crossings and segment NRHP eligibility	1 contributing segment crossed	1 contributing segment crossed	1 contributing segment crossed	1 contributing segment crossed
	Visibility of the alternative from the trail ¹	Visible along 9 miles of trail, 5 of which are contributing	Visible along 10 miles of trail, 4 of which are contributing	Visible along 7 miles of trail, 6 of which are contributing	Visible along 9 miles of trail, 4 of which are contributing
	Associated Historic Sites and natural features, and nearby recreation or interpretive features	None	Duck Lake Station, Red Rock	Highway 789 interpretive sign, Washakie Station, Muddy Creek	None
	Management/land use	BLM land, not within designated utility corridor	Private land	Private land	BLM land, not within designated utility corridor
Cherokee Trail					
BLM Rawlins FO	Crossings and segment NRHP eligibility	1 contributing segment crossed	1 contributing segment crossed	1 contributing segment crossed	3 non-contributing segments crossed
	Visibility of the alternative from the trail ¹	Visible along 24 miles of trail, 10 of which are contributing	Visible along 9 miles of trail, 4 of which are contributing	Visible along 11 miles of trail, 4 of which are contributing	Visible along 28 miles of trail, 10 of which are contributing
	Associated Historic Sites and natural features, nearby recreation or interpretive features	None	None	Muddy Creek, Cherokee Creek	None
	Management/land use	BLM land, within designated underground utility corridor	BLM land, within designated underground utility corridor	BLM land, not within a designated utility corridor	BLM land, not within a designated utility corridor

¹ Visibility of the alternative from the historic trails is based on the 5-mile (either side of the 250-foot-wide transmission line ROW) viewshed.

Alternative I-A (Applicant Proposed)

BLM SDAs and National Landscape Conservation System Lands

There are no BLM SDAs crossed by the 250-foot-wide transmission line ROW for Alternative I-A.

USFS IRAs and URUD Areas

There are no IRAs or URUD areas crossed by the 250-foot-wide transmission line ROW for Alternative I-A.

Other Federally Managed SDAs and National Trails

Approximately 16 acres of the Deerlodge Park Road, an access road to Dinosaur National Monument lies within the portion of the 2-mile transmission line corridor west of Highway 40; the 250-foot-wide transmission

line ROW would parallel an existing transmission line on the opposite (east) side of Highway 40. During construction, the presence of construction equipment, personnel, or traffic would temporarily reduce the quality of site visitation during construction. Although there are no known Dinosaur National Monument management restrictions associated with the Dinosaur National Monument access road, Project access roads and staging areas also most likely would be located on the east side of Highway 40 (opposite from the Dinosaur National Monument) to reduce travel distances, and to reduce impacts to highway traffic and the Dinosaur National Monument. BLM BMPs also would require consolidation of roads, support areas, and other infrastructure to minimize disturbance and would require reclamation of any roads not needed for operations unless otherwise specified by the managing agency. However, due to the importance of Dinosaur National Monument, the following additional mitigation measures are recommended to further reduce the potential for impacts:

SDA-1: *Within SDAs, access shall be limited to existing roads whenever practicable. ROWs that currently are not sited within SDAs shall not be placed within the SDA during subsequent micro-siting efforts associated with development of the POD.*

SDA-2: *If new or improved access roads cannot be avoided within SDAs, roads shall be closed or rehabilitated through methods developed through consultation with the landowner or land management agency. Methods for closure could include gates, obstructions such as berms or boulders, or partial or full restoration to natural contour or vegetation.*

Application of these mitigation measures would eliminate construction surface disturbance within the Deerlodge Park Road ROW and potential viewshed easement area, thereby reducing direct impacts to Dinosaur National Monument; however, there would still be temporary impacts to quality of site visitation due to the proximity of road and staging area locations. Additionally, during operation, visitors exiting the park via Deerlodge Park Road would see portions of the transmission line across Highway 40 (see Section 3.12, Visual Resources, for visual impacts).

The current proposed route for the 250-foot-wide transmission line ROW for Alternative I-A would cross a conservation easement that prohibits overhead transmission line. Micro-siting adjustments have been developed that would relocate the 250-foot-wide transmission line ROW outside of the easement area and closer to or within national monument lands. These micro-siting adjustments are analyzed under Alternative I-D.

Within the Rawlins FO, the transmission reference line would cross the CDNST and CDNST SRMA, just south of Rawlins, Wyoming, approximately 0.7 mile south of the designated utility corridor and existing transmission line crossing and 3 miles south of I-80. Approximately 0.1 mile of reference line (4 acres of 250-foot-wide ROW) would be located within the CDNST SRMA. This is less than 1 percent of the SRMA, which covers about 600 acres and 82 miles of trail, and less than 0.1 percent of the entire 3,100-mile CDNST. The 2-mile transmission line corridor, in which roads or construction support areas could be located, encompasses a total of 180 acres of the CDNST SRMA. This is 68 percent of the SRMA.

The NST/SRMA is managed to provide primitive recreational experiences and the scenic trail has national importance. The proposed transmission line would not be consistent with SRMA management as a ROW avoidance area because the reference line would not be located within the designated utility corridor.

During construction, noise and activity would temporarily adversely affect the primitive recreation activity for which the trail and SRMA are managed. This would primarily affect the non-mechanized recreation user group (hikers, backpackers, and equestrians). The proposed trail and SRMA crossing would be located near an existing 230- to 287-kV transmission line and the I-80 crossing.

Towers would be placed to avoid surface disturbance near the actual trail. The structures and conductors would be “sky-lined,” with strong contrast for form, moderate contrasts for line and color, and weak contrast for texture. Visual impacts would remain for the life of the Project. There are no additional site-specific visual

mitigations (or relocation of the National Trail Management Corridor) proposed for this crossing because the transmission line would cross the NST perpendicularly at some point and would still be “sky-lined” with those contrasts (see Section 3.12, Visual Resources). However, the VRI rating for this area (Class B, with a score of 17) would not change.

Selection of Alternative I-A would not be consistent with management of the CDNST SRMA as a ROW avoidance area, but would not affect BLM’s ability to effectively manage the nature and purposes of the entire CDNST, trail resources, qualities, values, uses (including public access and enjoyment), and associated settings because of the small percentage of trail and SRMA within the 250-foot-wide transmission line ROW (less than 0.1 percent of the entire CDNST and less than 1 percent of the CDNST SRMA), and because any existing recreational experience and character of the trail at this location is already impacted by existing linear structures (a 230- to 287-kV transmission line, a railroad, and the I-80 crossings) and industrial uses. However, expansion of disturbance from access roads and other facilities outside of the 250-foot-wide transmission line ROW and into the 2-mile transmission line corridor would increase the area of the SRMA in which the recreation experience is diminished. The following mitigation is proposed to further reduce impacts to the SDA and consolidate transmission line corridors and associated disturbance in a manner more consistent with SRMA management:

SDA-3: *If designated corridors exist within the SDA, the transmission reference line, new roads, and ancillary construction areas shall only be located within designated utility corridors.*

Application of this mitigation would allow Alternative I-A to remain consistent with SRMA management and would consolidate impacts to the CDNST from linear facilities; however, visual impacts would not be mitigated because the transmission line would still cross the NST perpendicularly and would be “sky-lined” with those contrasts. Recreation mitigation measures to reduce/restrict access roads (see Section 3.13, Recreation) would further reduce impacts to the NST and SRMA.

Alternative I-A would cross the Overland Trail at a point approximately 16 miles south of Wamsutter, Wyoming, about 1 mile west of the trail’s intersection with Wamsutter Road and approximately 0.4 mile south of the Eureka Headquarters road (see **Figure 3.15-10**). The segment of trail crossed by the alternative is a contributing segment to the trail’s overall NRHP eligibility. Towers would be placed to avoid surface disturbance near the actual trail; however, because towers are typically placed a maximum of 1,500 apart, it is unlikely that the alternative would comply with the Rawlins RMP including an NSU stipulation within 0.25 miles on both sides of the trail. The placement of this crossing near an existing road would be in compliance with the RMP stipulations that linear crossings of the trails occur in previously disturbed areas; however, the trail crossing would not be within a designated utility corridor.

Alternative I-A would be visible from the Overland Trail for 9 miles of trail, 5 of which (44 percent) are contributing segments. There are no associated recreation areas located near these trail segments and there are numerous well pads and access road in the area. The proposed trail crossing would be located on BLM land, but would not be within a designated utility corridor. The transmission line would be “sky-lined” (increased impact) in these areas (see Section 3.12, Visual Resources); however, scenic quality is low in this area (Class C, with an SQRU score of 6). There are no recreation areas, or interpretive features located near these segments. Duck Lake Station is located about 4 miles to the west of the crossing and would be outside of the viewshed.

Alternative I-A would cross the Cherokee Trail approximately 18 miles west of Baggs, Wyoming, near a small wash. The segment of trail that would be crossed by the alternative is a contributing segment to the trail’s overall NRHP eligibility. Towers would be placed to avoid surface disturbance near the actual trail and would span washes and other natural features associated with the trail location; however, because towers are typically placed a maximum of 1,500 apart, it is unlikely that the alternative would comply with the Rawlins RMP, including an NSU stipulation within 0.25 mile on both sides of the trail. Additionally, the placement of this crossing would not be in compliance with the RMP stipulations that linear crossings of the trails occur in previously disturbed areas, and the crossing would be located in a designated utility corridor

for underground utilities only. A plan amendment would be required to allow aboveground utilities in this area.

Alternative I-A would be visible from the Cherokee Trail for approximately 24 miles of trail, 10 of which (40 percent) contribute to the trail's overall NRHP eligibility. The transmission line would be "sky-lined" (increased impact) in these areas, and the scenic quality rating would be reduced from Class B (with a SQRU score of 12) to Class C (see Section 3.12, Visual Resources). There are no associated historic sites, recreation areas, or interpretive features located near these segments.

Once the final route is selected, an intensive Class III inventory and in-depth visual analysis would be conducted to determine the impact to contributing Overland and Cherokee trail segments crossed by the route or from which the route would be visible. If a contributing segment would be adversely affected, the effects would be minimized or mitigated onsite or offsite as stipulated in the Cultural Resources PA developed for the Project, and through implementation of design features and BMPs in concert with the Trail Study Agency and the Wyoming BLM National Trails Management Program Lead. Mitigation identified in Section 3.12, Visual Resources, includes measures to reduce visual impacts through use of BLM environmental colors and location of structures, roads, and other project elements as far back from road, trail, and river crossings as possible, and, where feasible, employ terrain and vegetation to screen views from crossings.

Alternative I-B

Impacts to the Dinosaur National Monument would be the same as under Alternative I-A. Micro-siting adjustments affecting Dinosaur National Monument are discussed under Alternative I-D.

Impacts to the CDNST would be identical to Alternative I-A because the location of the NST crossing would be identical.

Alternative I-B would cross one segment of the Overland Trail about 6 miles west of the trail's intersection with Wamsutter Road and immediately adjacent to the Eureka Headquarters road. The segment is a contributing segment to the trail's overall NRHP eligibility. Impacts from the crossing itself would be similar to Alternative I-A, except that the trail crossing would be located on private land and not subject to compliance with the Rawlins RMP historic trail stipulations.

Alternative I-B would be visible from the Overland Trail for 10 miles of trail, 4 of which (40 percent) are contributing segments. There are no associated recreation areas or interpretive features located near these segments. The crossing would be located about 1.5 miles to the west of Duck Lake Station. Nothing remains at this site. Red Rock, a historical inscription site, would be located about 3.25 miles to the west of the crossing on private lands. The transmission line would be "sky-lined" (increased impact) in these areas (see Section 3.12, Visual Resources); however, scenic quality is low in this area (Class C, with an SQRU score of 6).

Alternative I-B would cross one segment of the Cherokee Trail in the same location as Alternative I-A. Impacts from the crossing itself, including compliance with the Rawlins RMP historic trail stipulations, would be identical to Alternative I-A. The transmission line would be visible for 9 miles of the trail, 4 of which (44 percent) would be contributing segments. There are no associated historic sites, recreation areas, or interpretive features located near these segments. The transmission line would be "sky-lined" (increased impact) in these areas, and the scenic quality rating would be reduced from Class B (with a SQRU score of 12) to Class C (see Section 3.12, Visual Resources).

Alternative I-C

Impacts to the Dinosaur National Monument would be the same as under Alternative I-A. Micro-siting adjustments affecting Dinosaur National Monument are discussed under Alternative I-D.

Impacts to the CDNST would be identical to Alternative I-A because the location of the NST crossing would be identical.

Alternative I-C would cross one segment of the Overland Trail along Highway 789, approximately 18 miles south of the intersection of Highway 789 and I-80. The segment of trail crossed by the alternative is a contributing segment to the trail's overall NRHP eligibility, and there is an interpretive sign located on Highway 789 where the trail crosses the highway. Towers would be placed to avoid surface disturbance near the actual trail; however, because the trail crossing would be located on private land, it would not be required to comply with the Rawlins RMP historic trail NSU stipulations.

Alternative I-C would be visible from the Overland Trail for 7 miles of trail, 6 of which (86 percent) are contributing segments. The transmission line would be "sky-lined" (increased impact) in these areas (see Section 3.12, Visual Resources); however, scenic quality is low in this area (Class C, with an SQRU score of 6). Washakie Station, a one of the few associated historic sites with standing ruins, is located about 3.75 miles east of the highway, near Muddy Creek. There are no developed recreation sites located near these segments.

Alternative I-C would cross one segment of the Cherokee Trail approximately 12 miles north of Baggs and less than one mile east of Highway 789. The segment of trail that would be crossed by the alternative contributes to the trail's overall NRHP eligibility. Towers would be placed to avoid surface disturbance near the actual trail and would span washes and other natural features associated with the trail location. Because towers are typically placed a maximum of 1,500 apart, it is unlikely that the alternative would comply with the Rawlins RMP's 0.25 mile NSU stipulation on both sides of the trail. Additionally, the trail crossing (located on BLM lands about one mile east of highway and outside of the designated utility corridor) would not be in compliance with the RMP stipulation that linear crossings of the trails occur in previously disturbed areas. A plan amendment would be required to allow expansion of the designated utility corridor to include the trail crossing.

Alternative I-C would be visible from the Cherokee Trail for approximately 11 miles of trail, 4 of which (36 percent) contribute to the trail's overall NRHP eligibility. There are no interpretive signs located on the highway and no associated historic sites located near these segments. However, Alternative I-C would cross Muddy Creek and Cherokee Creek, two perennial water sources that are associated with the Cherokee Trail and undoubtedly influenced the trail location. Alternative I-C would cross Muddy Creek about 1 mile north of the Cherokee Trail and would be located between the Highway and the trail crossing, within the expanded designated utility corridor. The Cherokee Creek crossing would be located directly adjacent to the proposed Cherokee Trail crossing and would also be located within the expanded designated utility corridor. The transmission line would be "sky-lined" (increased impact) in these areas, and the scenic quality rating would be reduced from Class B (with a SQRU score of 12) to Class C (see Section 3.12, Visual Resources).

Alternative I-D (Agency Preferred)

Under Alternative I-D, impacts to the Dinosaur National Monument would be the same as under Alternative I-A. The route for the 250-foot-wide transmission line ROW for Alternative I-D would cross a conservation easement (the Tuttle Easement) that prohibits overhead transmission line. Three micro-siting adjustments have been developed that would relocate the 250-foot-wide transmission line ROW outside of the easement area and closer to or within national monument lands.

- Under Tuttle Easement Micro-siting Option 1, the transmission reference line and 250-foot-wide transmission line ROW would remain within the Tuttle Easement but would be placed about 0.25 mile closer to Highway 40, following two existing transmission lines through the area with a 250-foot offset. Impacts to the Dinosaur National Monument would be the same as described under Alternative I-A; however the transmission line would be more noticeable from the Dinosaur National Monument lands because it would be closer.

- Under Tuttle Easement Micro-siting Option 2, the transmission reference line and 250-foot-wide transmission line ROW would be placed between the easement area and Dinosaur National Monument's Deerlodge Road. The reference line would cross Highway 40 twice and would be "sky-lined" in those areas. This micro-siting option would cause high impacts to high sensitivity recreational viewers (including visitors entering or leaving Dinosaur National Monument) in immediate foreground (0.0 to 0.5 miles) viewing situations (see Section 3.12, Visual Resources). There would be no additional disturbance within Dinosaur National Monument lands; however, during construction, the presence of construction equipment, personnel, or traffic would temporarily reduce the quality of site visitation during construction and could impede traffic of Highway 40. Access roads and staging areas also could be located on the west side of Highway 40, closer to the National Monument. BLM BMPs also would require consolidation of roads, support areas and other infrastructure to minimize disturbance and would require reclamation of any roads not needed for operations. Application of **SDA-1** and **SDA-2** would reduce direct impacts to Dinosaur National Monument; however, there would still be temporary impacts to quality of site visitation due to the proximity of road and staging area location, and there would be permanent visual impacts from the presence of the transmission line.
- Under Tuttle Easement Micro-siting Option 3, the transmission reference line and 250-foot-wide transmission line ROW would cross the NPS Deerlodge Road west of Highway 40. There would be approximately 1 acre of the 250-foot-wide transmission line ROW that would be within Dinosaur National Monument lands. The applicant would work with the NPS during development of the construction POD on tower micro-siting and construction timing to minimize visual impacts and ensure that project construction would not interfere with the timing of proposed road upgrades and would minimize impacts to recreational visitation. BLM BMPs also would require consolidation of nearby access roads, support areas, and other infrastructure to minimize disturbance and would require reclamation of any roads not needed for operations. Application of **SDA-1** and **SDA-2** would eliminate construction surface disturbance within the Deerlodge Road ROW and potential viewshed easement area and no vegetation clearing would be required within the 250-foot-wide transmission line ROW due to the height of existing vegetation in this area. The primary values and resources for which the park was designated or for which the park is managed (paleontological features, vegetation and wildlife, and river recreation) would be maintained; however, the transmission reference line would be "sky-lined" and would be visible from more mileage of Deerlodge Road and the placement of the line across Deerlodge Road would affect the ability of the NPS to protect visual quality along this portion of the road through the same types of scenic easements that are in place for portions of the road further within Dinosaur National Monument. Per 2006 NPS Park Management Policy, ROWs may be issued only pursuant to specific statutory authority, and generally only if there is no practicable alternative to such use of NPS lands. Alternatives to crossing the Dinosaur National Monument do exist, namely selection of Alternative I-D, or micro-siting options 1 and 2. Overall, the Tuttle Easement Micro-siting Option 3 would have increased impacts to the SDA as compared to Tuttle Easement options 1 and 2, because it crosses the most area of congressionally designated national monument lands and would affect the ability of the NPS to protect visual quality along this portion of the road for future generations.

Impacts to the CDNST would be identical to Alternative I-A, because the location of the NST crossing would be identical.

Alternative I-D would cross one segment of the Overland Trail, in the same location as Alternative I-A. Impacts from the crossing itself, including compliance with the Rawlins RMP historic trail stipulations would be identical to Alternative I-A. Alternative I-D would be visible from the Overland Trail for 9 miles, 4 of which (44 percent) are contributing segments.

Alternative I-D would cross the Cherokee Trail in three locations.

- Approximately 14 miles north of Baggs and 3 miles west of Highway 789. The crossing would be adjacent to an oil and gas access road. There are no associated historic sites, recreation areas, or interpretive features located near trail segments in this area. The trail crossing would be located on BLM land and would not be located within a designated utility corridor. The transmission line would be “sky-lined” (increased impact) in these areas, and the scenic quality rating would be reduced from Class B (with a SQRU score of 12) to Class C (see Section 3.12, Visual Resources).
- Approximately 13 miles west of Baggs, Wyoming, near the junction of Shell Creek Stock, Poison Butte, and W. Hangout Roads. The segment of trail that would be crossed is located in a wash that drains into the Little Snake River. There are no associated historic sites, recreation areas, or interpretive features near trail segments in this area. The trail crossing would be located on BLM land and would not be within a designated utility corridor. The transmission line would be “sky-lined” (increased impact) in these areas (see Section 3.12, Visual Resources); however, scenic quality is low in this area (Class C, with an SQRU score of 9.5).
- Approximately 3.5 miles southwest of the crossing near Creek Stock/Poison Butte/W. Hangout roads and 2.5 miles southeast of the proposed Alternative I-A/I-B crossing. There are no associated historic sites, recreation areas, or interpretive features near trail segments in this area. The trail crossing would be located on BLM land and would not be within a designated utility corridor. The transmission line would be “sky-lined” (increased impact) in these areas, and the scenic quality rating would be reduced from Class B (with a SQRU score of 12) to Class C (see Section 3.12, Visual Resources).

All three segments of the Overland Trail that would be crossed by the alternative are non-contributing segments to the trail’s overall NRHP eligibility. Towers would be placed to avoid surface disturbance near the actual trail and washes; however, because towers are typically placed a maximum of 1, 500 apart, it is unlikely that the alternative would comply with the Rawlins RMP, including an NSU stipulation within 0.25 mile on both sides of the trail. Additionally, the placement of this crossing would not be in compliance with the RMP stipulation that linear crossings of the trails occur in previously disturbed areas. Per the Rawlins FO RMP, non-contributing segments are not managed for the preservation of historic values; however, the RMP does not fully address trail corridor management with regard to compliance with the BLM National Trails Manuals series. A plan amendment would be required to designate a new Wamsutter-Baggs-Powder Rim Corridor.

Alternative I-D would be visible from the Cherokee Trail for approximately 28 miles, 10 of which (36 percent) are contributing segments. There are no associated historic sites, recreation areas, or interpretive features near trail segments in this area.

Alternative Variation in Region I

There are no alternative variations within Region I.

Alternative Connectors in Region I

There are no SDAs affected by the Mexican Flats, Baggs, Fivemile Point North, or Fivemile Point South alternative connectors.

Alternative Ground Electrode Systems in Region I

A ground electrode system of approximately 600 acres in size would be necessary in Region I within 50 to 100 miles of the northern terminal, as discussed in Chapter 2.0. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided by the project proponent. The ground electrode system alternative locations in Region I are depicted in Chapter 2.0 on **Figure 2-21**. The conceptual sites would not include any SDAs; however, the Shell Creek

ground electrode system siting area would include 34 acres within the Adobe Town WSA (a designated ROW exclusion area) and 238 acres within the Monument Valley SMA. The Eight-mile Basin ground electrode system siting area includes 406 acres of the CDNST.

The following mitigation is proposed to eliminate impacts to these areas:

SDA-4: *Ground electrode systems shall be sited outside of any designated SDAs located within the ground electrode siting areas.*

Application of this mitigation would eliminate impacts to these SDAs.

Application of **SDA-1** (avoidance of new road construction in SDAs) would eliminate construction of any access roads within this area.

Region I Conclusions

Alternatives I-A, I-B, I-C, and I-D would have equal effect on the CDNST and the Dinosaur National Monument Deerlodge Park road. Application of design features (**Appendix C**) and mitigation would minimize the impacts to Dinosaur National Monument through avoidance of SDAs and road reclamation, but there would be temporary impacts to visitors from construction noise and some visual impacts to park visitors entering/exiting the park during operations. The Tuttle Easement micro-siting options 1, 2, and 3 would result in increasingly greater impacts to Dinosaur National Monument lands.

The alternatives would not be consistent with management of the CDNST SRMA as an ROW avoidance area, but would not affect BLM's ability to effectively manage the nature and purposes of the entire 3,100-mile CDNST, trail resources, qualities, values, uses (including public access and enjoyment), and associated settings because of the small percentage of trail affected (less than 0.1 percent of the entire CDNST and less than 1 percent of the CDNST SRMA). Additionally, any existing recreational experience and character of the trail at this location is already impacted by existing linear structures (a 230- to 287-kV transmission line, a railroad, and the I-80 crossings) and industrial uses. There are no additional site-specific visual mitigations (or relocation of the National Trail Management Corridor) proposed for this crossing because the transmission line would cross the NST perpendicularly at some point and would still be "sky-lined" with those contrasts (see Section 3.12, Visual Resources).

Alternative I-A, I-B, and I-D would each cross one contributing segment of the Overland Trail and be visible for similar amounts of trail mileage contributing to NRHP eligibility. However, Alternatives I-A and I-D would not be located near any associated historic sites and natural features, or nearby recreation or interpretive features; whereas, Alternative I-B would be located near Duck Lake station and Red Rock historic sites. Alternative I-C would have the greatest impacts on the Overland Trail management, as it would cross one contributing segment of the Overland Trail, would affect the viewshed of the most trail mileage contributing to the trail's NHT status, would be located adjacent to an interpretive sign on Highway 789, and would be located near the Washakie Station historic site and Muddy Creek, a perennial waterbody of importance to trail travelers. The alternatives that would be located on BLM land (I-A and I-D) would not be compliant with the RMP 0.25-mile NSU stipulations.

Alternative I-A would have the greatest impacts to the Cherokee Trail, as it would cross one segment contributing to the trail's NHT status, would be visible from the most miles of contributing segments, and would result in a reduction in scenic quality (from Class B to Class C) for areas surrounding the trail. However, it would not be located near any associated historic sites and natural features or nearby recreation or interpretive features. Alternative I-D would only cross non-contributing segments and would not be located near any associated historic sites and natural features or nearby recreation or interpretive features. However, this alternative would also be visible from 10 miles of contributing segments and the scenic quality for portions of the trail would be reduced from Class B to Class C. Alternatives I-B and I-C both would cross one contributing segment each and would also be visible from 6 fewer miles of contributing segments than

Alternatives I-A and I-D. Both would result in reduction in scenic quality (from Class B to Class C) for areas surrounding the trail. However, Alternative I-C also would cross Muddy Creek and Cherokee Creek, perennial waterbodies of importance to trail travelers. The alternatives that would be located on contributing segments on BLM land (I-A, I-B, and I-C) would not be compliant with the RMP 0.25-mile NSU stipulations.

Once the final route is selected, an intensive Class III inventory and in-depth visual analysis would be conducted to determine the impact to contributing segments of the Overland and Cherokee trails crossed by the route or from which the route would be visible. If a contributing segment would be adversely affected, the effects would be minimized or mitigated onsite or offsite as stipulated in the Cultural Resources PA developed for the Project and through implementation of design features and BMPs in concert with the Trail Study Agency and the Wyoming BLM National Trails Management Program Lead. Mitigation identified in Section 3.12, Visual Resources, includes measures to reduce visual impacts through use of BLM environmental colors and location of structures, roads, and other project elements as far back from road, trail, and river crossings as possible, and, where feasible, employ terrain and vegetation to screen views from crossings.

3.15.4.4 Region II

Tables 3.15-7 through 3.15-10 provide a list of the SDAs that would be crossed by the proposed 250-foot-wide transmission line ROW under all alternatives and areas that would be located within the 2-mile transmission line corridors. These areas are depicted in **Figures 3.15-2, 3.15-6, 3.15-11, and 3.15-13** through **3.15-15**.

Alternative II-A (Applicant Proposed)

BLM SDAs and National Landscape Conservation System lands

Alternative II-A would not cross any lands within the National Landscape Conservation System Lands or BLM-designated ACECs.

USFS IRAs and URUD Areas

The Alternative II-A 250-foot-wide transmission line ROW would cross approximately 2 miles of the Chipman Creek IRA within the Uinta National Forest and 3 miles of IRA/URUD areas within the Manti-LaSal National Forest. The 2-mile transmission line corridor would encompass portions of seven additional IRAs within the Uinta National Forest.

Within the Upper Spanish Fork management area (MA) of the Uinta National Forest, the 250-foot-wide transmission line ROW would be primarily within a designated utility corridor that is located between five IRAs, except for a 2-mile section where the designated utility corridor shifts abruptly to the east following Forest Road #335 and an existing transmission line located to the east side of the road. In this area, approximately 2 miles of the 250-foot-wide transmission line ROW would cross the 9,349-acre IRA #418008 (Chipman Creek). The 250-foot-wide transmission line ROW would re-enter the designated corridor when the road and transmission line shift back to the west (**Figure 3.15-14**). The proposed route would be located about 0.25 mile from the edge of the Chipman Creek IRA and the road. This would essentially widen the linear corridor in this area, as the portion of the IRA between the transmission line and the road would be separated from the rest of the IRA and would lose wilderness character.

Use of a full 250-foot-wide transmission line ROW would result in up to 74 acres of vegetation removal within the Chipman Creek IRA (0.8 percent of the 9,349-acre IRA). Roadless construction methods (as identified in the PDTR, see **Appendix D**) would be utilized within IRAs to ensure compliance with the Roadless Rule. These include use of helicopters for tower placement, use of existing roads, and overland travel. Application of the roadless construction techniques within IRAs would reduce the ROW within the IRA to about 30 acres and would eliminate surface disturbance associated with new roads within the IRA.

Table 3.15-7 Region II: BLM SDAs within 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Land Management Agency	Special Designation Area	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
		250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)
BLM White River FO	Oil Spring Mountain WSA and ACEC	N/A	0/<1 1,241	0/<1 1,241	N/A	N/A	N/A
	White River Riparian ACEC	N/A	0/0 143	0/0 143	N/A	N/A	N/A
BLM Grand Junction FO	McInnis Canyons NCA	N/A	0/0 1,925	0/0 1,925	N/A	N/A	N/A
	Badger Wash ACEC	N/A	0/0 310	0/0 310	N/A	N/A	N/A
	Demaree WSA	N/A	1/15 1,812	1/15 1,812	N/A	N/A	N/A
BLM Vernal FO	Lower Green River ACEC	N/A	N/A	N/A	1/20 1,239	N/A	1/20 1,239
	Lower Green River WSR	N/A	N/A	N/A	1/19 1,447	N/A	1/19 1,447
	Lears Canyon ACEC	N/A	N/A	N/A	0 489	N/A	0 489
	Nine Mile Canyon ACEC	N/A	N/A	N/A	0 1,453	N/A	0 1,453
Price FO	San Rafael Canyon ACEC	N/A	N/A	0/0 1,192	N/A	N/A	N/A
	Rock Art ACEC	N/A	N/A	0 123	N/A	N/A	N/A

Note: In some instances, there may be "0" miles within an SDA but some acreage of 250-foot-wide transmission line ROW disclosed. This is because the reference line (which is identified through "mileage of 250-foot-wide ROW") does not enter the SDA; however, there is some portion of the 250-foot-wide transmission line ROW (as disclosed in acreage) that is still located within the SDA.

Table 3.15-8 Region II: USFS IRAs within 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

National Forest	IRA	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
		250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)
Ashley	IRA 401009	N/A	N/A	N/A	1/11 4,113	N/A	1/11 4,113
	IRA 401010	N/A	N/A	N/A	N/A	3/133 7,601	N/A
	IRA 401011	N/A	N/A	N/A	N/A	0/36 7,630	0/0 18
	IRA 401012	N/A	N/A	N/A	N/A	N/A	0/5 734
	IRA 401013	N/A	N/A	N/A	N/A	N/A	0/0 285
Fishlake	North Pavant IRA	N/A	N/A	0/0 1,257	N/A	N/A	N/A
	Oak Creek IRA	N/A	0/0 13	N/A	N/A	N/A	0/0 13
Manti-La Sal	Boulger-Black Canyon IRA	N/A	0/0 1,414	N/A	N/A	N/A	N/A
	Cedar Knoll IRA	1/16 726	N/A	N/A	N/A	1/16 726	1/16 726
	Coal Hollow IRA	1/19 1,713	N/A	N/A	N/A	1/19 1,713	1/19 1,713
	East Mountain IRA	N/A	0/0 1,902	N/A	N/A	N/A	N/A
	Nuck Woodward IRA	N/A	N/A	N/A	0/0 51	N/A	N/A
	Oak Creek IRA	N/A	N/A	N/A	0/0 786	N/A	N/A
	Sanpitch IRA	N/A	0/0 1,262	N/A	0/0 19	0/0 19	0/0 19

Table 3.15-8 Region II: USFS IRAs within 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

National Forest	IRA	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
		250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)
Uinta	IRA 418008/Chipman Creek	2/74 1,213	N/A	N/A	N/A	N/A	N/A
	IRA 418009/Willow Creek	0/0 5,605	N/A	N/A	N/A	N/A	N/A
	IRA 418015/Strawberry Ridge	0/0 8	N/A	N/A	N/A	N/A	N/A
	IRA 418016/Diamond Fork	0/0 40	N/A	N/A	N/A	0/0 29	0/0 29
	IRA 418017/Tie Fork	0/0 5,096	N/A	N/A	N/A	0/0 2,732	0/0 2,732
	IRA 418019/Soldier Summit	N/A	N/A	N/A	N/A	N/A	1/32 405
	IRA 418021/Hop Creek Ridge	0/0 4	N/A	N/A	0/0 4	0/0 4	0/0 4
	IRA 418028/Golden Ridge	0/0 980	N/A	N/A	N/A	0/0 980	0/0 980
	IRA 418029/Nephi	0/0 14	N/A	N/A	0/0 4	0/0 4	0/0 4

Note: In some instances, there may be “0” miles within an SDA but some acreage of 250-foot-wide transmission line ROW disclosed. This is because the reference line (which is identified through “mileage of 250-foot-wide ROW”) does not enter the SDA; however, there is some portion of the 250-foot-wide transmission line ROW (as disclosed in acreage) that is still located within the SDA.

Table 3.15-9 Region II: USFS URUD Areas Within 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

National Forest ¹	Unroaded/Undeveloped Areas	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
		250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)
Ashley	Alkali Canyon	N/A	N/A	N/A	0/0 1,856	N/A	0/0 1,856
	Cottonwood	N/A	N/A	N/A	N/A	0/36 7,302	N/A
	First Canyon	N/A	N/A	N/A	N/A	N/A	0/0 147
	Mill Hollow	N/A	N/A	N/A	N/A	N/A	0/0 172
	Right Hand Fork	N/A	N/A	N/A	N/A	N/A	0/<1 422
	Sowers Canyon East	N/A	N/A	N/A	N/A	3/117 7,330	N/A
Fishlake	Browns Hole	N/A	N/A	7/198 5,230	N/A	N/A	N/A
	Moroni Peak	N/A	N/A	0/0 100	N/A	N/A	N/A
	Mount Terrill	N/A	N/A	0/0 984	N/A	N/A	N/A
	North Pavant	N/A	N/A	0/0 2,054	N/A	N/A	N/A
	Oak Creek	N/A	0/0 191	N/A	N/A	N/A	0/0 191
	Oak Ridge	N/A	N/A	0/0 2,655	N/A	N/A	N/A
	The Rocks	N/A	N/A	0/0 325	N/A	N/A	N/A
Manti-La Sal	Boulger-Black Canyon	N/A	0/0 875	N/A	N/A	N/A	N/A
	East Mountain	N/A	0/0 1,818	N/A	N/A	N/A	N/A

Table 3.15-9 Region II: USFS URUD Areas Within 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

National Forest ¹	Unroaded/Undeveloped Areas	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
		250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)	250-foot-wide ROW (miles/acres) 2-mile corridor (acres)
Manti-La Sal (continued)	Nuck Woodward – Gentry Mountain	N/A	N/A	N/A	0/0 52	N/A	N/A
	Oak Creek	N/A	N/A	N/A	0/0 1,016	N/A	N/A
	Cedar Knoll	1/34 2,218	N/A	N/A	N/A	1/34 2,218	1/34 2,218
	Coal Hollow	1/27 1,754	N/A	N/A	N/A	1/27 1,754	1/27 1,754
	Sanpitch Mountains	1/10 66	1/35 1,617	N/A	1/11 241	1/11 66	1/11 241

¹ There are no URUD areas within the Uinta National Forest.

Note: In some instances, there may be “0” miles within an SDA but some acreage of 250-foot-wide transmission line ROW disclosed. This is because the reference line (which is identified through “mileage of 250-foot-wide ROW”) does not enter the SDA; however, there is some portion of the 250-foot-wide transmission line ROW (as disclosed in acreage) that is still located within the SDA.

Table 3.15-10 Region II: Other Federally Managed Special Designation Areas Within 250-foot-wide Transmission Line ROW and 2-mile Transmission Line Corridor

Land Management Agency	SDA	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
NPS	Dinosaur National Monument	0/0 3	N/A	N/A	0/0 3	0/0 3	0/0 3
BLM/NPS	Old Spanish NHT						
	Number of crossings and segment rating	0 segment crossed	4 segments crossed; 1 segment NHT II, 1 segment NHT III, 2 segments NHT V	9 segments crossed: 1 segment NHT II, 1 segment NHT III, 3 segments NHT V, and 4 segments not categorized	0 segments crossed	0 segments crossed	0 segments crossed
	Visibility of the alternative from the trail ¹	N/A	Visible along 58 miles of trail, of which 7 miles are NHT II, 6 miles are NHT III, 27 miles are NHT IV, and 18 miles are NHT V	Visible along 107 miles of trail, of which 17 miles are NHT II, 8 miles are NHT III, 31 miles are NHT IV, and 27 miles are NHT V, and 24 miles are not categorized	N/A	N/A	N/A
	Associated Historic Sites and natural features, and nearby recreation or interpretive features	N/A	N/A	N/A	N/A	N/A	N/A
	Management/Land Use	N/A	All crossing on BLM lands, within designated utility corridors	5 crossings on BLM lands within designated corridor, 4 crossings on USFS land (unevaluated)	N/A	N/A	N/A

During construction, there would be surface disturbance within the Chipman Creek IRA associated with overland travel as well as the vegetation removal and surface disturbance from the transmission line placement (up to 23 acres). TransWest would span sensitive resources (such as threatened and endangered habitat, cultural resources, wetlands, etc.; see **Appendix C** for a full list of design features) and use selective vegetation removal whenever possible to reduce resource impacts. Helicopter construction would require the use of 7-acre helicopter fly yards located every five miles along the area where helicopter construction is planned; however, it is anticipated that these would be located outside of the IRA. Application of design features in **Appendix C**, specifically the development of vegetation and noxious weed management plans to address plant removal, selective clearing, and reclamation consistent with agency permitting stipulations for soils, water, vegetation and wildlife, would also reduce impacts to habitat and wildlife throughout the area. There is no crucial winter big game habitat within the IRA. Reclamation areas would be monitored for 3 to 5 years in accordance with USFS requirements (see **Appendix D**). As a result, the limited amount of construction ground disturbance within the IRA would not impact the diversity of plants and animals within the IRA. There are no impaired streams within the IRA. TransWest would use Design Features and BMPs to reduce sedimentation to protect water resources within the IRA. All disturbance areas within the IRA would be in areas designated as roaded natural and roaded modified ROS. These types of areas are managed to allow for readily evident to moderate evidence of sights and sounds of human activity. The sights and sounds of construction would be consistent with ROS designations for this area (see Section 3.13 Recreation, for more information).

During operations, TransWest would use aircraft or non-motorized methods for maintenance and would work with the USFS to identify appropriate vegetation management techniques, control the use of the ROW, and prevent unauthorized travel along the ROW by off-road vehicles. Standard vegetation management techniques would result in a 250-foot-wide corridor of low growth plant communities ranging from 2 to 6 feet in height. Depending on the location and habitat type, this type of vegetation management could result in long term loss of wildlife habitat. The following mitigation is proposed to further reduce operational impacts:

SDA-5: Within IRAs and other SDAs of high scenic quality, Level 2 or Level 3 vegetation management methods would be utilized as needed to reduce impacts to wildlife habitat and reduce the level of habitat fragmentation during operations.

Application of this mitigation would result in minimized disturbance to wildlife habitat. Level 2 vegetation management would reduce the area with 6-foot vegetation height restrictions to 90 feet wide and allow vegetation at the outside edges of the ROW to reach a maximum height of 35 feet. Level 3 vegetation management would allow increased vegetation heights anywhere within the ROW as long as vegetation does not encroach on the required minimum clearances (about 29 feet).

There are no known cultural resource sites within the Chipman Creek IRA (418008) area and no other special features or values characterizing wilderness potential present within the IRA. Impacts to any cultural resource sites would be mitigated per the PA (see Section 3.11, Cultural Resources).

Overall, the impacts associated with construction, operation, and maintenance would result in a permanent loss of acres where the Project would cross the IRA. The existing landscape character of the Chipman Creek IRA would be modified by the presence of the transmission line within the IRA. Although the route would largely parallel an existing transmission line, the existing transmission line is located outside of the Chipman Creek IRA and east of the existing road. The placement of Alternative II-A approximately 0.25 mile into the Chipman Creek IRA and away from the road would position the transmission line away from the existing man-made features that have affected wilderness character to the east. This would diminish the natural appearance and undeveloped character of a larger portion of the IRA and widen the linear corridor, as a 372-acre portion of the IRA between transmission reference line and Forest Road #335 would essentially be separated from the rest of the IRA. Within that separated acreage, a 7-acre portion would be further separated by a short, unnamed cherry-stemmed road. These areas would lose wilderness character and opportunities for solitude and primitive recreation in or near those areas, if any exist. Additionally, the 250-foot-wide transmission line ROW would cross the Forest Road #335 in a perpendicular fashion before

and after crossing the IRA. These crossings would provide opportunity for unauthorized OHV use within the IRA. Overall, these changes in the wilderness qualities would not be large enough to preclude management of the IRA as a whole; however, the manageability of the area between the transmission line and Forest Road #335 likely would be lowered. Visual impacts and proposed mitigation are discussed in greater detail in Section 3.12, Visual Resources.

Three micro-siting options have been proposed to reduce impacts to the Chipman Creek IRA:

- Strawberry IRA Micro-siting Option 1 would site the reference line and 250-foot-wide transmission line ROW approximately 0.1 mile to the west of the proposed route for Alternative II-A. Miles of reference line and acres of 250-foot-wide transmission line ROW within the IRA would remain about the same (2 miles and 71 acres). Like Alternative II-A, the 250-foot-wide transmission line ROW would cross Forest Road #335 in a perpendicular fashion at the points where it enters and leaves the IRA. This would provide opportunity for unauthorized OHV use within the IRA. Impacts to the IRA area would be similar to those described above, but would reduce the amount of area between the transmission line and Forest Road #335 to 225 acres. This area, which likely would lose wilderness character and have lower manageability, is 148 acres less than under Alternative II-A. Impacts to Forest Road #335 road are discussed in Section 3.12, Visual Resources, and Section 3.13, Recreation.
- Strawberry Micro-siting Option 2 would site the reference line and 250-foot-wide transmission line ROW approximately 0.2 mile to the west of the proposed route for Alternative II-A. Miles of reference line within the IRA would remain at about approximately 2 miles, and the acres of 250-foot-wide transmission line ROW would be reduced from 74 to 66 acres within the IRA. This would be further reduced to about 26 acres through application of roadless construction techniques. Like Alternative II-A, the 250-foot-wide transmission line ROW would cross Forest Road #335 in a perpendicular fashion at the points where it enters and leaves the IRA. However, the 250-foot-wide ROW also would be adjacent to the road for about 0.4 miles and would have two additional road crossings at about the halfway point of the 2-mile segment. This would result in more opportunity for encroachment into the IRA by OHVs than either Alternative II-A or Micro-siting Option 1 and ultimately could compromise manageability of this IRA border. Impacts to Forest Road #335 are discussed in Section 3.12, Visual Resources, and Section 3.13, Recreation.
- Strawberry IRA Micro-siting Option 3 would site the reference line and 250-foot-wide transmission line ROW approximately 0.3 mile to the west of the proposed route for Alternative II-A. This would remove the reference line and 250-foot-wide transmission line ROW from the Chipman Creek IRA entirely. The reference line would cross the road and existing transmission line near the beginning and end of this 2-mile segment and would cross Forest Road #335 three more times at about the halfway point. Selection of Micro-siting Option 3 would result in the closets consolidation of the road and transmission lines that would be visible within the IRA and affect wilderness character. Although this option would cross the road five times, all crossings would be outside of the IRA and would not provide more opportunity for encroachment into the IRA. Impacts to Forest Road #335 are discussed in Section 3.12, Visual Resources, and Section 3.13, Recreation.

The 2-mile transmission line corridor would encompass additional portions the Chipman Creek IRA, as well as portions of seven IRAs within the Upper Spanish Fork, Thistle, and Nephi MAs (approximately 12,960 acres total; see **Table 3.15-8**). Access road construction within IRAs would not be in conformance with area management plans. Application of **SDA-1** (avoidance of new road construction in SDAs) and adherence to the Roadless Rule as described in **Appendices C** and **D** would eliminate these areas from use for access roads. Roadless construction methods (as identified in the PDTR, see **Appendix D**) would be utilized to ensure compliance with the Roadless Rule. These methods include use of helicopters for tower placement, use of existing roads, and overland travel.

Within the Manti-La Sal National Forest, the 250-foot-wide transmission line ROW would cross the Coal Hollow and Cedar Knoll IRA/URUD areas. IRAs and URUD areas generally comprise the same acreage,

but there are approximately 800 acres of the Coal Hollow URUD area and 6,000 acres of the Cedar Knoll URUD area that are outside of their respective IRAs. Approximately 1 mile of the 250-foot-wide transmission line ROW would cross the 6,264-acre Coal Hollow IRA (7,094-acre URUD area) and 1 mile would cross the 22,483-acre Cedar Knoll IRA (28,349-acre URUD area). The disturbances would be located on the north and western edges of the IRA/URUD area, respectively (see **Figure 3.15-14**), leaving all but small portions (over 99.7 percent of Coal Hollow IRA/URUD area and 99.9 percent of Cedar Knoll IRA/URUD area) unfragmented and well over the requisite 5,000 acres, and with minimal effect to manageability.

Coal Hollow and Cedar Knoll IRA/URUD areas were rated as having low/medium natural integrity/appearance, low solitude and primitive recreation opportunities, and low manageability as wilderness due to previous and current land uses, sights and sounds of the trains and traffic, and OHV use (USFS unpublished). Within affected portions of these IRA/URUD areas, the transmission line generally would parallel Highway 6 and 89 and one or more existing transmission lines. Use of a full 250-foot-wide transmission line ROW would result in up to 19 acres of vegetation removal within the Coal Hollow IRA/URUD area, all of which would be located within the IRA, and 34 acres of vegetation would be removed within the Cedar Knoll URUD area, 16 of which would be located within the IRA. Roadless construction methods (as identified in the PDTR, see **Appendix D**) would be utilized within IRAs to ensure compliance with the Roadless Rule. These methods include use of helicopters for tower placement, use of existing roads, and overland travel. Application of the roadless construction techniques within IRAs would eliminate the surface disturbance associated with new roads within the IRA and reduce the ROW within the Coal Hollow and Cedar Knoll IRAs to about 8 acres and 6 acres, respectively.

During construction, there would be surface disturbance within the Coal Hollow and Cedar Knoll IRAs associated with overland travel as well as the vegetation removal and surface disturbance from the transmission line placement itself (up to 14 acres). As discussed above (see the Chipman Creek IRA), TransWest would span sensitive resources and use selective vegetation removal whenever possible to reduce resource impacts. Applicable design features such as USFS timing restrictions within crucial winter big game habitat and development of noxious weed management also would reduce impacts to habitat and wildlife throughout the area. As a result, the limited amount of construction ground disturbance within the IRAs would not impact the diversity of plants and animals within the IRAs. There are no impaired streams within the IRAs/URUD areas. TransWest would use Design Features and BMPs to reduce sedimentation to protect water resources within the IRA/URUD areas, and there would be no impact to the irrigation and community water supplies for Spanish Fork and Utah County.

Within the Coal Hollow and Cedar Knoll IRAs, approximately 25 acres of the full 250-foot-wide transmission line ROW would be located in areas designated as Semi-Primitive Motorized ROS. The sights and sounds of construction would not be fully consistent with management goals for this ROS designation (see Section 3.13 Recreation, for more information about impact to ROS areas from construction and operation of the transmission line).

Impacts from operations and maintenance would be similar to those discussed under Chipman Creek IRA and would be reduced through application of **SDA-5** (Class 2 or Class 3 vegetation maintenance options). Application of this mitigation would minimize disturbance to wildlife habitat. Level 2 vegetation management would reduce the area with 6 foot vegetation height restrictions to 90 feet wide and allow vegetation at the outside edges of the ROW to reach a maximum height of 35 feet. Level 3 vegetation management would allow increased vegetation heights anywhere within the ROW as long as vegetation does not encroach on the required minimum clearances (about 29 feet).

The placement of Alternative II-A across the edge of the IRAs would result in one 74-acre portion of the Cedar Knoll IRA and one 47-acre portion of the Coal Hollow IRA being segmented from the rest of IRAs. The existing landscape character of these areas and the adjoining portions of the IRAs would be modified by the presence of the transmission line within the IRA; however the route would parallel one or more existing transmission lines and would be located in areas where existing man-made features have already affected wilderness character. Visual impacts and proposed mitigation are discussed in greater detail in

Section 3.12, Visual Resources. There are no known cultural resources sites within either IRA and no other special features or values characterizing wilderness potential present within the IRA. Impacts to any cultural resource sites would be mitigated per the PA (see Section 3.11, Cultural Resources and Native American Concerns).

Overall, the impacts associated with construction, operation, and maintenance would result in a permanent loss of acres where the Project would cross the Coal Hollow and Cedar Knoll IRAs and would further diminish the natural appearance and undeveloped character of the outermost portion of IRAs. However, due to the location of Alternative II-A (at the edge of the IRA and in close proximity to roads and existing structures that have already comprised the wilderness characteristics of the area), it is not expected that any opportunities for solitude and primitive recreation present within the IRAs would be impacted, and any changes in the wilderness qualities would not be large enough to preclude management of the areas as IRAs and/or wilderness.

The reference line and 250-foot-wide transmission line ROW also would cross 1 mile (10 acres) of the Sanpitch URUD area. The affected acreage would be outside of the Sanpitch IRA. The crossing would be adjacent to other linear features and would be at the outermost portion of the URUD area where opportunities for primitive recreation and solitude are not present. In addition, the 2-mile transmission line corridor in which access roads or other construction support areas also could be located would encompass 3,926 acres within the Coal Hollow and Cedar Knoll URUD areas (1,439 acres of which are located within the IRAs), as well as 66 acres within the Sanpitch URUD area (see **Tables 3.15-8** and **3.15-9**). While access road construction within IRAs would not be in conformance with area management (see roadless construction techniques described above); there is no specific management restriction precluding road development in URUD areas outside of IRAs, provided the appropriate Standard and Guidelines are met. Therefore, any construction within the approximately 1,500 acres of URUD area outside of the Coal Hollow and Cedar Knoll IRAs and the 66 acres within the Sanpitch URUD area would not be required to adhere to roadless construction techniques. As a result, these areas could be subject to access road and support facility development that would result in additional surface disturbance and/or vegetation removal, with concomitant impacts to wildlife habitat, opportunities for solitude and primitive recreation, and wilderness character. The following mitigation is proposed to reduce impacts to URUD areas:

SDA-6: Roadless construction techniques shall be applied within all portions of URUD areas located outside of IRA until the national forests have completed their LRMP revisions including IRA and/or wilderness designation decisions.

Application of **SDA-6** would eliminate all portions of the 2-mile transmission line corridor within URUD areas from use for access roads or staging areas. This would eliminate most potential impacts to wilderness qualities except for the visual impacts described above and would allow the Manti-La Sal National Forest to continue to consider these areas for IRA and/or wilderness designation when they complete their LRMP revision.

Two micro-siting options have been proposed to reduce impacts to the Cedar Knoll IRA/URUD area:

- Cedar Knoll IRA Micro-siting Option 1 would site the reference line and 250-foot-wide transmission line ROW approximately 0.2 mile to the west of the proposed route for Alternative II-A. This would reduce the miles of reference line within the Cedar Knoll IRA to less than 0.5 mile and the acres of 250-foot-wide transmission line ROW from 34 to 12 acres within the URUD area (and from 16 acres to about 9 acres within the IRA itself, which would be further reduced to about four acres through application of roadless construction techniques). The area of the Cedar Knoll IRA that would be separated from the IRA would be reduced to 22 acres (52 acres less than under Alternative II-A) and no portion of the Coal Hollow IRA would be separated from the IRA. Impacts to the IRA/URUD area would be similar to those described above but would affect half the IRA acreage and about one third of the URUD areas impacted under Alternative II-A. Additionally, the reference line would

be located closer to existing transmission lines, consolidating manmade features affecting the character of the IRA.

- Cedar Knoll IRA Micro-siting Option 2 would site the reference line and 250-foot-wide transmission line ROW approximately 0.5 mile to the west of the proposed route for Alternative II-A. This would remove the reference and line and 250-foot-wide corridor from the Cedar Knoll IRA and URUD areas entirely. Additionally, the reference line would be located closer to existing transmission lines, further consolidating manmade features that are visible within the IRA and affecting its wilderness character.

Other Federally Managed SDAs and National Trails

Approximately 3 acres of the Dinosaur National Monument (less than 0.001 percent of the 210,000+-acre area) would be located within the 2-mile transmission line corridor. Application of **SDA-1** would eliminate impacts to the important geological and paleontological resources and native habitat within the designated area. There would be no impact to national trails.

Alternative II-B

Under Alternative II-B, the 250-foot-wide transmission line ROW would pass through the Oil Spring Mountain WSA/ACEC, the Demaree WSA, and the Sanpitch URUD area. Portions of the 2-mile transmission line corridor in which roads or construction support areas could be located also would cross one NCA, two additional ACECS, and three additional IRA/URUD areas.

BLM SDAs and National Landscape Conservation System Lands

Within the White River FO, a small portion of the 250-foot-wide transmission line ROW (less than 1 acre) would pass through the 18,260-acre Oil Spring Mountain WSA/ACEC. This would be less than 0.001 percent of the SDA. The Oil Spring Mountain WSA is a ROW exclusion area; development of the portion of the 250-foot-wide transmission line ROW within the WSA/ACEC would not be in conformance with management unless the area is released from consideration as wilderness. The reference line would not enter the WSA/ACEC, but would be located within a designated underground utility corridor west of the WSA. TransWest design features to span or compress the width of the ROW corridor would eliminate surface disturbance within the WSA; however, the visual impacts to the WSA from operation of the line would not be mitigated, and a land use plan amendment would be required to change the designated use of the utility corridor to allow overhead transmission lines. The White River FO has recommended that the WSA not be carried forward as wilderness, but instead designated as an ACEC; if released by Congress, the ACEC would be managed as a ROW avoidance area and closed to motorized vehicles to protect its relevant and important values, which include spruce-fir and biologically diverse plant communities, BLM sensitive species, and remnant vegetation associations (RVA). Approximately 1,241 acres of the of the 2-mile transmission line corridor would be located within the WSA/ACEC (6.8 percent of the ACEC). The designated utility corridor would not encompass the full width of the 2-mile transmission line corridor. Application of **SDA-1** would eliminate road construction impacts to the WSA and the vegetation resources of the proposed ACEC. Impacts from overland travel and other ancillary construction areas (or road construction, if the area is released by Congress) would be minimized through design features and agency BMPs, including surveys and avoidance of special status species and RVA habitat, as well as reclamation and monitoring activities.

The 2-mile transmission line corridor would encompass portions of the White River Riparian (White River FO) and Badger Wash (Grand Junction FO) ACECs. Approximately 143 acres of the proposed 2-mile transmission line corridor would fall within the 590-acre White River Riparian ACEC. This would comprise 15 percent of the ACEC. The ACEC is a ROW avoidance area. Construction of roads within the ACEC would have potential impacts to the riparian areas and bald eagle roosts for which the ACEC was designated. All surface disturbances would be contingent upon avoidance of cottonwood communities, maintenance of utility as bald eagle habitat and properly functioning riparian community, and use of special reclamation techniques to accelerate recovery and reestablishment of habitat (BLM 1997). Adherence to

agency timing stipulations within a 0.5 mile buffer around roosts from November 15 to April 15 would minimize impacts to roosting eagles. TransWest commitments for BMPs to control erosion and sedimentation would further reduce impacts from overland construction and other disturbance. Approximately 310 acres of the proposed 2-mile transmission line corridor would fall within 1,520-acre Badger Wash ACEC. This would comprise 20 percent of the ACEC, and the area would not be within the portion of the ACEC that has been designated as a utility corridor. Application of **SDA-1**, which would restrict access to existing roads within all SDAs, would eliminate impacts to the sensitive plant species and to the portion of the ACEC used for hydrologic study and has been designated as unsuitable for public utilities.

Within the Grand Junction FO, approximately 1 mile (15 acres) of the 250-foot-wide transmission line ROW would pass through the 21,050-acre Demaree WSA. This would comprise less than 0.1 percent of the SDA. The 250-foot-wide transmission line ROW would be located within a designated utility corridor; however the corridor is located partially within the WSA, which is a ROW exclusion area. Transmission line development within the WSA would not be in conformance with WSA management. TransWest's commitment to comply with agency stipulations (TWE-1) would entail siting the 250-foot-wide transmission line ROW outside of the WSA. Approximately 1,812-acres of the 2-mile transmission line corridor would be located within the WSA (9 percent of the ACEC). The Demaree WSA is a ROW exclusion area; access road development within the WSA would not be in conformance with WSA management. Application of **SDA-1**, which would restrict access to existing roads within all SDAs, would eliminate impacts to the WSA from road construction. The BLM Grand Junction RMP has recommended that the Demaree WSA not be carried forward as wilderness because of the loss of high potential oil and gas lands and coal deposits. If the area is released from wilderness consideration, the area would be managed as part of a coal-emphasis management area and designated as a ROW sensitive area. Development of a transmission line and access roads would not be incompatible with proposed management direction. Impacts from overland travel and other ancillary construction areas (or road construction, if the area is released by Congress) would be minimized through design features and agency BMPs, including surveys and avoidance of special status species and RVA habitat, as well as reclamation and monitoring activities.

Approximately 1,925 acres of the proposed 2-mile transmission line corridor would fall within the 123,400-acre McInnis Canyons NCA. This would be approximately 2 percent of the NCA and would be entirely within a designated utility corridor. Development of roads would be consistent with area management, subject to agency constraints and BMPs to protect sensitive resources.

USFS IRAs and URUD Areas

The 250-foot-wide transmission line ROW for Alternative II-B would cross 1 mile (35 acres) of the Sanpitch URUD area. Impacts to this area would be the same as for Alternative II-A but with 25 additional acres.

Under Alternative II-B, portions of the 2-mile transmission line corridor would fall within four IRA/URUD areas. Within the Fishlake National Forest, approximately 191 acres of the proposed 2-mile transmission line corridor would fall within the Oak Creek URUD area, 13 acres of which also are within the Oak Creek IRA. Within the Manti-La Sal National Forest, the 2-mile transmission line corridor would encompass 4,578 acres of the Boulger-Black Canyon, East Mountain, and Sanpitch IRAs, and 4,294 acres of the Boulger-Black Canyon, East Mountain, and Sanpitch URUD areas. Application of **SDA-1** (avoidance of road construction in SDAs) and adherence to the Roadless Rule as described in **Appendices C and D** would eliminate any new road construction within the IRA. Application of **SDA-6** (application of roadless construction techniques within URUD areas; see Alternative II-A) would eliminate all portions of the 2-mile transmission line corridor within URUD areas from use for access roads or staging areas. This would eliminate potential impacts to wilderness qualities except for the visual impacts described above and would allow the Manti-La Sal National Forest to continue to consider these URUD areas for IRA and/or wilderness designation when they complete their LRMP revision. Consistency with ROS designations within the 2-mile transmission line corridor are discussed in Section 3.13, Recreation. Impacts to wildlife, vegetation, and

water resources within IRAs from roadless construction techniques are discussed under the applicable resource section.

Other Federally Managed SDAs and National Trails

Alternative II-B would not cross any SDAs managed by other federal agencies, but would cross the Old Spanish NHT four times (see **Figure 3.15-11**); twice within the Book Cliffs AU (Moab FO) and twice within the San Rafael Swell AU (Price FO). The crossings all would be located on BLM land. Alternative II-B would cross the Old Spanish NHT in the following four locations.

- Forty miles east of the town of Green River (Book Cliffs AU) and less than 3 miles west of Cisco. The crossing would be adjacent to I-70 on the north side of the highway. The segments are rated as NHT V, and do not contribute to the trail's NHT status. The crossing would be in a SQRU with a score of 9.5 (Class C). There are no associated historic sites, recreation areas, or interpretive features located near trail segments in this area. The Thompson Springs rest area would be located about 18 miles to the west of the crossing. The trail crossing would be located on BLM land within a designated utility corridor.
- One mile east of the town of Green River (Book Cliffs AU). The crossing would be adjacent to I-70 in an area where the trail parallels a frontage road to the north of the highway. There are no associated historic sites or interpretive features located near trail segments in this area. The Crescent Junction rest stop would be located about 9 miles to the west. The portion of I-70 adjacent to the segments is part of the Dinosaur Diamond Prehistoric Byway. The proposed trail crossing would be located on BLM land within a designated utility corridor. The segment is rated as NHT II, and contributes to the trail's NHT status. The crossings would be in a SQRU with a score of 11.5 (Class B).
- Two sites, approximately 7 and 8 miles north of the town of Green River (San Rafael Swell AU). The two segment of trail that would be crossed in this area are located less than 2 miles west of Highway 6, are part of The Green River Crossing to Big Flat Segment, are rated as NHT III and V, and do not contribute to the trail's NHT status. The crossings would be in SQRUs with scores of less than 7 (Class C). There are no associated historic sites, recreation areas, or interpretive features located near trail segments in this area (the watering places are located further to the north).

All trail crossing would be in compliance with the BLM Moab and Price RMP stipulations as they are located within a designated utility corridor. Towers would be placed to avoid surface disturbance near the actual trail.

Alternative II-B would be visible from the Old Spanish NHT for approximately 58 miles of the trail. Of those 58 miles, approximately 7 miles of trail (4 segments) are categorized as NHT-II; approximately 6 miles of trail segments are categorized as NHT-III; approximately 27 miles of trail segments are categorized as NHT-IV; and, approximately 18 miles are categorized as NHT-V. All segments are considered to be High Potential. Three of the 10 trail segments that are within the viewshed contribute to the trail's NHT status.

Table 3.15-11 summarizes key features of trail segments that would be in the Alternative II-B viewshed.

Table 3.15-11 Alternative II-B Viewshed Impacts by Old Spanish NHT Analysis Unit

AU	Segment Rating	Number of Segments	Contributing Status	Miles of Trail within Viewshed ¹	Total Mileage within AU	Percentage of AU within Viewshed
Book Cliffs (Moab FO; 62 miles total)	Highest rating within AU (NHT-II and exceptional)	2	1 contributing segment	6.5	11	59
	Remaining mileage (NHT-III and IV; high potential)	5	No contributing segments ²	40	51	78

Table 3.15-11 Alternative II-B Viewshed Impacts by Old Spanish NHT Analysis Unit

AU	Segment Rating	Number of Segments	Contributing Status	Miles of Trail within Viewshed ¹	Total Mileage within AU	Percentage of AU within Viewshed
Blue Hills (Moab FO; 13 miles total)	Highest rating within AU (NHT-II; exceptional/ notable)	1	1 contributing segment	0.6	3	20
	Remaining mileage (NHT-III and IV; high potential)	2	1 contributing segment	0.7	10	7
San Rafael Swell (Price FO; 58 miles total)	Highest rating within AU (NHT-II; notable)	1	1 contributing segment	0.2	15	1
	Remaining mileage (NHT III, IV-VI; high potential)	3	No contributing segments	11	43	16

¹ Visibility of Alternative II-B from the historic trail is based on the 5-mile viewshed.

² Two segments not evaluated.

Within the Moab FO, Alternative II-B would have impacts within the Book Cliffs and Blue Hills AUs. Within the Book Cliffs AU, selection of Alternative II-B would result in visual impacts to about 47 miles (75 percent) of the 62 miles of inventoried trail within the AU. This includes 6.5 miles of trail that is rated as NHT-II/Exceptional (59 percent of the highest rated mileage within the AU). The remaining 40 miles of inventoried trail within the viewshed comprises trail segments that are considered to be High Potential. Affected mileage constitutes 78 percent of High Potential segments within the AU. Two of the 7 trail segments within the viewshed contribute to the trail's NHT status.

The far eastern portion of the Book Cliffs AU, which currently has a scenic rating of 14 (Class B), would not be in the transmission line viewshed.

The central and western portions of the Book Cliffs AU would be in the transmission line viewshed. Within the central portion, the integrity of historic setting of the trail is already diminished where it is adjacent to I-70 and railroad features, and there are no associated historic sites located near affected trail segments in this area (AECOM 2012) The SQRU rating of Class C in this portion of the AU would not change if Alternative II-B were to be constructed.

The western portion of Book Cliffs AU is located along I-70 west of Highway 191. Integrity of historic setting is retained in the west sections of this AU (especially along the northern portion) and scenic quality is average (Class B, with an SQRU score of 11.5), resulting in an overall rating of SI in northern segment. Selection of Alternative II-B would result in a 4 point reduction in the SQRU score, resulting in a reduction of scenic quality (to Class C, with a score of 7.5) in this portion of the AU. The overall rating of trail segments in this portion of the AU (which is currently SI) would be reduced to an SII.

Recreationally important landscapes within the Book Cliffs AU include the Cisco Desert area and the Green River area. Several recreation areas (the Thompson Springs rest stop, the hiking trail near Thompson Springs, the Crescent Junction rest stop, portions of the Dinosaur Diamond Prehistoric Byway and northernmost portions of the Labyrinth Canyon SRMA) would be within immediate foreground (0.0 to 0.5-mile) visibility of the transmission line. Impacts would not be mitigated by transmission line siting adjustments within the 2-mile transmission line corridor because the transmission line would still parallel the trail. None of these recreational areas currently offer interpretive materials related to the Old Spanish NHT.

Within the Blue Hills AU, selection of Alternative II-B would result in visual impacts to about 1 mile (10 percent) of the 13 miles of inventoried trail within the AU. This would include 0.6 mile of trail that is rated as NHT-II/Exceptional-Notable (20 percent of the highest rated mileage within the AU). The remaining affected mileage would be comprised of trail segments that are considered to be High Potential. Affected mileage would constitute 7 percent of High Potential segments within the AU. Two of the three trail segments within the viewshed contribute to the NHT status of the trail.

There are no associated historic sites located near affected trail segments in this area. The transmission line would be visible in the portions of the AU closest to the I-70 corridor; however, the scenic quality classification (Class B) would not change. Two nearby recreation areas (the northern edge of the Labyrinth Canyon SRMA and portions of the Dinosaur Diamond Prehistoric Byway) would be within immediate foreground (0.0 to 0.5-mile) visibility of the transmission line. Neither of these areas currently offer interpretive materials related to the Old Spanish NHT. Impacts would not be mitigated by transmission line siting adjustments within the 2-mile transmission line corridor because the transmission line would still be within the viewshed of this portion of the AU.

Within the Price FO, selection of Alternative II-B would result in visual impacts to about 11 miles (20 percent) of the 58 miles of inventoried trail within the AU. This includes 0.2 mile of trail that is rated as NHT-II/Notable (1 percent of the highest rated mileage within the AU). The remaining affected mileage would be comprised of trail segments that are considered to be High Potential. Affected mileage constitutes 16 percent of High Potential segments within the AU. One of the four trail segments within the viewshed contributes to the trail's NHT status. Impacts would be confined to segments closest to the Highway 6 corridor. This includes some of the higher rated trail segments within the Price FO, but would not include nearby associated historic sites, and current scenic quality classifications (Class B) would not change. Relocation of the transmission line to the easternmost portion of the 2-mile transmission line corridor could result in fewer visual impacts to these trail segments.

Once the final route is selected, an intensive Class III inventory and in-depth visual analysis would be conducted to determine the impact to contributing Old Spanish NHT segments crossed by the route or from which the route would be visible. If a contributing segment would be adversely affected, the effects would be minimized or mitigated onsite or offsite as stipulated in the Cultural Resources PA developed for the Project and through implementation of design features and BMPs in concert with the Trail Study Agency and the Wyoming BLM National Trails Management Program Lead. Mitigation identified in Section 3.12, Visual Resources includes measures to reduce visual impacts through the use of BLM environmental colors and location of structures, roads, and other project elements as far back from road, trail, and river crossings as possible, and, where feasible, employ terrain and vegetation to screen views from crossings.

Alternative II-C

Under Alternative II-C, the 250-foot-wide transmission line ROW would pass through the Oil Spring Mountain WSA/ACEC, the Demaree WSA, and the Browns Hole URUD area. Portions of the 2-mile transmission line corridor in which roads or construction support areas could be located also would cross one NCA, four additional ACECS, and five additional IRA/URUD areas.

BLM SDAs and National Landscape Conservation System Lands

Under Alternative II-C, the 250-foot-wide transmission line ROW would pass through the Demaree WSA and Oil Spring Mountain WSA/ACEC). Impacts to each of the SDAs would be the same as discussed under Alternative II-B and would be mitigated by application of **SDA-1**.

The 2-mile transmission line corridor would encompass portions of the McInnis Canyons NCA; and the White River Riparian, Badger Wash, San Rafael Canyon ACECs; and the Dry Wash/Molen Seep units of the Rock Art ACEC. Impacts to the McInnis Canyons NCA, the White River Riparian ACEC, and Badger Wash ACEC would be the same as under Alternative II-B.

Within the Price FO, portions of the 2-mile transmission line corridor would pass through the San Rafael Canyon ACEC and the Dry Wash and Molen Seep units of the Rock Art ACEC.

Within the Price FO, approximately 1,192 acres of the proposed 2-mile transmission line corridor would fall within the 15,200 San Rafael Canyon ACEC. This would comprise about 8 percent of the ACEC (the 250-foot-wide transmission line ROW would be co-located with existing steel lattice transmission lines

outside of the ACEC and would comply with BLM VRM for the area; see Section 3.12, Visual Resources). The ACEC is designated for scenic values and managed as a ROW avoidance area, excluded from land treatments unless used to protect or improve riparian values. OHV use is limited to designated roads. TransWest commitments to avoid riparian areas would reduce impacts to ACEC values; however the development of roads would reduce the scenic qualities for which the ACEC was designated. Application of **SDA-1** would eliminate these impacts. If road development could not be avoided within the full 1,192 acres, application of **SDA-2** (full reclamation of roads) would reduce the long term impacts of road development. Portions of the 2-mile transmission line corridor would also pass through the Dry Wash and Molen Seep units of the Rock Art ACEC. The Rock Art ACEC is a regionally important area with some of the best examples of prehistoric rock art in the Colorado Plateau. The ACEC is managed to protect cultural resource values and is designated as a ROW exclusion area outside of designated utility corridors. Approximately 143 acres of the proposed 2-mile transmission line corridor would be located within the 1,137-acre Dry Wash unit; and the 2-mile transmission line corridor would encompass the entire 634-acre Molen Seep unit. These areas would not be located within existing utility corridors. Development of roads would not be in conformance with area management objectives and could result in destruction of cultural resources as well as increased vandalism due to increased access. Application of **SDA-1** would eliminate these impacts.

USFS IRAS and URUD Areas

Within the Fishlake National Forest, approximately 7 miles of the 250-foot-wide transmission line ROW would cross the 8,212-acre Browns Hole URUD area. Use of a full 250-foot-wide transmission line ROW would result in up to 198 acres of vegetation removal within the URUD (2 percent of the 8,212-acre URUD). There is no specific management restriction precluding road development in URUD areas outside of IRAs, provided the appropriate Standard and Guidelines are met. As a result, these areas could be subject to access road and support facility development that would result in surface disturbance and/or vegetation removal within the 198-acre area, with concomitant impacts to wildlife habitat, opportunities for solitude and primitive recreation, and wilderness character. There would be 5,230 acres of the URUD area within the 2-mile transmission line corridor. These areas also could be used for access road and construction staging areas and represent the general area in which noise and human activity could affect wildlife or opportunities for solitude.

Within the Browns Hole URUD area, natural integrity has been affected by fire suppression, invasive species, and overgrazing; undeveloped character has been affected from roads and motorized routes. There are opportunities for primitive recreation, but not necessarily solitude due to the relatively small size of the URUD area and motorized routes and sights and sounds of Fishlake Basin. Manageability is affected by cherry-stemmed roads and motorized trails. Overall, the impacts associated with construction, operation, and maintenance would result in a permanent loss of acreage where the 250-foot-wide transmission line ROW would cross the URUD area and where access roads and staging areas would be located. The reference line would pass through the middle of the URUD area, essentially bisecting it into two URUD areas that are both less than the requisite 5,000 acres, further affecting the ability of this area to be managed as potential IRA or wilderness area. Additionally, the location of the transmission line would diminish the natural appearance and undeveloped character of a large portion of the URUD area due to its location in the center of the URUD area.

Application of **SDA-6** (application of roadless construction techniques within URUD areas; see Alternative II-A) would reduce the width of the ROW to less than 100 feet. This would reduce the area of potential surface impact to about 79 acres. Application of **SDA-6** also would eliminate all portions of the 2-mile transmission line corridor within the URUD area from use for access roads or staging areas. This would reduce impacts to wilderness qualities; however, the placement of the transmission line in the middle of this small URUD area would still result in adverse impacts to the natural integrity/appearance and opportunities for solitude and primitive recreation over a large part of the URUD area and would further lower the manageability of this area.

Portions of the 2-mile transmission line corridor would fall within five additional IRA/URUD areas. Within the Fishlake National Forest, approximately 2,050 acres of the 2-mile transmission line corridor would fall within the North Pavant URUD area, 1,257 acres of which are also within the North Pavant IRA. The 2-mile transmission line corridor would encompass 4,064 acres of the Moroni Peak, Mount Terrill, Oak Ridge, and The Rocks URUD areas. None of this acreage is within an IRA. Application of **SDA-1** and adherence to the Roadless Rule as described in the **Appendices C** and **D** would eliminate any new road construction within the North Pavant IRA. Application of **SDA-6** (application of roadless construction techniques within URUD areas, see Alternative II-A) would eliminate all portions of the 2-mile transmission line corridor within URUD areas from use for access roads or staging areas. Consistency with ROS designations within the 2-mile transmission line corridor are discussed in Section 3.13, Recreation.

Other Federally Managed SDAs and National Trails

Alternative II-C would not cross any SDAs managed by other federal agencies but would cross the Old Spanish NHT a total of nine times; five times on BLM lands (twice within the Book Cliffs AU and three times within the San Rafael Swell AU); and four times on NFS lands within the Manti La Sal National Forest.

The two Book Cliffs AU crossings and two of the three San Rafael Swell AU crossings would be the same as under Alternative II-B. Impacts would be identical to those identified under Alternative II-B. The third crossing within the San Rafael Swell AU would be located 14 miles east of Castle Dale and adjacent to CR 401. The proposed trail crossing would be located on BLM land and would be within a designated utility corridor. The trail segment that would be crossed is rated as NHT-V and does not contribute to the trail's NHT status. Towers would be placed to avoid surface disturbance near the actual trail.

Alternative II-C also would cross trail segments within the Fishlake National Forest. These crossings would be located south of I-70 about 20 miles southwest of Salina, near the Gooseberry/Fremont Rd. Scenic Backway. These segments were not evaluated as part of the 2012 NHT Inventory Report for NHT Condition Category, scenic quality, or overall setting.

Alternative II-C would be visible from the Old Spanish NHT for approximately 107 miles of the trail. Of those 107 miles, approximately 17 miles of trail segments are categorized at NHT II; approximately 8 miles of trail segments are categorized at NHT III; approximately 31 miles of trail segments are categorized as NHT IV; and, approximately 27 miles are categorized at NHT V. There would also be 24 miles within the Manti- La Sal National Forest that are unevaluated. **Table 3.15-12** summarizes key features of trail segments that would be in the Alternative II-C viewshed.

Table 3.15-12 Alternative II-C Viewshed Impacts by Old Spanish NHT Analysis Unit

AU (Location)	Segment Rating	Number of Segments	Contributing Status	Miles of Trail within Viewshed ¹	Total Mileage within AU	Percentage of AU within viewshed
Book Cliffs (Moab FO; 62 miles total)	Highest rating within AU (NHT-II; exceptional)	2	1 contributing segment	6.5	11	59
	Remaining mileage	5	No contributing segments ²	40	51	78
Blue Hills (Moab FO; 13 miles total)	Highest rating within AU (NHT-II; exceptional)	1	1 contributing segment	0.6	3	20
	Remaining mileage	2	1 contributing segment	0.7	10	7
San Rafael Swell (Price FO; 58 miles total)	Highest rating within AU (NHT-II; notable)	1	1 contributing segment	10	15	67
	Remaining mileage	4	No contributing segments	26	43	60
Fishlake National Forest/Private	N/A	N/A	Unknown	24	N/A	N/A

¹ Visibility of Alternative II-B from the historic trail is based on the 5-mile viewshed.

² Two segments not evaluated

Within the Moab FO, selection of Alternative II-C would result in the same viewshed impacts to the Book Cliffs and Blue Hills AUs as under Alternative II-B.

Within the Price FO, selection of Alternative II-C would result in viewshed impacts to about 36 miles (62 percent) of the 58 miles of inventoried trail within the San Rafael Swell AU. This would include 10 miles of trail that is rated as NHT-II/Notable (67 percent of the highest rated mileage within the AU). The remaining 26 miles comprises trail segments that are considered to be High Potential. Affected mileage constitutes 60 percent of High Potential segments within the AU. One of the five trail segments within the viewshed contributes to the overall trail's NHT status. Impacts would be confined to segments closest to the Highway 6 corridor. There are no associated historic sites located near affected trail segments in this area and the current scenic quality classifications (Class C) would not change.

Alternative II-C generally would parallel an existing transmission line in portions of the San Rafael Swell AU specific to Alternative II-C. Recreationally important landscapes include the Wedge Overlook, and the Little Cedar Mountain Recreation Area. The Wedge Road visitor station and the Little Cedar Mountain Recreation Area would be about 3 miles to the west of the trail crossing. Portions of the San Rafael Swell and Wedge Overlook/Buckhorn Dr. Scenic Backway would be within the immediate foreground (0.0 to 0.5-mile) visibility of the transmission line. None of these areas currently offer interpretive materials related to the Old Spanish NHT. Impacts would not be mitigated by transmission line siting adjustments within the 2-mile transmission line corridor because the transmission line would still be within the viewshed of this portion of the AU.

Within the Fishlake National Forest, Alternative II-C would be within the viewshed of 24 miles of unrated trail. There are no associated historic sites located near affected trail segments in this area. One recreational area that would be near or within the viewshed would be the Gooseberry/Fremont Road Scenic Backway. No scenic quality ratings are available for this area, but adjacent BLM SQRUs are rated as Class C. Impacts would not be mitigated by transmission line siting adjustments within the 2-mile transmission line corridor because the transmission line would still cross the trail at some point.

Once the final route is selected, an intensive Class III inventory and in-depth visual analysis would be conducted to determine the impact to contributing Old Spanish Trail segments crossed by the route or from which the route would be visible. If a contributing segment would be adversely affected, the effects would be minimized or mitigated onsite or offsite as stipulated in the Cultural Resources PA developed for the Project and through implementation of design features and BMPs in concert with the Trail Study Agency and the Wyoming BLM National Trails Management Program Lead. Mitigation identified in Section 3.12, Visual Resources includes measures to reduce visual impacts through use of BLM environmental colors and location of structures, roads, and other project elements as far back from road, trail, and river crossings as possible, and where feasible, employ terrain and vegetation to screen views from crossings.

Alternative II-D

Under Alternative II-D, the 250-foot-wide transmission line ROW would pass through the Lower Green River ACEC, Lower Green River WSR, a portion of one IRA within the Ashley National Forest, and the Sanpitch URUD area in the Manti-LaSal National Forest. Portions of the 2-mile transmission line corridor in which roads or construction support areas could be located would cross two additional ACECS, one national monument, and six additional IRA/URUD areas.

BLM SDAs and National Landscape Conservation System Lands

Within the Vernal FO, approximately 1 mile of the 250-foot-wide transmission line ROW would cross the 8,470-acre Lower Green River ACEC. The area is managed as a ROW avoidance area for protection of riparian and special status species habitat and scenic values. During construction, up to 20 acres (0.3 percent of the ACEC) would be subject to vegetation removal and/or surface disturbance that could affect special status species habitat and scenic values. Agency buffers and TransWest's commitment to avoid riparian areas and special status species habitat would reduce impacts to riparian and special status plant species values; soil and water BMPs would reduce sedimentation that could affect special status

species fish. Visual impacts from a transmission line would not be in conformance with SDA management as Class II VRM (see Section 3.12 for more discussion about impacts to visual resources). Access roads and construction staging areas also could be constructed within the 1,239-acre portion of the 2-mile transmission line corridor located within the ACEC, further expanding the area potentially affected by vegetation removal and surface disturbance to approximately 15 percent of the ACEC. Application of **SDA-1** would eliminate these impacts. If road development could not be avoided within the full 1,239 acres, application of **SDA-2** (full reclamation of roads) would reduce the long term impacts of road development; however, the visual impacts from operation of the transmission line would be a permanent impact to the high value scenery of the ACEC.

Approximately 1 mile (19 acres) of the 250-foot-wide transmission line ROW would cross a 30-mile segment of the lower Green River. This segment is suitable for wild and scenic river designation (as “scenic”) and is also designated as a Class II VRM. The visual impacts from a transmission line would not be in conformance with SDA management as Class I and II VRM and would not be consistent with the criteria for a “scenic” designation (largely primitive and undeveloped, no substantial evidence of human activity, etc.). A one-time exception would be needed to change the VRM class to VRM III. Section 3.12, Visual Resources, provides additional information regarding the visual impacts to this area. Approximately 1,447-acres of the of the 2-mile transmission line corridor would be located within the 11,968 WSR area (12 percent of the suitable area). Application of **SDA-1** would eliminate road construction impacts to the WSR; however, the visual impacts from operation of the line would not be mitigated.

Approximately 489 acres of the proposed 2-mile transmission line corridor would fall within the 1,377-acre Lears Canyon ACEC. This would comprise about 35 percent of the ACEC. Lears Canyon is managed as a ROW avoidance area for protection of relict vegetation; it is closed to motorized travel and managed as VRM II. Application of **SDA-1** would eliminate road construction impacts to the ACEC. If road development could not be avoided within the full 489 acres, agency avoidance buffers and TransWest commitments for key species habitat avoidance would reduce the impacts of road development on the plant habitat for which the ACEC was designated.

Approximately 1,453 acres of the proposed 2-mile transmission line corridor would fall within the 74,302-acre Nine Mile Canyon ACEC. This would comprise about 2 percent of the ACEC, which is managed as a ROW avoidance area for protection of cultural resources and special status species. The corridor would be located above the rim of the canyon, which is managed as VRM III. Application of **SDA-1** would eliminate potential impacts to cultural resources within the ACEC. If road development could not be avoided within the full 1,453 acres, impacts to cultural resources would be mitigated through compliance with the draft PA. The Agency avoidance buffer and TransWest commitments for special status species habitat avoidance would reduce the impacts of road development on the plant habitat for which the ACEC was designated.

USFS IRAs and Unroaded/Undeveloped Areas

Within the Ashley National Forest, approximately 1 mile of the 250-foot-wide transmission line ROW would cross the 30,356-acre IRA 401009. This IRA has been rated as having moderate natural integrity/appearance, some opportunities solitude and primitive recreation but less desirable due to terrain and excluded roads, no special features, and difficult to manage as wilderness (USFS 2008).

Use of a full 250-foot-wide transmission line ROW would result in up to 11 acres of vegetation removal within the IRA 401009 (less than 0.1 percent of the 9,349-acre IRA). The disturbances would be located on the southern edge of the IRA, along the tops of the southern plateaus (see **Figure 3.15-13**). There are several existing USFS roads in this portion of the IRA. Roadless construction methods (as identified in the PDTR, see **Appendix D**) would reduce the 250-foot-wide transmission line ROW to 100 feet (12 acres) and eliminate surface disturbance associated with new roads within the IRA. Manageability of IRA 401009 as a designated roadless area currently is rated as somewhat difficult due to edge effects, such as the presence of existing roads (see **Appendix H**). Placement of the transmission line along an area with existing access

roads would increase linear intrusions into the IRA, further lowering manageability. However, over 99 percent of the IRA would remain unfragmented and well over the requisite 5,000 acres.

IRA 401009 provides high value winter range for deer and elk, summer habitat for pronghorn, big game migration corridors, and contains greater sage-grouse broodrearing, occupied, and winter habitat. TransWest would be required to maintain agency-stipulated wildlife buffers and timing restrictions and would span sensitive resources such as threatened and endangered species habitat, cultural resources, wetlands, etc. (see **Appendix C** for a full list of design features). TransWest also would use selective vegetation removal whenever possible to reduce resource impacts. Helicopter construction would require the use of 7-acre helicopter fly yards located every five miles along the area where helicopter construction is planned; however, it is anticipated that these would be located outside of the IRA. Application of design features in **Appendix C**, specifically the development of vegetation and noxious weed management plans to address plant removal, selective clearing, and reclamation consistent with agency permitting stipulations for soils, water, vegetation and wildlife, also would reduce impacts to habitat and wildlife throughout the area. Reclamation areas would be monitored for 3 to 5 years in accordance with USFS requirements (see **Appendix D**). As a result, the limited amount of construction ground disturbance within IRA 401009 would not impact the diversity of plants and animals within the IRA. There are no impaired streams within the IRA. Water contributes to the Duchesne River instream flows and supplies spring and pond water for grazing. TransWest would use design features and BMPs to reduce sedimentation to protect water resources within the IRA.

Impacts to the IRA from transmission line operation would be similar to those described under Alternative II-A, and would be reduced through application of **SDA-4** (Class 2 or Class 3 vegetation maintenance options).

The existing landscape character of the IRA would be modified by the presence of the transmission line within the IRA; however, the route would be located in areas where existing man-made features such as grazing, vegetation treatments; oil and gas, and motorized activities have already affected wilderness character. Visual impacts and proposed mitigation are discussed in greater detail in Section 3.12. The IRA contains prehistoric sites show features that may be vision quest or ceremonial sites with religious or traditional cultural property significance. Impacts to any cultural resource sites would be mitigated per the PA (see Section 3.11, Cultural Resources). One acre of the full 250-foot-wide transmission line ROW located within the IRA would be within Semi-Primitive Motorized ROS areas. The sights and sounds of construction would not be fully consistent with management goals for this ROS designation (see Section 3.13, Recreation, for more information about impact to ROS areas from construction and operation of the transmission line).

Overall, the impacts associated with construction, operation, and maintenance would result in a permanent loss of acres where the Project would cross the IRA, which would diminish the natural appearance and undeveloped character of the westernmost portion of IRA #401009. However, the wilderness characteristics of the area have already been affected by existing man-made features present in the area, opportunities for solitude and primitive recreation are primarily in other portions of the IRA and changes in the wilderness qualities would not be large enough to preclude management of the majority of the area as an IRA and/or wilderness.

The 250-foot-wide transmission line ROW for Alternative II-D would cross 1 mile (11 acres) of the Sanpitch URUD area. Impacts to this area would be the same as for Alternative I-A.

Within the Ashley National Forest, the 2-mile transmission line corridor in which access roads or other construction support areas also could be located would encompass 4,113 acres of the IRA #401009, and 1,856 acres within the Alkali Canyon URUD area (which partially overlaps IRA #401009). Within the Manti-LaSal National Forest, the 2-mile transmission line corridor would encompass portions of the Nuck Woodward IRA/Nuck Woodward – Gentry Mountain URUD area, and the Oak Creek and Sanpitch IRA/URUD areas); within the Uinta National Forest, the 2-mile transmission line corridor would encompass

portions of the Hop Creek Ridge and Nephi IRAs (see **Table 3.15-8** and **Table 3.15-9**). Application of **SDA-1** (avoidance of road construction in SDAs) and adherence to the Roadless Rule as described in **Appendices C** and **D** would eliminate any new road construction within the IRA. Application of **SDA-5** (application of roadless construction techniques within URUD areas; see Alternative II-A) would eliminate all portions of the 2-mile transmission line corridor within URUD areas from use for access roads or staging areas. This would eliminate most potential impacts to wilderness qualities except for the visual impacts described above and would allow the Ashley National Forest to continue to consider these URUD areas for IRA and/or wilderness designation when they complete their LRMP revision.

Other Federally Managed SDAs and National Trails

Approximately 3 acres of the Dinosaur National Monument (less than 0.001 percent of the 210,000+-acre area) would be located within the 2-mile transmission line corridor. Application of **SDA-1** would eliminate impacts to the important geological and paleontological resources and native habitat within the designated area. There would be no impact to National Trails.

Alternative II-E

Under Alternative II-E, the 250-foot-wide transmission line ROW would cross approximately 8 miles of 5 IRAs/URUD areas located in 2 national forests. Portions of the 2-mile transmission line corridor in which roads or construction support areas could be located would cross 5 additional IRAs and 1 national monument.

BLM SDAs and National Landscape Conservation System Lands

Alternative II-E would not cross any lands within the National Landscape Conservation System (NCAs, WAs and WSAs, or WSRs), or BLM-designated ACECs.

USFS IRAs and URUD Areas

Under Alternative II-E, the 250-foot-wide transmission line ROW would cross approximately 8 miles of 5 IRA/URUD areas located in 2 national forests.

Within the Manti-La Sal National Forest, the 250-foot-wide transmission line ROW would cross 1 mile of the Cedar Knoll IRA/URUD area, 1 mile of the Coal Hollow IRA/URUD area, and 1 mile of the Sanpitch URUD area (but not the Sanpitch IRA). Additional portions of the 2-mile transmission corridor would also be located within the three IRA/URUDs (including the Sanpitch IRA). Construction and operation impacts to the Cedar Knoll, Coal Hollow IRA/URUD areas and the Sanpitch URUD area would be the same as those described under Alternative II-A, including the potential for two micro-siting options within the Cedar Knoll IRA/URUD area. Construction and operation impacts to the Sanpitch IRA area would be the same as those described under Alternative II-A.

Within the Ashley National Forest, the 250-foot-wide transmission line ROW would be located within an approximately 15-mile long, narrow canyon (Sowers Canyon) between IRA #401010/Sowers Canyon East URUD (to the east) and IRA #401011/Cottonwood Canyon URUD (to the west). The reference line and 250-foot-wide transmission line ROW would cross 3 miles of IRA 401010 (see **Figure 3.15-13**); the 250-foot-wide transmission line ROW (but not the reference line) would also encompass portion of IRA 401011. The route would follow an existing transmission line and a creek for the entire distance; a cherry stem road originating from the north also would be adjacent to the route for all but about 3 miles. The existing transmission line would not be within a designated utility corridor or window; the route was considered and recommended for designation during preparation of the forest management plan, but was never formally designated.

Both the IRA #401010/Sowers Canyon East URUD area and the IRA #401011/Cottonwood Canyon URUD area were rated as having moderate natural integrity/appearance due to grazing and vegetation treatment; oil and gas, and motorized activities; good opportunities for solitude and primitive recreation areas but only

outside of the boundary and excluded roads such as Sowers Canyon Road; no special features; and difficult to manage as wilderness. The disturbances would be located western and eastern edges of IRA #401010 and IRA #40101, respectively (see **Figure 3.15-12**), keeping over 99.9 percent of the IRA and URUD area unfragmented and well over the requisite 5,000 acres. Impacts to manageability would be minimal in that the area is already difficult to manage due to the presence of existing linear facilities (Sowers Canyon Road and the existing transmission line).

Use of a full 250-foot-wide transmission line ROW would result in up to 133 acres of vegetation removal within the IRA #401010 (117 acres of which would also be within the Sowers Canyon East URUD area) and 36 acres within the IRA #401011/Cottonwood Canyon URUD area. Roadless construction methods (as identified in the PDTR, see **Appendix D**) would be utilized within IRAs to ensure compliance with the Roadless Rule. These include use of helicopters for tower placement, use of existing roads, and overland travel. Application of the roadless construction techniques would reduce the ROW within the IRA #401010 and IRA #401011 to about 67 acres and would eliminate the surface disturbance associated with new roads. However, requisite separation distances from the existing transmission line could result in the 250-foot-wide transmission line ROW being located on steeper side slopes, resulting in increased potential for erosion and sedimentation. There is one impaired stream that would be located near the 250-foot-wide transmission line ROW (Sowers Creek). Water contributes to the Duchesne River instream flows and supplies spring and pond water for grazing. TransWest would use Design Features and BMPs to reduce sedimentation to protect water resources within the IRA.

Both IRA/URUD areas provide high value winter range for deer and elk, summer habitat for pronghorn, big game migration corridors, and contain Greater sage grouse broodrearing, occupied, and winter habitat. TransWest would be required to maintain agency-stipulated wildlife buffers and timing restrictions and would span sensitive resources (such as threatened and endangered species habitat, cultural resources, wetlands, etc.; see **Appendix C** for a full list of design features). TransWest also would use selective vegetation removal whenever possible to reduce resource impacts. Helicopter construction would require the use of 7-acre helicopter fly yards located every five miles along the area where helicopter construction is planned; however, it is anticipated that these would be located outside of the IRA. Application of design features in **Appendix C**, specifically the development of vegetation and noxious weed management plans to address plant removal, selective clearing, and reclamation consistent with agency permitting stipulations for soils, water, vegetation and wildlife, would also reduce impacts to habitat and wildlife throughout the area. Reclamation areas would be monitored for 3 to 5 years in accordance with USFS requirements (see **Appendix D**). As a result, the limited amount of construction ground disturbance within the IRA would not impact the diversity of plants and animals within the IRA.

Impacts to the IRA #401010 and IRA #401011 from transmission line operation would be similar to those described under Alternative II-A, and would be reduced through application of **SDA-4** (Class 2 or Class 3 vegetation maintenance options).

The existing landscape character of the IRAs would be modified by the presence of the transmission line; however, the route would be located in areas where existing man-made features such as linear facilities, grazing, vegetation treatments, oil and gas, and motorized activities have already affected wilderness character. Visual impacts and proposed mitigation are discussed in greater detail in Section 3.12, Visual Resources.

Cultural surveys within the IRA show both historic and prehistoric activity in the area. Impacts to any cultural resource sites would be mitigated per the PA (see Section 3.11, Cultural Resources and Native American Concerns). Within the IRA/URUD areas, the 250-foot-wide transmission line ROW would be fully in areas designated as roaded natural ROS. These types of areas are managed to allow for readily evident to moderate evidence of sights and sounds of human activity. The sights and sounds of construction would be consistent with ROS designations for this area (see Section 3.13 Recreation, for more information; visual impacts to IRAs from construction of the transmission line are discussed in Section 3.12).

Overall, the impacts associated with construction, operation, and maintenance would result in a permanent loss of acres where the Project would cross the IRAs that would diminish the natural appearance and undeveloped character of the edges of IRA #401010/Sowers Canyon East URUD area and IRA #401011/Cottonwood Canyon URUD area. However, the wilderness characteristics of the area have already been affected by existing man-made features and linear facilities present in the area, and opportunities for solitude and primitive recreation are primarily in other portions of the IRA. Any changes in the wilderness qualities would not be large enough to preclude management of the overall area as an IRA and/or wilderness beyond existing conditions.

The 2-mile transmission line corridor would encompass additional portions of IRA #401010/Sowers Canyon East URUD area, IRA #401011/Cottonwood Canyon URUD area, as well as portions of five IRAs within the Uinta National Forest (see **Table 3.15-8** through **3.15-9**). Access road construction within IRAs would not be in conformance with area management plans. Application of **SDA-1** (avoidance of new road construction in SDAs) and adherence to the Roadless Rule as described in **Appendices C** and **D** would eliminate IRAs from use for access roads. Roadless construction methods (as identified in the PDTR, see **Appendix D**) would be utilized to ensure compliance with the Roadless Rule. These methods include use of helicopters for tower placement, use of existing roads, and overland travel. Application of **SDA-6** (application of roadless construction techniques within URUD areas; see Alternative II-A) would eliminate all portions of the 2-mile transmission line corridor within URUD areas from use for access roads or staging areas. This would eliminate most potential impacts to wilderness qualities except for the visual impacts described above, and it would allow the Ashley National Forest to continue to consider these URUD areas for IRA and/or wilderness designation when they complete their LRMP revision. Consistency with ROS designations within the 2-mile transmission line corridor are discussed in Section 3.13, Recreation. Impacts to wildlife, vegetation, and water resources within IRAs from roadless construction techniques are discussed under the applicable resource sections.

Other Federally managed SDAs

Impacts to the Dinosaur National Monument would be the same as under Alternative II-D.

Alternative II-F (Agency Preferred)

Under Alternative II-F, the 250-foot-wide transmission line ROW would pass through the Lower Green River ACEC, Lower Green River WSR, two IRA/URUD areas within the Ashley National Forest, three IRA/URUD areas within the Manti-La Sal National Forest, and one IR in the Uinta National Forest. Portions of the 2-mile transmission line corridor also would cross two additional ACECs, two additional IRA/URUD areas within the Ashley National Forest, one additional IRA/URUD within the Fishlake National Forest, and five additional IRAs within the Uinta National Forest. Impacts are discussed below.

BLM SDAs and National Landscape Conservation System Lands

Portions of the reference line, 250-foot-wide transmission line ROW, and 2-mile transmission line corridor in which roads or construction support areas could be located would cross the Lower Green River ACEC, Lower Green River WSR, Lears Canyon ACEC, and Nine Mile Canyon ACEC. Impacts to each of these areas would be the same as under Alternative II-D.

USFS IRAs and Unroaded/Undeveloped Areas

Within the Ashley National Forest, impacts to IRA #401009/Alkali Canyon URUD area would be the same as under Alternative II-C. Within the Ashley National Forest, the 2-mile transmission line corridor in which access roads or other construction support areas also could be located would encompass acreage within IRA #401011, IRA #401012/First Canyon and Right Fork Indian Canyon URUD areas and IRA #401013/Mill Hollow URUD area (see **Tables 3.15-8** and **3.15-9**). Application of **SDA-1** (avoidance of road construction in SDAs) and adherence to the Roadless Rule as described in **Appendices C** and **D** would eliminate any new road construction within IRAs. Application of **SDA-5** (application of roadless construction techniques within URUD areas; see Alternative II-A) would eliminate all portions of the 2-mile transmission line corridor within

URUD areas from use for access roads or staging areas. This would eliminate most potential impacts to wilderness qualities within the URUD areas.

Within the Fishlake National Forest, impacts to the Oak Creek IRA/URUD area would be the same as under Alternative II-B.

Within the Manti-La Sal National Forest, impacts to Cedar Knoll and Coal Hollow IRA/URUD areas (including differences between the Cedar Knoll IRA micro-siting options) would be the same as under Alternative II-A. Impacts to the Sanpitch IRA/URUD area would be the same as under Alternative II-B.

Within the Uinta National Forest, approximately one mile of the 250-foot-wide transmission line ROW would cross the 6,850-acre Soldier Summit IRA. This IRA has been rated as having low to moderate natural integrity/appearance and opportunities solitude and primitive recreation; no special features; and low to moderate difficulty to manage as wilderness, primarily due to the IRA size (less than 10,000 acres), and number of intrusive cherry stems (USFS 2003). During construction, approximately 32 acres of the IRA (1 percent) would be subject to vegetation removal as well as the surface disturbance associated with placement of the transmission line. The route would be located on the southwestern edge of the IRA. There are several existing USFS roads in and near this IRA. Surface disturbance would be reduced through applicant-committed roadless construction methods (as identified in the PDTR, see **Appendix D**). This would reduce the ROW to about 13 acres and eliminate surface disturbance associated with new roads within the IRA.

IRA manageability is currently rated as somewhat difficult due to edge effects (see **Appendix H**). Placement of the transmission line along an area with existing access roads would increase edge effects, further lowering manageability. However, over 99 percent of the IRA would remain unfragmented and still over the requisite 5,000 acres. The Soldier Summit IRA provides summer range (and some winter range) for deer and elk herds as well as habitat for a variety of other game and non-game species. TransWest would be required to maintain agency-stipulated wildlife buffers and timing restrictions and would span sensitive resources (such as threatened and endangered species habitat, cultural resources, wetlands, etc.; see **Appendix C** for a full list of design features). TransWest also would use selective vegetation removal whenever possible to reduce resource impacts. Helicopter construction would require the use of 7-acre helicopter fly yards located every 5 miles along the area where helicopter construction is planned; however, it is anticipated that these would be located outside of the IRA. Application of design features in **Appendix C**, specifically the development of vegetation and noxious weed management plans to address plant removal, selective clearing, and reclamation consistent with agency permitting stipulations for soils, water, vegetation and wildlife, also would reduce impacts to habitat and wildlife throughout the area. Reclamation areas would be monitored for three to five years in accordance with USFS requirements (see **Appendix D**). As a result, the limited amount of construction ground disturbance within the IRA would not impact the diversity of plants and animals within the IRA. The IRA contains two points of water diversion for municipal purposes. TransWest would use design features and BMPs to reduce sedimentation to protect water resources within the IRA.

Within the Uinta National Forest, the 2-mile transmission line corridor in which access roads or other construction support areas also could be located would encompass acreage within the Diamond Fork, Golden Ridge, Hop Creek Ridge, Nephi, and Tie Fork IRAs. Impacts would be the same as under Alternative II-E and similar to those discussed under Alternative II-A.

Alternative Variation in Region II

Emma Park Alternative Variation

There would be no changes to impacts to BLM SDAs under the Emma Park alternative variation, as neither the variation nor the segments that the variation would replace include any BLM SDAs.

Selection of the Emma Park alternative variation would eliminate the disturbances within NFS SDAs that would occur if the segments that the variation would replace are selected.

The eliminated NFS SDA disturbance would be within three IRAs and URUD areas in the Ashley National Forest (IRA #401011/Cottonwood Canyon URUD area; IRA #401012/First Canyon-Right Hand Indian Canyon URUD area; and IRA #401013/Mill Hollow URUD area) and one IRA within the Uinta National Forest (IRA #418019, Soldier Summit).

Alternative Connectors in Region II

There would be no impacts to SDAs from the 250-foot-wide transmission line ROW for any of the Lynndyl, IPP East, Castle Dale, Highway 191, or Price alternative connectors.

Approximately 6 acres of the 2-mile corridor for the Lynndyl connector would be within the Oak Creek IRA. Application of **SDA-1** and adherence to the Roadless Rule as described in the **Appendices C and D** would eliminate all new road construction within the IRA. The 2-mile corridor would not cross any SDA under any of the other alternative connectors.

Region II Conclusions

Alternatives II-A and II-E would have no impacts to BLM SDAs and National Landscape Conservation System Lands. Alternatives II-B and II-C primarily would affect BLM SDAs and National Landscape Conservation System Lands in Colorado; Alternatives II-D and II-F would affect BLM SDAs and National Landscape Conservation System Lands in Utah. Alternatives II-B and II-C also would have fewer miles of reference line within these SDAs than Alternatives II-D and II-F, and use would be more compatible with the SDA management (under Alternatives II-B and II-C, the reference line mileage within the Demaree WSA would be within a designated utility corridor and would be laid out to avoid the WSA, whereas under Alternatives II-D and II-F, the reference line mileage within the Lower Green River ACEC and the Lower Green River WSR would cross a ROW avoidance area, would not be consistent with the criteria for a “scenic” designation, and would require a one-time exception to change the VRM class).

Alternative II-B would have the least impacts to USFS SDAs. No reference line mileage within IRAs or URUD areas, and use of roadless construction and mitigation would avoid impacts to the portions of the four IRA/URUD areas that would be within the 2-mile transmission line corridor. Alternatives II-D and II-F would have the next lowest impacts to USFS SDAs (with 1 and 3 miles, respectively, within IRAs with design features and mitigation such that the manageability of the IRAs would not be expected to appreciably change). Alternative II-E would contain the most mileage within IRAs (5 miles); however, design features and mitigation also would reduce impacts to the degree that manageability of the IRAs would not be expected to appreciably change. Alternative II-A would have about 4 miles within IRAs. Impacts would include changes to wilderness character and manageability in a small portion of the IRA. Micro-siting options may reduce mileage, but could make manageability of the IRA more difficult. Alternative II-C would affect the least number of IRAs; however, the placement of 7 miles of reference line within an URUD area would result in changes to wilderness character of the entire URUD area and could preclude the ability to manage this area as IRA/wilderness.

Alternatives II-A, II-D, II-E, and II-F would have no impacts to NHTs. Alternative II-B and II-C both would equally affect Old Spanish NHT segments along I-70 and near the town of Green River (Book Cliffs AU and the southeast portion of the San Rafael Swell AU), lowering the scenic and overall ratings of the western portion of the Book Cliffs AU (from Class B to Class C, and from SI to SII). No historic sites or interpretive sites would be affected by the presence of the transmission line. Alternative II-C would have the greatest impacts on the NHT, as it would cross the NHT five additional times (once within the western portion of the San Rafael Swell AU and the 4 times on USFS lands) and would have 49 more miles of trail within the transmission line viewshed than Alternative II-B.

3.15.4.5 Region III

Tables 3.15-13 through 3.15-16 provide a list of the SDAs that would be located within the Project corridors in Region III. These areas also are depicted in Figures 3.15-3, 3.15-7, 3.15-12, and 3.15-16. The list of areas includes some that would be within the 2-mile corridor, but outside of the 250-foot-wide transmission line ROW.

Table 3.15-13 Region III: BLM Special Designation Areas within 250-foot-wide Transmission Line ROW and 2-Mile Transmission Line Corridor

Land Management Agency	Special Designation Area	Alternative III-A 250-foot ROW miles/acres 2-mile corridor acres	Alternative III-B 250-foot ROW miles/acres 2-mile corridor acres	Alternative III-C 250-foot ROW miles/acres 2-mile corridor acres
BLM St. George FO, Utah	Beaver Dam Wash NCA	4/117 7,575	N/A	N/A
	Beaver Dam Slope ACEC	9/278 12,350	N/A	N/A
BLM Caliente FO, Nevada	Mormon Mesa-Ely ACEC (Caliente FO)	10/290 10,720	9/265 10,615	N/A
	Beaver Dam Slope ACEC (Caliente FO)	N/A	0/0 306	N/A
	Clover Mountains Wilderness	N/A	0/0 545	N/A
	Kane Springs ACEC (Caliente FO)	N/A	N/A	10/296 6,340
	Delamar Mountains Wilderness	N/A	N/A	0/0 2,697
BLM Las Vegas FO, Nevada	Mormon Mesa ACEC (LVFO)	8/234 6,550	15/441 12,580	N/A
	Coyote Springs Valley ACEC	N/A	N/A	19/563 24,327
	Arrow Canyon Wilderness	N/A	N/A	0/0 346
	Muddy River WSR	1 crossing/13 213	1 crossing/19 81	N/A
	Meadow Valley Wash WSR	N/A	1 crossing/19 374	N/A

Table 3.15-14 Region III: USFS IRAs within 250-foot-wide Transmission Line ROW and 2-Mile Transmission Line Corridor

Land Management Agency	IRAs	Alternative III-A 250-foot ROW miles/acres 2-mile corridor acres	Alternative III-B 250-foot ROW miles/acres 2-mile corridor acres	Alternative III-C 250-foot ROW miles/acres 2-mile corridor acres
Dixie National Forest ¹	Bull Valley IRA	0/0 313	N/A	N/A
	Moody Wash IRA	0/0 1,760	N/A	N/A
	Mogotsu IRA	0/0 3,734	N/A	N/A
	Atchinson IRA	2/45 3,229	N/A	N/A
	Cove Mountain IRA	0/0 5,067	N/A	N/A

Table 3.15-15 Region III: USFS URUD Areas Within 250-foot-wide Transmission Line ROW and 2-Mile Transmission Line Corridor

Land Management Agency	Unroaded/Undeveloped Areas	Alternative III-A	Alternative III-B	Alternative III-C
		250-foot ROW miles/acres 2-mile corridor acres	250-foot ROW miles/acres 2-mile corridor acres	250-foot ROW miles/acres 2-mile corridor acres
Dixie National Forest ¹	Bull Valley	0/0 436	N/A	N/A
	Moody Wash/Mogotsu	0/0 6,181	N/A	N/A
	Atchinson	4/124 4,217	N/A	N/A
	Cove Mountain	0/0 5,060	N/A	N/A

Table 3.15-16 Region III: Other Federally Managed Special Designation Areas Within 250-foot-wide Transmission Line ROW and 2-Mile Transmission Line Corridor

Land Management Agency	Special Designation Area	Alternative III-A	Alternative III-B	Alternative III-C
		250-foot ROW miles/acres 2-mile corridor acres	250-foot ROW miles/acres 2-mile corridor acres	250-foot ROW miles/acres 2-mile corridor acres
USFWS, Nevada	Desert NWR	N/A	N/A	1/25 16,524
	Pahranagat NWR	N/A	N/A	0/0 170
	Fish & Wildlife Proposed Wilderness #1	N/A	N/A	0/0 3,317
	Fish & Wildlife Proposed Wilderness #2	N/A	N/A	0/0 5,313
	Fish & Wildlife Proposed Wilderness #3	N/A	N/A	0/0 5,428
	Unit 2 Las Vegas Range Proposed Wilderness	N/A	N/A	0/0 243
	Unit 3 Sheep Range Proposed Wilderness	N/A	N/A	0/0 4,522
BLM/NPS	Old Spanish NHT			
	Number of crossings and segment rating	3 segment crossed; 1 NHT-1, 2 unrated	No segments crossed	N/A
	Visibility of the alternative from the Old Spanish Trail	Visible along 10 miles of the trail, of which - 8 miles are NHT-I, 1.9 miles are NHT-II, and 0.1 mile of NHT-IV	Visible along 6 miles of the trail, of which 5 miles are NHT-I, 1 mile is NHT-II, and 0.1 mile is NHT-IV	N/A
	Associated Historic Sites and natural features, and nearby recreation or interpretive features	Meadow valley wash, Muddy river	None	N/A
	Management/Land Use	All crossing on BLM lands, within designated utility corridors	All crossing on BLM lands, within designated utility corridors	N/A

Alternative III-A (Applicant Proposed)

Under Alternative III-A, the 250-foot-wide transmission line ROW would cross the Beaver Dam Slope ACEC, the Beaver Dam Wash NCA (which is partially collocated with the Beaver Dam Slope ACEC), the Mormon Mesa and Mormon Mesa-Ely ACECs, the Muddy River WSR, one IRA/URUD area within the Dixie National Forest, and the Old Spanish NHT. Portions of the 2-mile transmission line corridor also would cross four additional IRA/URUD areas.

BLM SDAs and National Landscape Conservation System Lands

Within the St. George FO, Approximately 9 miles of the 250-foot-wide transmission line ROW would cross the 48,519-acre Beaver Dam Slope ACEC. For protection of critical desert tortoise habitat as well as other special status species habitat, the area is managed as a ROW avoidance area outside of designated corridors. The 250-foot-wide transmission line ROW would be entirely located within an existing designated utility corridor; therefore, it would be in conformance with management objectives. During construction, up to 278 acres (0.6 percent of the ACEC) would be subject to vegetation removal and/or surface disturbance that could affect desert tortoise or other special status species values. Agency buffers and TransWest's commitment to avoidance of special status habitat would reduce impacts to special status species values.

Approximately 12,350 acres of the of the 2-mile transmission line corridor would be located within the Beaver Dam Slope ACEC (25 percent of the ACEC). The designated utility corridor would not encompass the full width of the 2-mile transmission line corridor; approximately 4,520 acres would be located within ACEC ROW avoidance areas and an additional 2,520 acres would be located in ROW avoidance areas common to both the ACEC and the Beaver Dam Wash NCA. Per the St. George RMP, new ROW and temporary use permits are strongly discouraged within the Beaver Dam Slope ACEC and shall only be authorized if no reasonable alternative exists and impacts to tortoises and their habitat can be mitigated. Surface disturbance (before restoration) resulting from all ROW in the ACECs shall not exceed 40 acres through the life of the project. Construction of unpaved roads could occur only if positive benefits to tortoise management would occur and would require concurrence from the USFWS. Paving would not be allowed. Speed limits exist within the ACEC. The St. George RMP contains numerous BMPs to reduce impacts including a desert tortoise mitigation plan with required surveys and monitoring, employee education, and other measures to reduce impacts to desert tortoise.

Application of **SDA-3** would limit impacts to the ACEC values from road construction and human activity to only those areas within the existing utility corridor; application of **SDA-2** (full road reclamation) would further reduce risk; however, initial vegetation removal and surface disturbance would still occur within the corridor. Adherence to agency stipulations and development of a desert tortoise mitigation plan would reduce impacts to desert tortoise within the corridor during construction.

Approximately 4 miles of the 250-foot-wide transmission line ROW would cross the 63,500-acre Beaver Dam Wash NCA. During construction, approximately 117 acres would be subject to vegetation removal and/or surface disturbance that could affect desert tortoise or other special status species habitat. This comprises 0.2 percent of the NCA. The 250-foot-wide transmission line ROW would be entirely located within an existing designated utility corridor, which is excluded from NCA management objectives. However, the NCA is largely collocated with the Beaver Dam Slope ACEC; therefore, it would be subject to the stipulation and requirements identified above for protection of the desert tortoise. Approximately 7,575 acres of the of the 2-mile transmission line corridor would be located within the NCA (12 percent of the NCA). The designated utility corridor would not encompass the full width of the 2-mile transmission line corridor; approximately 2,520 acres would be located within shared NCA/ACEC ROW avoidance areas and an additional 1,452 acres would be located in NCA-only ROW avoidance areas. Application of **SDA-6** would reduce impacts to the NCA values by limiting road construction to only those areas within the existing utility corridor; however, vegetation removal and surface disturbance would still occur within the corridor. Agency buffers and TransWest's commitment to avoidance of special status habitat would reduce impacts to desert tortoise and other special status species located within the corridor. Application of **SDA-2** (full road

reclamation) would reduce operation impacts. Adherence to agency stipulations and development of a desert tortoise mitigation plan would reduce impacts to desert tortoise within the corridor during construction.

Within the Caliente FO, approximately 10 miles of the 250-foot-wide transmission line ROW would cross the 36,800-acre Mormon Mesa-Ely ACEC. The ACEC is managed for the protection of critical desert tortoise habitat as a ROW avoidance area outside of designated corridors. During construction, approximately 290 acres (0.8 percent of the ACEC) would be subject to vegetation removal and surface disturbance that could affect desert tortoise or other special status species habitat. The 250-foot-wide transmission line ROW would be largely located within an existing designated utility; however, approximately 2 acres would be located within designated ROW exclusion areas. Additionally, of the approximately 10,720 acres of the 2-mile transmission line corridor that would be located within the ACEC (29 percent of the ACEC), 6,534 acres would be in ROW exclusion areas. Development of a transmission line or associated roads would not be in conformance with area management. The Ely RMP contains numerous BMPs to reduce impacts to desert tortoise including a development mitigation plan that includes surveys and monitoring, employee education, and other measures to reduce impacts to desert tortoise. Application of **SDA-3** would limit the impacts to ACEC values from road construction and human activity to only those areas within the existing utility corridor. **SDA-2** (full road reclamation) would further reduce risk; however, initial vegetation removal and surface disturbance would still occur within the corridor. Adherence to agency stipulations and development of a desert tortoise mitigation plan would reduce impacts to desert tortoise within the corridor during construction.

Within the Las Vegas FO, approximately 8 miles of the 250-foot-wide transmission line ROW would cross the 151,360-acre Mormon Mesa ACEC. The ACEC is managed as a ROW avoidance area outside of designated corridors to protect critical desert tortoise habitat. Reclamation of temporary roads is required, and ROW corridors are limited to 3,000 feet. During construction, approximately 234 acres (0.2 percent of the ACEC) would be subject to vegetation removal and surface disturbance that could affect desert tortoise habitat. The 250-foot-wide transmission line ROW would be located entirely within an existing designated utility corridor; therefore, it would be in conformance with area management. Agency BMPs and TransWest's commitment to avoidance of special status habitat would reduce impacts to desert tortoise within this corridor areas. Approximately 6,550 acres of the of the 2-mile transmission line corridor would be located within the ACEC (4 percent of the ACEC). Of this total acreage, approximately 4,555 acres would be located within ROW avoidance areas. Application of **SDA-3** would limit the impacts to ACEC values from road construction and human activity by restricting activities to only those areas within the existing utility corridor.

Under Alternative III-A, the 250-foot-wide transmission line ROW would cross a segment of the Muddy River eligible for WSR "recreational" designation on the basis of its outstanding remarkable wildlife, cultural, and fish features. Approximately 213 acres of the 2-mile transmission line corridor would be within the 11-mile eligible river segment.

Under BLM Wild and Scenic Rivers Policy and Program Direction for Identification, Evaluation, and Management (BLM Manual 8351), new transmission lines, natural gas lines, water lines, etc., are discouraged unless specifically authorized by other plans, orders, or laws. Where no reasonable alternate location exists, additional or new facilities should be restricted to existing ROWs. Alternative III-A is not within a designated utility corridor and there are other alternatives that could be selected that would cross the river segment within designated utility corridors. Per BLM WSR guidance, where new ROWs are unavoidable, locations and construction techniques shall be selected to minimize adverse effects on recreational river area related values and fully evaluated during the site selection process.

Under Alternative III-A, the river crossing location would not be within a designated utility corridor; however, development of a transmission line crossing would be consistent with the criteria for a "recreational" designation (substantial evidence of human activity, readily accessible by road, etc.). Impacts to the outstanding remarkable features of the river segment would be reduced by design features and agency BMPs, including riparian habitat and sensitive species habitat buffers, and BMPs to reduce potential for

erosion and sedimentation that could affect fish habitat. Potential impacts to cultural resources from surface disturbance would be mitigated through the compliance with the Project PA.

The following mitigation is suggested to ensure compatibility with the BLM WSR Policy:

SDA-7: *ROW, road, or ground electrode placement within river segments that are eligible for inclusion in the NWSRS shall be micro-sited in coordination with BLM to minimize surface disturbance or visual disturbance from towers, roads, or other facilities to the outstandingly remarkable features that led to segment eligibility.*

Application of this mitigation would allow the BLM to protect the “recreational” classification of this river segment until a suitability analysis has been completed.

USFS IRAs and URUD Areas

Alternative III-A would cross approximately 2 miles of a designated IRA and approximately 4 miles of a URUD area within the Dixie National Forest; the 2-mile transmission line corridor would encompass portions of four additional IRA/URUD areas.

Approximately 2 miles of the 250-foot-wide transmission line ROW would cross the 17,663-acre Atchinson IRA; 4 miles would cross the 24,306-acre Atchinson URUD area. The Atchinson IRA and Atchinson URUD area comprise most of the same acreage, but there is approximately 6,600 acres of URUD area that are outside of the IRA. The Atchinson IRA/URUD area was rated by the USFS as having a low natural integrity, medium undeveloped character, medium opportunities for solitude, low opportunities for primitive recreation, and medium manageability (USFS 2009b).

Alternative III-A would parallel one or more existing transmission lines but would be largely outside of the WWEC-designated utility corridor within the IRA/URUD area. Disturbances would be located on the western edges of the IRA/URUD area (see **Figure 3.15-16**), keeping over 99.9 percent of the IRA and URUD area unfragmented and well over the requisite 5,000 acres with minimal effect to manageability.

Use of a full 250-foot-wide transmission line ROW would result in up to 124 acres of vegetation removal within the Atchinson URUD area, 45 of which would be in the Atchinson IRA. Roadless construction methods (as identified in the PDTR, see **Appendix D**) would be utilized within IRAs to ensure compliance with the Roadless Rule. These include use of helicopters for tower placement, use of existing roads, and overland travel. Application of the roadless construction techniques within IRAs would reduce the ROW within the Atchinson IRA to about 23 acres and would eliminate the surface disturbance associated with new roads within the IRA.

During construction, there would be surface disturbance within the Atchinson IRA associated with overland travel as well as the vegetation removal and surface disturbance from the transmission line placement itself (up to 23 acres). TransWest would span sensitive resources (such as threatened and endangered species habitat, cultural resources, wetlands, etc.; see **Appendix C** for a full list of design features) and use selective vegetation removal whenever possible to reduce resource impacts. Helicopter construction would require the use of 7-acre helicopter fly yards located every 5 miles along the area where helicopter construction is planned; however, it is anticipated that these would be located outside of the IRA. Application of design features in **Appendix C**, specifically the development of vegetation and noxious weed management plans to address plant removal, selective clearing, and reclamation consistent with agency permitting stipulations for soils, water, vegetation and wildlife, also would reduce impacts to habitat and wildlife throughout the area. Reclamation areas would be monitored for 3 to 5 years in accordance with USFS requirements (see **Appendix D**). As a result, the limited amount of construction ground disturbance within the IRA would not impact the diversity of plants and animals within the IRA.

There are no impaired streams within the IRA/URUD areas. TransWest would use design features and BMPs to reduce sedimentation to protect water resources within the IRA/URUD, and there would be no impact to the groundwater resources used by residents of Pine Valley and Central.

About half of the 250-foot-wide ROW acreage within the Atchinson IRA would be in areas designated as roaded natural; the other half would be in areas designated as semi-primitive motorized and non-motorized ROS. The sights and sounds of construction would not be consistent with semi-primitive motorized and non-motorized ROS designations; however, impacts to opportunities for primitive recreation in these areas would be temporary and would not affect the majority of the IRA (see Section 3.13, Recreation, for more information about acreages by ROS).

During operations, TransWest would use aircraft or non-motorized methods for maintenance and would work with the USFS to identify appropriate vegetation management techniques and to prevent unauthorized travel along the ROW by off-road vehicles. Standard vegetation management techniques would result in a 250-foot-wide corridor of low-growth plant communities ranging from 2 to 6 feet in height. Depending on the location and habitat type, this type of vegetation management could result in long term loss of wildlife habitat. Impacts from operation would be reduced through application of **SDA-5** (Class 2 or Class 3 vegetation maintenance options). Application of this mitigation would minimize disturbance to wildlife habitat. Level 2 vegetation management would reduce the area with 6-foot vegetation height restrictions to 90 feet wide and allow vegetation at the outside edges of the ROW to reach a maximum height of 35 feet. Level 3 vegetation management would allow increased vegetation heights anywhere within the ROW as long as vegetation does not encroach on the required minimum clearances (about 29 feet).

The existing landscape character of the IRA would be modified by the presence of the transmission line within the IRA; however, the route would parallel one or more existing transmission lines and would be located in areas where existing man-made features have already affected wilderness character. Visual impacts and proposed mitigation are discussed in greater detail in Section 3.12, Visual Resources. There are no known cultural resource sites within the Atchinson IRA/URUD area and no other special features or values characterizing wilderness potential present within the IRA. Impacts to any cultural resource sites would be mitigated per the PA (see Section 3.11, Cultural Resources and Native American Concerns).

Overall, the impacts associated with construction, operation, and maintenance would result in a permanent loss of acres where the Project would cross the Atchinson IRA, would diminish the natural appearance and undeveloped character of the outermost portion of Atchinson IRA, and could decrease any opportunities for solitude and primitive recreation in or near those areas, if any exist. However, the wilderness characteristics of the area have already been affected by existing man-made features present in the area, and changes in the wilderness qualities would not be large enough to preclude management of the areas as an IRA and/or wilderness.

Outside of the Atchinson IRA, the 250-foot-wide transmission line ROW would encompass approximately 80 additional acres of the Atchinson URUD area. In addition, the 2-mile transmission line corridor in which access roads or other construction support areas also could be located would encompass 4,217 acres within the Atchinson URUD area (3,229 acres within the Atchinson IRA), as well as portions of the Bull Valley, Moody Wash, Mogotsu, and Cove Mountain IRA/URUD areas (see **Tables 3.15-14** and **3.15-15**). While access road construction within IRAs would not be in conformance with area management (see roadless construction techniques described above), there is no specific management restriction precluding road development in URUD areas outside of IRAs, provided the Standard and Guideline for general forest management are met. Therefore, any construction within the approximately 1,000 acres that would be located within the 2-mile transmission line corridor and within the Atchinson URUD area but outside of the Atchinson IRA, and the 800 acres that would be within the Bull Valley, Moody Wash, Mogotsu and Cove Mountain URUD areas but not within their respective IRAs (see **Table 3.15-14** and **Table 3.15-15**) would not be required to adhere to roadless construction techniques. As a result, these areas could be subject to access road and support facility development that would result in additional surface disturbance and/or vegetation removal, with concomitant impacts to wildlife habitat, opportunities for solitude and primitive

recreation, and wilderness character. Application of **SDA-1** (avoidance of new road construction in SDAs) and **SDA-6** (application of roadless construction techniques within URUD areas) would eliminate all portions of the 2-mile transmission line corridor within URUD areas from use for access roads or staging areas. This would eliminate most potential impacts to wilderness qualities except for the visual impacts described above and would allow the Dixie National Forest to continue to consider these areas for IRA and/or wilderness designation when they complete their LRMP revision.

Other Federally Managed SDAs and National Trails

Within Utah, Alternative III-A would cross 3 segments of the Old Spanish NHT within the N. Cedar City AU; two additional trail segment crossings would be located on NFS land within the Dixie National Forest. These portions of the Old Spanish NHT were not included in the 2012 NHT Inventory and there are no NHT Condition Class ratings for these segments or information as to which segments within N. Cedar City AU or the Dixie National Forest contribute to the trail's NHT status.

Within the N. Cedar City AU, the proposed trail crossing would be located near an existing transmission line. There are no associated historic sites, recreation areas, or interpretive features located near trail segments in this area.

Within the Dixie National Forest, the proposed trail crossing would be located near Spring Creek and within a WWEC-designated corridor and would parallel an existing transmission line. There is one associated historic site located near affected trail segments in this area, the Mountain Meadows NHL and Site. This site would be located 0.1 mile from the transmission line.

Within Nevada, Alternative III-A would cross one segment of the Old Spanish NHT located on BLM land east of I-15, near Logandale (within the Mormon Mesa AU). This segment is rated as NHT-I and contributes to the trail's NHT status. There are no associated historic sites, recreation areas, or interpretive features located near trail segments in this area; however, the trail is located near the Meadow Valley Wash and Muddy River, two waterbodies of importance to travelers. The crossing would be in compliance with the Las Vegas RMP as the crossing would be located within a WWEC-designated utility corridor. Towers would be placed to avoid surface disturbance near the actual trail.

Alternative III-A also would be visible from the Old Spanish NHT for approximately 23 miles of trail segments. **Table 3.15-17** summarizes key features of trail segments that would be in the Alternative III-A viewshed.

Table 3.15-17 Alternative III-A Visibility Impacts by Old Spanish NHT Analysis Unit

AU (Location)	Segment Rating	Number of Segments	Contributing to NHT Status	Miles of Trail within Viewshed ¹	Total Mileage within AU	Percentage of AU within Viewshed
Mormon Mesa (Las Vegas FO; 12 miles total)	Highest rating within AU (NHT-I; exceptional)	2	1 contributing, one unevaluated	8	8	100
	Remaining mileage (evident)	3	1 contributing, 2 unevaluated	1	4	25
California Crossing (Las Vegas FO; 3 miles total)	Highest rating within AU (NHT-II; exceptional)	1	unevaluated	1	1	100
	Remaining mileage (high potential)	0	NA	0	2	0
Dixie National Forest		N/A	Unknown	13	N/A	N/A

¹ Visibility of Alternative III-A from the historic trail is based on the 5-mile viewshed.

Trace ratings are not available for the 13 miles of trail that would be visible on NFS lands, and it is not known which segments within the viewshed contribute to the trail's NHT status. There is one associated historic site located near affected trail segments in this area, the Mountain Meadows NHL and Site. This site would be located 0.1 mile from the transmission line. Proposed visual mitigation (see Section 3.12, Visual Resources) would reduce visual contrasts to a level consistent with LRMP objectives for this area.

Of the 10 miles located on BLM lands, approximately 8 miles of trail segments are categorized as NHT-I (location verified, evident, and unaltered); approximately 1.9 miles of trail segments are categorized as NHT-II (location verified and evident with minor alteration); and, approximately 0.1 mile is categorized as NHT-IV (location verified and permanently altered).

Within the Mormon Mesa AU, selection of Alternative III-A would result in visual impacts to about 9 miles (75 percent) of the 12 miles of inventoried trail within the AU. This includes 8 miles of trail rated as NHT-I/Exceptional (100 percent of the highest rated mileage within the AU). The remaining mileage comprises trail segments that are considered to be "Evident." Affected mileage constitutes 25 percent of "Evident" segments within the AU. Two of the five trail segments within the viewshed contribute to the trail's NHT status. The presence of the transmission line would affect the historic setting of the trail (currently characterized as retained) and could affect opportunities for the public to access and enjoy the trail. Integrity of historic setting is retained throughout this AU, and scenic quality over most of the AU is average (Class B, with an SQRU score of 15 except for the easternmost area along the Virgin River, which has high scenic quality (Class A, with a SQRU score of 21), resulting in an overall rating of SI (AECOM 2012). The portions of the trail segments that are within Class A rated areas would not be within the viewshed of the transmission line. Selection of Alternative III-A would result in a 4 point reduction in the SQRU score for this area, reducing the score to 11 (Class C) for trail segments within the transmission line viewshed. Overall rating of these segments would be correspondingly reduced to SII. The I-15 rest stop would be within immediate foreground (0.0 to 0.5-mile) visibility of the transmission line. The rest does not currently offer interpretive materials related to the Old Spanish NHT.

Within the California Crossing AU, selection of Alternative III-A would result in visual impacts to about one mile (33 percent) of the 3 miles of inventoried trail within the AU. This mileage is rated as NHT-I/Exceptional and constitutes 100 percent of the highest rated mileage within the AU. No other trail segments would be affected. The contributing status of this trail segment has not been evaluated. The presence of the transmission line would affect the historic setting of the trail (currently characterized as retained), but scenic quality is already within the lowest class (C, with a SQRU score of 8.5). There are no associated historic sites, interpretive sites, or recreation areas located near these segments, and this AU is not likely to be used as an interpretation site for the public as trail locations or traces are not readily visible.

Once the final route is selected, an intensive Class III inventory and in-depth visual analysis would be conducted to determine the impact to contributing Old Spanish NHT segments crossed by the route or from which the route would be visible. If a contributing segment would be adversely affected, the effects would be minimized or mitigated onsite or offsite as stipulated in the Cultural Resources PA developed for the Project, and through implementation of design features and BMPs in concert with the Trail Study Agency and the Wyoming BLM National Trails Management Program Lead. Mitigation identified in Section 3.12, Visual Resources, includes measures to reduce visual impacts through use of BLM environmental colors and location of structures, roads, and other project elements as far back from road, trail, and river crossings as possible, and where feasible, employ terrain and vegetation to screen views from crossings

Alternative III-B (Agency Preferred)

Under Alternative III-B, the 250-foot-wide transmission line ROW would cross the Mormon Mesa-Ely (Caliente FO) and Mormon Mesa (Las Vegas FO) ACECs, Muddy River WSR, and the Meadow Valley Wash WSR. Portions of the 2-mile transmission line corridor also would cross the Beaver Dam Slope ACEC (in the Caliente FO) and the Clover Mountains Wilderness.

BLM SDAs and National Landscape Conservation System Lands

Alternative III-B would cross both the Caliente FO Mormon Mesa-Ely and Las Vegas FO Mormon Mesa ACECs. Impacts would be the same as described under Alternative III-A except that 9 miles (265 acres) of the 250-foot-wide transmission line ROW would cross the Caliente FO ACEC and 15 miles (441 acres) would cross the Las Vegas FO ACEC. Portions of the 2-mile transmission line corridor in which roads and construction support areas would be located also would fall within these two ACECs. Impacts would be similar to those described under Alternative III-A for the Caliente FO ACEC but with 105 acres less impacted. Within the Las Vegas FO ACEC, approximately 12,580 acres (8 percent) of the 2-mile transmission line corridor would fall within the ACEC, 6,663 acres of which would be located within ROW avoidance areas.

Under Alternative III-B, the 250-foot-wide transmission line ROW would cross a segment of the Muddy River eligible for inclusion as a WSR under a “recreational” designation. Impacts would be similar as under Alternative III-A, except that only 81 acres of the 2-mile transmission line corridor would be within the 11-mile eligible river segment, and the 250-foot-wide transmission line ROW would be within a designated utility corridor. The placement of Alternative III-B is consistent with BLM Manual 8351, which states that when no reasonable alternate location exists, additional or new facilities should be restricted to existing ROWs. Impacts would be minimized by application of **SDA-7**, which would require micro-siting of facilities to minimize surface disturbance or visual disturbance to the segment’s outstandingly remarkable features.

The 250-foot-wide transmission line ROW also would cross a segment of the Meadow Valley Wash. This riparian system is eligible for inclusion as a WSR under a “scenic” designation. Approximately 19 acres of the 250-foot-wide transmission line ROW and 374 acres of the 2-mile transmission line corridor would be within the 11-mile eligible segment. The crossing would not be within a designated utility corridor. Development of a transmission line would not be consistent with the criteria for a “scenic” designation (largely primitive and undeveloped, no substantial evidence of human activity, etc.). There are other alternatives that could be selected that do not cross segments eligible for inclusion into the NWSRS; however, this alternative was selected as the agency preferred alternative (i.e., the route that best addressed multiple resource concerns). Impacts to the outstanding remarkable features (wildlife, cultural and fish) of the eligible wash segment would be reduced by design features and agency BMPs, including riparian habitat and sensitive species habitat buffers and BMPs to reduce potential for erosion and sedimentation that could affect fish habitat. Potential impacts to cultural resources from surface disturbance would be mitigated through the compliance with the Project PA. Application of **SDA-1** and **SDA-2** would reduce or limit roads development within the eligible segment whenever possible, or require reclamation where avoidance is not practicable; however, the visual impacts from operation of the line would not be mitigated. Application of **SDA-7** would require micro-siting of facilities to further minimize surface disturbance or visual disturbance to the segment’s outstandingly remarkable features.

Approximately 545 acres of the 2-mile transmission line corridor in which roads and construction support areas would be within the Clover Mountains Wilderness Area. This would comprise 0.6 percent of the SDA. The Caliente FO has identified all designated wilderness as ROW exclusion areas. Development of roads or use of motorized vehicles within this portion of the 2-mile transmission line corridor would not be compatible with area management. TransWest’s commitment to comply with agency stipulations (TWE-1) and/or implementation of **SDA-1** would eliminate potential impacts within the wilderness area from road construction; however, the wilderness quality in the areas closest to the 250-foot-wide transmission line ROW could be temporarily reduced by noise and activity during construction.

Approximately 306 acres of the 2-mile transmission line corridor would be located within the 36,800-acre Beaver Dam Slope ACEC in the Caliente FO. This area of the ACEC is designated for protection of desert tortoise. Application of **SDA-3** would limit the impacts to ACEC values from road construction and human activity by restricting activities to only those areas within the existing utility corridor.

USFS IRAs and Unroaded/Undeveloped Areas

Alternative III-B would not cross any designated IRAs or URUD areas.

Other Federally Managed SDAs and National Trails

Alternative III-B would not cross not the Old Spanish NHT but would be visible for approximately 6 miles of inventoried trail. Of those 6 miles, approximately 5 miles of trail segments are categorized as NHT-I (location verified, evident, and unaltered); approximately 1 mile of trail segments are categorized as NHT-II (location verified and evident with minor alteration); and, approximately 0.1 mile is categorized as NHT-IV (location verified and permanently altered). Visibility of the alternative from the historic trail and road is based on the 5-mile (either side of the 250-foot transmission line ROW) viewshed or indirect APE. These segments would be located within the Mormon Mesa and California Crossing AUs.

Table 3.15-18 summarizes key features of trail segments that would be in the Alternative III-B viewshed.

Table 3.15-18 Alternative III-B Visibility Impacts by Old Spanish NHT Analysis Unit

AU	Segment Rating	Number of Segments	Contributing to NHT Status	Miles of Trail within Viewshed ¹	Total Mileage within AU	Percentage of AU within Viewshed
Mormon Mesa (Las Vegas FO; (12 miles total)	Highest rating within AU (NHT-I; exceptional)	2	1 contributing, one unevaluated	5	8	63
	Remaining mileage	3	1 contributing	0.2	4	5
California Crossing (Las Vegas FO; 3 miles total)	Highest rating within AU (NHT-II; exceptional)	1	Unevaluated	1	1	100
	Remaining mileage	0	NA	0	2	0

¹ Visibility of Alternative III-B from the historic trail is based on the 5-mile viewshed.

Impacts would be similar to those described under Alternative III-A, but would affect fewer mileage of inventoried trail segments for the Mormon Mesa AU (41 percent of the total inventoried mileage of Old Spanish NHT within the AU and 63 percent of the highest rated segments).

Once the final route is selected, an intensive Class III inventory and in-depth visual analysis would be conducted to determine the impact to contributing Old Spanish Trail segments crossed by the route or from which the route would be visible. If a contributing segment would be adversely affected, the effects would be minimized or mitigated onsite or offsite as stipulated in the Cultural Resources Programmatic Agreement developed for the Project, and through implementation of design features and BMPs in concert with the Trail Study Agency and the Wyoming BLM National Trails Management Program Lead. Mitigation identified in Section 3.12, Visual Resources includes measures to reduce visual impacts through use of BLM environmental colors and location of structures, roads, and other project elements as far back from road, trail, and river crossings as possible, and where feasible, employ terrain and vegetation to screen views from crossings.

Alternative III-C

The Alternative III-C 250-foot-wide transmission line ROW would cross the Desert NWR, the Delamar Mountains Wilderness, the Kane Springs ACEC, and the Coyote Springs ACEC. Portions of the 2-mile transmission line corridor also would cross the Arrow Canyon Wilderness, Pahrnagat NSR, and portions of five USFWS proposed wilderness areas.

BLM SDAs and National Landscape Conservation System Lands

Within the Caliente FO, approximately 10 miles of the 250-foot-wide transmission line ROW would cross the 57,190-acre Kane Springs ACEC. To protect desert tortoise, the ACEC is managed as a ROW exclusion area outside the existing corridor. Approximately 9 miles of the 250-foot-wide transmission line ROW would

fall outside the designated corridor. During construction, approximately 296 acres (0.5 percent of the ACEC) would be subject to vegetation removal and surface disturbance that could affect desert tortoise. Additionally, of the approximately 6,340 acres of the 2-mile transmission line corridor located within the ACEC (28 percent of the ACEC), 5,298 acres would be in ROW exclusion areas. Development of a transmission line or associated roads would not be in conformance with area management. The Ely RMP contains numerous BMPs to reduce impacts to desert tortoise including a development mitigation plan that includes surveys and monitoring, employee education, and other measures to reduce impacts to desert tortoise. Application of **SDA-3** would limit the impacts to ACEC values by restricting road construction and human activity to only those areas within the existing utility corridor. **SDA-2** (full road reclamation) would further reduce risk; however, initial vegetation removal and surface disturbance would still occur within the corridor. Adherence to agency stipulations and development of a desert tortoise mitigation plan would reduce impacts to desert tortoise within the corridor during construction.

Within the Las Vegas FO, approximately 19 miles of the 250-foot-wide transmission line ROW would cross the 75,500-acre Coyote Springs Valley ACEC. To protect desert tortoise, the ACEC is managed as a ROW avoidance area outside the existing corridor. Approximately 1 mile of the 250-foot-wide transmission line ROW would fall outside the designated corridor. During construction, approximately 563 acres (0.01 percent of the ACEC) would be subject to vegetation removal and surface disturbance that could affect desert tortoise. Agency BMPs and TransWest's commitment for avoidance of special status habitat would reduce impacts to desert tortoise within this corridor area. Approximately 24,327 acres of the 2-mile transmission line corridor would be located within the ACEC (32 percent of the ACEC); of this total acreage, approximately 10,566 acres are located within ROW avoidance areas. Application of **SDA-3** would limit the impacts to desert tortoise from road construction and human activity by restricting activity to only those areas within the existing utility corridor.

Approximately 2,697 acres of the 2-mile transmission line corridor would fall within the Delamar Mountain Wilderness; an additional 346 acres would fall within the Arrow Canyon Wilderness. The Ely FO has identified all designated wilderness as ROW exclusion areas.

USFS IRAs and URUD Areas

Alternative III-C would not cross any designated IRAs or URUD areas.

Other Federally Management SDAs and National Trails

Approximately 1 mile of the 250-foot-wide transmission line ROW would cross the 1.5 million-acre Desert NWR. The refuge was established for the protection, enhancement, and maintenance of desert bighorn sheep. As part of the Lincoln County Conservation, Recreation, and Development Act of 2004 (PL 108–424), administrative jurisdiction over approximately 8,382 acres of land along the eastern boundary of Desert NWR and west of U.S. Highway 93 was transferred from the USFWS to the BLM for use as a utility corridor. The majority of the 250-foot-wide transmission line ROW would fall within this corridor. During construction, approximately 25 acres of the Refuge would be subject to vegetation removal and surface disturbance that could affect bighorn sheep. Adherence to design features, agency BMPs, and wildlife mitigation identified in Section 3.7 would reduce impacts to wildlife species within this NWR. Approximately 16,524 acres of the NWR would fall within the area of the 2-mile transmission line corridor in which roads and construction support areas could be built. This would comprise about 1.1 percent of the NWR. Development of roads is not prohibited within the NWR outside of the proposed wilderness areas, but would result in surface disturbance, noise, and activity that would impact NWR values. TransWest's commitment to comply with agency stipulations (TWE-1) and/or implementation of **SDA-1** would eliminate potential impacts to wildlife within the refuge from road construction.

Approximately 170 acres of the Pahranaagat NWR would be within the 2-mile transmission line corridor. The refuge provides habitat for migratory birds, especially waterfowl. Development of roads is not prohibited within the NWR. Adherence to design features and agency BMPs to protect desert tortoise and cultural resources as well as measures to reduce fugitive dust and other impacts that occur from road construction

would reduce impacts to wildlife resources within the refuge. Wildlife mitigation identified in Section 3.7, Wildlife, and Section 3.8, Special Status Wildlife Species, also would reduce impacts to shorebirds and other migratory bird species.

The 2-mile transmission line corridor would also contain 18,823 acres of area proposed by the USFWS for wilderness designation. Development of roads or use of motorized vehicles within this portion of the 2-mile transmission line corridor would not be compatible with area management. TransWest’s commitment to comply with agency stipulations (TWE-1) and/or implementation of SDA-1 would eliminate potential impacts within the wilderness area from road construction; however, the wilderness quality in the areas closest to the 250-foot-wide transmission line ROW could be temporarily reduced during construction from noise and activity.

Alternative Variations in Region III

The land ownership crossed by the alternatives in Region III and other key impact parameters are summarized in **Table 3.15-19**.

Alternative Connector in Region III

The Moapa Alternative Connector and the Avon Alternative Connector would not cross any SDAs in Region III. The Moapa Alternative Connector would be visible from the Old Spanish Trail for approximately 1 mile. The 1-mile segment is categorized as NHT II (location verified and evident with minor alteration).

Table 3.15-19 Impact Parameters of Alternative Variations and Comparative Portions of Alternatives in Region III

Ox Valley East Alternative Variation	Comparable (Portions of Alt III-A)	Ox Valley West Alternative Variation	Comparable (Portions of Alt III-A)	Pinto Alternative Variation	Comparable (Portions of Alt III-A)
SDAs Crossed by 250-foot-wide transmission line ROW					
IRAs: 1 mile (34 acres) in Gum Hill IRA; <0.5 mile (7 acres) in Mogotsu IRA URUD areas: 9 miles (269 acres) in Moody Wash/Mogotsu URUD area. Old Spanish NHT: 1 trail crossing, 6 miles of trail within viewshed, Mountain Meadows NHL and Site located 3 miles from the transmission line	IRAs: 2 mile (45 acres) within Atchinson IRA URUD areas: 4 mile (124 acres) within Atchinson URUD area. Old Spanish NHT: 2 trail crossings, 13 miles of trail within viewshed, Mountain Meadows NHL and Site located 0.1 mile from the transmission line	IRAs: No reference line crossings, less than 0.5 acre in Gum Hill IRA URUD areas: 9 miles (275 acres) in Moody Wash/Mogotsu URUD area. Old Spanish NHT: 1 trail crossing, 6 miles of trail within viewshed, Mountain Meadows NHL and Site located 3 miles from the transmission line	IRAs: 2 miles (45 acres) in Atchinson IRA URUD areas: 4 mile (124 acres) within Atchinson URUD area. Old Spanish NHT: 2 trail crossings, 13 miles of trail within viewshed, Mountain Meadows NHL and Site located 0.1 mile from the transmission line	IRAs: No reference line crossings, less than 0.5 acre in Atchinson IRA. URUD areas: 1 mile (41 acres) in Cove Mountain, 6 miles (176 acres) in Atchinson, 2 miles (57 acres) in Kane Mountain and 4 miles (122 acres) in Pine Valley Mountain URUD areas. Old Spanish NHT: 0 trail crossing, 3 miles of trail within viewshed, Mountain Meadows NHL and Site located 5 miles from the transmission line	IRAs: 2 miles (45 acres) in Atchinson IRA. URUD areas: 4 mile (124 acres) within Atchinson URUD area. Old Spanish NHT: 2 trail crossings, 13 miles of trail within viewshed, Mountain Meadows NHL and Site located 0.1 mile from the transmission line
SDAs Crossed by 2-mile Transmission Line Corridor					
IRAs: 9,829 acres within Gum Hill, Mogotsu, and Moody Wash IRAs. URUD areas: 11,298 acres in Moody Wash/Mogotsu URUD area.	IRAs: 9,122 acres within Atchinson, Cove Mountain, and Mogotsu IRAs. URUD areas: 10,416 acres in Moody Wash/Mogotsu, Cove Mountain, and Atchinson URUD areas	IRAs: 6,928 acres within Gum Hill, Mogotsu, and Moody Wash IRAs. URUD areas: 9,964 acres in Moody Wash/Mogotsu URUD area.	IRAs: 9,122 acres within Atchinson, Cove Mountain, and Mogotsu IRAs. URUD areas: 10,416 acres in Moody Wash/Mogotsu, Cove Mountain, and Atchinson URUD areas.	IRAs: 7,276 acres in Atchinson, Cove Mountain, Kane Mountain, and Pine Mountain IRAs. URUD areas: 16,422 acres in Atchinson, Cove Mountain, Kane Mountain, and Pine Mountain URUD areas.	IRAs: 11,613 acres within Atchinson, Cove Mountain, and Mogotsu IRAs. URUD areas: 12,847 acres in Moody Wash/Mogotsu, Cove Mountain, and Atchinson URUD areas.

Alternative Ground Electrode Systems in Region III

A ground electrode system of approximately 600 acres in size would be necessary in Region III within 50 to 100 miles of the southern terminal, as discussed in Chapter 2.0. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided by the Project proponent. The ground electrode system alternative locations that would be in Region III are depicted in Chapter 2.0 on **Figure 2-23**. The conceptual sites would not include any SDAs; however the Meadow Valley ground electrode system siting area (Alternative III-C) would include 406 acres within a portion of the Meadow Valley Wash riparian system eligible for inclusion as a WSR under a “scenic” designation. Development of a ground electrode site within this area would not be consistent with the criteria for a “scenic” designation (largely primitive and undeveloped, no substantial evidence of human activity, etc.). Impacts to the outstanding remarkable features (wildlife, cultural, and fish) of the eligible wash segment would be reduced by design features and agency BMPs, including riparian habitat and sensitive species habitat buffers, and BMPs to reduce potential for erosion and sedimentation that could affect fish habitat. Potential impacts to cultural resources from surface disturbance would be mitigated through the compliance with the Project PA. Application of **SDA-1** and **SDA-2** would reduce or limit roads development within the eligible segment whenever possible, or require reclamation where avoidance is not practicable; however, the visual impacts from operation of the line would not be mitigated. Application of **SDA-7** would require micro-siting of facilities to further minimize surface disturbance or visual disturbance to the segment’s outstandingly remarkable features. The Meadow Valley ground electrode system siting area would also include less than 0.5 acres within the Mormon Mesa ACEC. The ACEC is managed as a ROW avoidance area outside of designated corridors to protect critical desert tortoise habitat.

Application of **SDA-4** (ground electrode systems shall be sited outside of any designated SDAs located within the ground electrode siting areas), **SDA-1** (avoidance of new road construction in SDAs), and **SDA-3** (avoidance of SDAs within ground electrode siting areas in final placement of ground electrode site) would eliminate construction of any access roads within this area.

Additionally, under Alternatives III-A and III-B, the Mormon Mesa-Carp Elgin Rd ground electrode system siting area would encompass portions of the Old Spanish Trail and the associated access road and transmission line would parallel five Old Spanish NHT segments for approximately 4 miles. Application of **SDA-4** would eliminate direct impacts to the trail from the ground electrode system but would not reduce impacts from the access road and transmission line. The majority of the mileage is rated as NHT-I, and two of the five segments contribute to the trail’s NHT status. Impacts would be similar to those described under Alternative III-A; however, the presence of a ground electrode system would not be expected to reduce the current Class B scenic quality rating or the current SI overall rating for portions of the AU within the viewshed.

Region III Conclusion

All alternatives within Region II would result in impacts to SDAs designated by the BLM for the protection of desert tortoise. Of the three alternatives, Alternative III-A would result in the most mileage within in these SDAs (approximately 30 miles; 900 acres of 250-foot-wide ROW within 1 NCA and 3 ACECs in Nevada and Utah). Alternative III-B would have the least impacts to these resources (approximately 24 miles and 700 acres of 250-foot-wide ROW within 2 ACECS in Nevada). Alternative III-C would impact these resources equally (40 miles and 940 acres of 250-foot-wide transmission line ROW).

Alternative III-B would have the most impacts to WSRs, as it would have two crossings to segments eligible for inclusion as WSRs. Alternative III-C would not cross any WSR-eligible segments.

Of the three alternatives, only Alternative III-A would impact USFS IRAs and URUD areas. Roadless construction techniques would be used in IRAs to reduce surface disturbance within IRAs, but there would still be impacts from the transmission line itself within one IRA.

Alternatives III-A and III-B would not affect any other federally managed SDAs. Alternative III-C would impact two USFWS Wildlife Refuges and five proposed wilderness areas; however, TWE design features and mitigation measures would eliminate many of the impacts to these areas.

Alternative III-A would have the greatest impact on NHTs as it would cross three segments of the Old Spanish NHT and would affect the viewshed of approximately 10 miles of the Old Spanish NHT. Alternative III-C would not affect NHTs. Alternative III-B would not cross any NHTs, but would affect the viewshed of 6 miles of the Old Spanish NHT.

3.15.4.6 Region IV

Table 3.15-16 provides a list of the SDAs that would be located within the Project corridors in Region IV. These areas also are depicted in **Figures 3.15-4, 3.15-8, and 3.15-12**. The list of areas identifies SDAs within the 250-foot-wide transmission line ROW as well as those outside of the ROW but within the 2-mile transmission line corridor.

Table 3.15-20 Region IV: SDAs within 250-foot-wide Transmission Line ROW and 2-Mile Transmission Line Corridor

Special Designations Area	Alternative IV-A	Alternative IV-B	Alternative IV-C
	250-foot ROW miles/acres 2-mile corridor acres	250-foot ROW miles/acres 2-mile corridor acres	250-foot ROW miles/acres 2-mile corridor acres
Sloan Canyon NCA (Las Vegas FO)	0/0 2,684	N/A	N/A
Black Mountain Wilderness (Las Vegas FO)	N/A	N/A	0/0 1,005
Sunrise Mountain ISA (Las Vegas FO)	1/33 1,312	0/<1 532	0/<1 532
Rainbow Gardens ACEC (Las Vegas FO)	11/326 10,563	3/86 2,590	3/86; 2,590
River Mountains ACEC (Las Vegas FO)	5/149 3,127	0/0 73	N/A

Note: In some instances, there may be "0" miles within a SDA but some acreage of 250-foot-wide ROW disclosed. This is because the reference line (which is identified through "mileage of 250-foot-wide ROW") does not enter the SDA; however, there is some portion of the 250-foot-wide ROW (as disclosed in acreage) that is still located within the SDA.

Alternative IV-A (Applicant Proposed and Agency Preferred)

BLM SDAs and National Landscape Conservation System Lands

Under Alternative IV-A, the 250-foot-wide transmission line ROW would pass through one ISA and two ACECs. Approximately one mile of the 250-foot-wide transmission line ROW would fall within the 10,240-acre Sunrise Mountain ISA. During construction, up to 33 acres of the ISA would be subject to vegetation removal; surface disturbance areas would include temporary work sites and permanent tower locations. This area is 0.3 percent of the ISA. The ISA is a ROW exclusion area but contains a WWEC-designated utility corridor. The 250-foot-wide transmission line ROW would not be located within the existing designated utility corridor; therefore, it would not be compatible with SDA management. The existing ROW corridor would need to be expanded through a land use plan amendment; however, use of the future corridor would be contingent upon a Congressional action releasing the ISA from further wilderness consideration. An additional 1,312 acres of the 2-mile transmission line corridor also would fall within the ISA. Road development in these areas would not be compatible with SDA management. Within the ISA lie a major paved highway, numerous other roads, transmission lines, and communication sites. The BLM is required to manage the area for wilderness character until the area is released from further consideration by

Congress. The BLM has recommended the release of all acreage for uses other than wilderness, primarily because the area lacks wilderness character.

Approximately 11 miles of the 250-foot-wide transmission line ROW would fall within the 37,620-acre Rainbow Gardens ACEC. This ACEC was established to protect geological, scientific, scenic, cultural, and sensitive plant values and is a ROW avoidance area outside of designated corridors. Of the 11 miles, only about 2 miles would be within BLM or WWEC-designated utility corridors. As a ROW avoidance area, development of a transmission line would still be permitted under SDA management; however, land management actions for the Sunrise Mountain SRMA, which overlays the ACEC entirely, has a management goal to concentrate major transmission line ROWs within the confines of the designated utility corridor to reduce conflicts with recreation and to reduce impacts to scenic resources (BLM 1998; see Section 3.13, Recreation). During construction, up to 326 acres (0.9 percent of the ACEC) would be subject to vegetation removal or surface disturbance that could affect geological, scenic, cultural, or sensitive plant values. Access roads and construction staging areas also could be located within the 2-mile transmission line corridor located within the ACEC (10,563-acres or approximately 28 percent of the ACEC). ACEC management actions would require the reclamation of all temporary roads constructed within the ACEC. Agency-designated avoidance buffers in occupied special status species habitat (see **Appendix C**) would reduce impacts to the sensitive plant values for which the ACEC is managed. Surface disturbance could potentially impact Class III geological and paleontological resources (see Section 3.2, Geology); impacts would be mitigated through compliance with design features and agency BMPs including requiring a paleontological resources mitigation plan for areas known to contain paleontological resources or in areas of high potential for paleontological resources (see **Appendix C**). Adherence to the Project PA would mitigate impacts to cultural resources. There are already several existing transmission lines through Rainbow Gardens ACEC. In areas not within the viewshed of existing transmission structures, this alternative would not comply with BLM VRM Class III management objectives for the ACEC (see Section 3.12, Visual Resources). Application of **SDA-1** would limit surface disturbance within the ACEC to the 326 acres (0.3 percent of the ACEC) required for the transmission line itself and/or restrict new road development to only those areas within the designated corridor. If road development could not be avoided within the full 10,563 acres, application of **SDA-2** (full reclamation of roads) would reduce the long term impacts of road development to scenic values; however, there could still be impacts to geological or cultural values of the ACEC.

Approximately 5 miles of the 250-foot-wide transmission line ROW would fall within the 5,617-acre River Mountain ACEC. This ACEC was designated to protect bighorn sheep habitat and the scenic viewshed for Henderson and Boulder City and is a ROW avoidance area outside of designated corridors. The 250-foot-wide transmission line ROW would be fully within a designated utility corridor through the ACEC; therefore, it would be compatible with SDA management.

During construction, approximately 149 acres (2.7 percent of the ACEC) would be subject to vegetation removal and/or surface disturbance and temporarily removed from use by wildlife; however, because construction would be completed in segments and reclamation would begin immediately (see **Appendix C** design features), the total area that would experience human activity at any one time would likely be smaller. During peak construction, it is likely that bighorn sheep would be temporarily displaced from a larger area than the actual disturbance sites due to the avoidance response (see Section 3.7 for impacts on wildlife). Approximately 3,127 acres of the 2-mile transmission line corridor (56 percent of the ACEC) would fall within the ACEC and could be subject to some level of road and construction support area development, further expanding the area affected by surface disturbance and habitat loss, construction noise, and human activity. TransWest's commitment to implement seasonal restrictions to mitigate impacts on wildlife would assist in reducing impacts to big horn sheep; however, there would be some permanent loss of habitat and fragmentation. ACEC management actions would require the reclamation of all temporary roads. Application of **SDA-1** would limit surface disturbance within the ACEC to the 149 acres (2.7 percent of the ACEC) required for the transmission line itself; however, the visual impacts to the Henderson and Boulder City viewshed from operation of the line would not be mitigated.

Under Alternative IV-A, portions of the 2-mile transmission line corridor would be located within the Sloan Canyon NCA. The 48,800-acre Sloan Canyon NCA is managed to conserve, protect, and enhance the cultural, archaeological, natural, wilderness, scientific, geological, historical, biological, wildlife, educational, and scenic resources of this area. Approximately 2,684 acres of the 2-mile transmission line corridor would fall within the NCA and could be subject to some level of road and construction support area development. This would be approximately 6 percent of the SDA. These portions of the NCA are managed as semi-primitive, non-motorized areas and are classified as VRM II. Therefore, road construction in this area would not be compatible with SDA management. Application of **SDA-1** would eliminate surface disturbance within the ACEC; however, the quality of the uses in the area closest to the 250-foot-wide transmission line ROW would still be temporarily reduced from construction noise and activity. Impacts to Recreation within the NCA are discussed in Section 3.14.

Other Federally Managed SDAs and National Trails

Under Alternative IV-A, portions of the 2-mile transmission line corridor would be located within the Lake Mead NRA. Impacts to Lake Mead NRA are discussed in Section 3.13, Recreation Resources.

Alternative IV-B

BLM SDAs and National Landscape Conservation System Lands

Under Alternative IV-B, approximately 3 miles of the 250-foot-wide transmission line ROW would fall within the 37,620-acre Rainbow Gardens ACEC. Impacts and mitigation would be similar to Alternative IV-A except that during construction, approximately 86 acres of the ACEC (0.2 percent of the ACEC) would be subject to surface disturbance from transmission line construction and approximately 2,590 acres (6.9 percent of the ACEC) of the 2-mile transmission line corridor would fall within the ACEC and could be subject to some level of road and construction support area development.

Under Alternative IV-B, approximately 532 acres of the 2-mile transmission line corridor also would be located within the Sunrise Mountain ISA. This would be 5.2 percent of the ISA. Development of access roads or the use of motorized vehicles would not be compatible with area management. Impacts to wilderness values within Sunrise Mountain ISA would be similar to those discussed under Alternative IV-A. Implementation of **SDA-1** would eliminate potential impacts from road construction.

Approximately 73 acres of the 2-mile transmission line corridor would be located within the River Mountain ACEC. These areas would be subject to some level of road and construction support area development. Impacts from road construction to the relevant and important values of the River Mountain ACEC are discussed under Alternative IV-A. Implementation of **SDA-1** would eliminate potential impacts from the development of access roads.

Other Federally Managed SDAs and National Trails

Under Alternative IV-B, the 250-foot-wide transmission line ROW would be located within the Lake Mead NRA. The NPS has indicated that construction and operation of this alternative is incompatible with NRA management. Impacts to the NRA are discussed in more detail in Section 3.13, Recreation.

Alternative IV-C

BLM SDAs and National Landscape Conservation System Lands

Under Alternative IV-C, Impacts to the Rainbow Garden ACEC would be the same as Alternative IV-B.

Portions of the 2-mile transmission line corridor would also fall within the Sunrise Mountain ISA and Black Mountain Wilderness area. Impacts to Sunrise Mountain would be the same as under Alternative IV-B. Approximately 1,005 acres of the 2-mile transmission line corridor would fall within the 17,220-acre Black Mountain Wilderness area. This acreage would be 5.8 percent of the designated wilderness area. Development of roads or use of motorized vehicles would not be compatible with area management.

TransWest's commitment to comply with agency stipulations (TWE-1) and/or implementation of **SDA-1** would eliminate potential impacts within the wilderness area from road construction; however, the wilderness quality in the areas closest to the 250-foot-wide transmission line ROW could be temporarily reduced during construction from noise and activity.

Other Federally Managed SDAs and National Trails

Under Alternative IV-C, the 250-foot-wide ROW would be located within the Lake Mead NRA. The NPS has indicated that construction and operation of this alternative is incompatible with NRA management. Impacts to the NRA are discussed in more detail in Section 3.13, Recreation.

Alternative Variation in Region IV

The Marketplace Alternative Variation and the portion of Alternative IV-B that this variation would replace would not cross any SDAs.

Alternative Connectors in Region IV

SDAs crossed by the alternative connectors and other key impact parameters are summarized in **Table 3.15-21**.

Table 3.15-21 Impact Parameters of Alternative Connectors in Region IV

	Sunrise Mountain Alternative Connector	Lake Las Vegas Alternative Connector	Three Kids Mine Alternative Connector	River Mountain Alternative Connector	Railroad Pass Alternative Connector
SDAs Crossings	3 miles Rainbow Gardens ACEC 1 mile Sunrise Mountain ISA	1 mile River Mountain ACEC	3 miles River Mountain ACEC	3 miles River Mountain ACEC	0 miles in any SDAs

Region IV Conclusion

Alternative IV-A would have the greatest impacts to Sunrise Mountain ISA and would require Congressional action releasing the ISA from further wilderness consideration before construction could proceed. Alternatives IV-B and IV-C would largely eliminate impacts to the ISA through avoidance of road construction.

Alternative IV-A would have the great impacts to BLM SDAs, with potential impacts to two ACECs and one NCA. Alternative IV-A through the ACECs would be partially within designated corridors; therefore, it would be partially compatible with ACEC management. Impacts to the NCA and ACEC areas outside of designated corridors would be reduced through application of mitigation, including the avoidance of road construction. Alternative IV-C would have less impacts to BLM SDAs, crossing only one ACEC; however, it also would result in temporary indirect impacts (through noise and activity) to one BLM wilderness area. Alternative IV-B would have impacts to one ACEC but would not cross the NCA or have indirect impacts to the wilderness area.

3.15.4.7 Residual Effects

Residual effects to SDAs from the transmission line itself would be the same as those described under each action alternative and would consist primarily of visual impacts and loss of vegetation and wildlife habitat. There would be no residual effect to SDAs from road development if mitigation limiting access to existing roads is applied. In cases where access road development in SDAs would not be fully avoided, but rather limited to existing corridors and/or subject to closure/rehabilitation, residential impacts would include

vegetation loss and visual impacts until reclamation is successful. These impacts would be the same as described under each action alternative. Mitigation related to vegetation maintenance would reduce, but not eliminate, impacts to SDAs that result from vegetation loss during operation of the transmission line.

3.15.4.8 Impacts to Special Designations from the No Action Alternative

Under the No Action Alternative, the Proposed Project would not be developed. There would be no impacts to SDAs beyond existing conditions and trends.

3.15.4.9 Irreversible and Irretrievable Commitments of Resources

All operation impacts to the values of SDAs described above would be irretrievable until transmission line decommissioning, after which time the values of impacted SDAs would be reclaimed. It should be noted, however, that reclamation activities may have limited success in areas with poor soils, some vegetation communities would take years to re-establish, and some areas may never return to their former vegetation cover and composition. As such, these impacts may represent an irreversible commitment of vegetation resources and any SDAs managed for specific vegetation values. Section 3.5, Vegetation, contains additional information regarding vegetation reclamation.

3.15.4.10 Relationship Between Local Short-term Uses and Long-term Productivity

Implementation of the Project would result in the use of some SDAs lands as ROW corridors. Long-term productivity of the SDAs would be largely unaffected except for areas where reclamation may have limited success.

3.16 Transportation and Access

This section of the EIS describes the national, state, and local transportation networks serving the analysis area and characterizes typical and representative transportation planning considerations within these networks. The primary topics addressed include roadway systems, design standards, traffic volumes, traffic congestion, safety, and maintenance. In addition, this section of the EIS addresses the presence of railroads, airports, and military airspace operating areas within the analysis area and related planning considerations. Transportation-related topics addressed in other sections include off-highway vehicle use (Section 3.13, Recreation Resources) and travel restrictions in areas of special designation (Section 3.14, Land Use).

3.16.1 Regulatory Background

A variety of federal, state, and local agencies administer and regulate roadways, railways, and airports. The American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) are responsible for interstate and U.S. highways. State DOTs are responsible for state highways and routes. County and local roads are controlled by the presiding jurisdiction (cities, counties). Other roads on federal lands are managed by the applicable federal agencies (NPS, BLM, USFS, etc.). Railroad operations are regulated by state commissions. Aviation is governed by the Federal Aviation Administration (FAA). Each of these regulatory and governing agencies and the military has their own authority, as detailed below.

3.16.1.1 Roadway Requirements

Roadway Design Standards and Specifications

In general, relevant AASHTO and the FHWA define design standards, specifications, and guidelines for roadways (Interstate and U.S. Highways) throughout the U.S. that would be used for design and traffic control of roadways in the Project area. Design standards include AASHTO publications: *A Policy on Geometric Design of Highways and Streets*, *Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)* (AASHTO 2001), and *Roadside Design Guide* (AASHTO 2011). Relevant FHWA publications include the *Manual for Uniform Traffic Control Devices (MUTCD)* (FHWA 2009). Other appropriate design protocols would be followed as appropriate for the area containing the roadway.

Each state within the analysis area adopts their own set of design standards and specifications for federal and state highways or routes. Many of these refer to the manuals published by the federal agencies previously mentioned. The following are the major state department of transportation (DOT) design standards, specifications and guidelines that govern state-level roadways:

- Wyoming – Road Design Manual (Wyoming DOT [WDOT] 2004), Standard Plans (WDOT 2011), WDOT Basic and Operating Policy (WDOT 1998);
- Colorado – M&S Standard Plans (Colorado DOT [CDOT] 2006), State Highway Access Code (CDOT 1998);
- Utah – Utah DOT (UDOT) Standards and Specifications (UDOT 2008), Access Management Program (UDOT 2011); and
- Nevada – Road Design Guide 2010 (Nevada DOT [NDOT] 2010).

In addition to these references, state DOTs publish standard construction specifications detailing required materials and procedures. State DOTs also publish design standards for bridge projects. Most, if not all, roadway and bridge publications can be found on the respective state DOT websites. Current versions of these design manuals or new, relevant manuals are applied to future

transportation projects. Cities and counties also may have additional, specific design standards and specifications.

On public lands, BLM, USFS, other Federal, and state road requirements have been set forth. One primary standard applicable on public land is “The Gold Book – Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development” (BLM and Forest Service 2007).

On BLM-managed lands, new road construction and roads improved for Project use would be required to meet or exceed the minimum standards of width, alignment, grade, surface, and other requirements presented in the BLM Travel Management Program and BLM Manual Section 9113 (BLM 1985). On USFS lands, road construction and roads improved for Project use would be required to comply with the Forest Service Manual (FSM) (USFS 1999a) and Forest Service Handbook (FSH) (USFS 1999b). Some example sections relative to the Project are FSH 7709.56 – *Road Preconstruction Handbook (Forest Service 2010)*, FSH 7709.57 – *Road Construction Handbook (Forest Service 1992)*, and 7709.58 – *Transportation System Maintenance Handbook (Forest Service 2009b)*.

Corresponding BLM and USFS travel management plans have been developed and apply throughout the analysis area. The plans are designed to provide decision-makers with information to manage road systems that are safe and responsive to public needs and desires, are economically and efficiently managed, and have minimal negative ecological impacts on the land. The plans include designated areas for motorized use, prohibition of some uses to protect resources, or limitations on road use at certain times of the year for resource protection.

The WDOT’s Utility Accommodation Regulation (WDOT 1990) provides the permit, encroachment, and occupancy requirements for construction and operations activities. Similar requirements apply in Utah, Colorado, and Nevada.

Other Relevant Local Roadway Requirements

Cities, counties, and other public agencies typically require an encroachment permit or similar authorization from the applicable jurisdictional agency at locations where road construction activities would occur within or above the public road ROW. The specific requirements of the encroachment permit from the applicable transportation agency would be individually determined based on Project and jurisdiction specifics. The encroachment permit issued by state and local jurisdictions may include the following requirements:

- Identify all roadway locations where special construction techniques such as night construction would be used to minimize impacts to traffic flow;
- Develop circulation and detour plans to minimize impacts to local street circulation, which may include the use of signing and flagging to guide vehicles through and/or around the construction zone;
- Schedule truck trips outside of peak morning and evening commute hours;
- Limit lane closures during peak hours to the extent possible;
- Include detours for areas potentially affected by Project construction;
- Install temporary traffic control devices as specified in the *Manual of Uniform Traffic Control Devices for Streets and Highways* (FHWA 2009); and
- Store construction materials only in designated areas.

Encroachment permit requirements would be specified by the agency having jurisdiction. Enforcement of the terms of an encroachment permit would reduce impacts associated with road closures.

3.16.1.2 Railroads

The Wyoming Transportation Commission, the Utah Public Service Commission, and the Colorado and Nevada Public Utilities Commissions each oversee railroad operations and operators in their respective states. These entities make public decisions involving railroad safety matters. Specific procedures and standards apply in each state for shared corridor operations and modifications of at-grade crossing.

The National Electrical Safety Code (NESC) (IEEE SA 2011) sets policies for practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communication lines and associated equipment. Any railroad/overhead utility crossing interaction would conform to NESC requirements and applicable code requirements. Key requirements include the following four items.

1. Poles or other structures supporting power must be 50 feet from the centerline of main running tracks, centralized traffic control (CTC) sidings and heavy tonnage spurs. Pole location adjacent to industry tracks must provide at least a 30-foot clearance from the centerline of track when measured at right angles. If located adjacent to curved track, then said clearance must be increased at the rate of 1.5 inches per degree of curved track.
2. Regardless of the voltage, un-guyed poles shall be located a minimum distance from the centerline of any track equal to the height of the pole above the ground line plus 10 feet. If guying is required, the guys shall be placed in such a manner as to keep the pole from leaning or falling in the direction of the tracks.
3. High voltage poles and structures (345 kV and higher) must be located outside of railroad ROW.
4. Crossings must not be installed under or within 500 feet from the end of any railroad bridge, or 300 feet from the centerline of any culvert or switch area.

3.16.1.3 Airports

Airports require clear zones for aviation safety. Clear zones vary according to airport activity and the types of aircraft operating at a particular airport. Large airports and military facilities have more extensive requirements than smaller airports and smaller landing strips.

Clear zone requirements typically involve a three dimensional space free of aviation obstacles. In some areas, guy wires, towers, transmission lines, tall buildings and other possible aviation hazards are marked, lighted and/or charted based on Federal Aviation Administration (FAA) requirements. FAA requirements also cover an airport's radar, flight control instruments, flight paths and other fundamental aspects of airport operations and safety. Standards are applied along with customization to address actual conditions at individual airports.

Locations where potential air space obstruction hazards would be constructed may require submittal of a "Notice of Proposed Construction or Alteration" to the FAA based on criteria contained in 14 CFR 77, titled "Objects Affecting the Navigable Air Space." FAA requirements set forth in Advisory Circular AC 70/7460-2K, titled "Proposed Construction or Alteration of Objects that May Affect the Navigable Airspace," provide information to persons proposing to erect or alter an object that may affect navigable airspace and corresponding notification and review requirements. Overhead transmission lines and their supporting structures are subject to these requirements (FAA March 2000) which are summarized as follows:

- The FAA must be notified if a proposed action involves construction or alteration exceeding 200 feet above ground level and construction or alteration within:
 - 20,000 feet (approximately 4 miles) of a public use or military airport that exceeds a 100:1 sloping surface from any point on the runway of each airport with at least one runway more than 3,200 feet;
 - 10,000 feet (approximately 2 miles) of a public use or military airport that exceeds a 50:1 sloping surface from any point on the runway of each airport with its longest runway no more than 3,200 feet;
 - 5,000 feet of a public use heliport that exceeds a 25:1 sloping surface;
- A "No-hazard Declaration" is required by the FAA if a structure is more than 200 feet in height according to the FAA Act of 1958 (FAA 2011) (PL 85-726) (14 CFR 77); and
- The applicable FAA Regulation for landing strips for agricultural and other aviation purposes is FAR Part 157. These airports may or may not be shown on the FAA sectional charts.

3.16.1.4 Military Airspace Operating Areas

Additional requirements are applicable at military sites and within military operating areas (MOAs) and military training routes (MTRs). Unlike public airports, military operations often include large areas surrounding their airports and operations for testing, training, and other purposes well beyond the military airport areas' landing and takeoff boundaries. These areas are given special airspace designations linked to corresponding military operations. A Section 1101 Air Space Permit is required for air space construction clearance according to the FAA Act of 1958 (PL 85-726) (14 CFR 77).

3.16.2 Data Sources

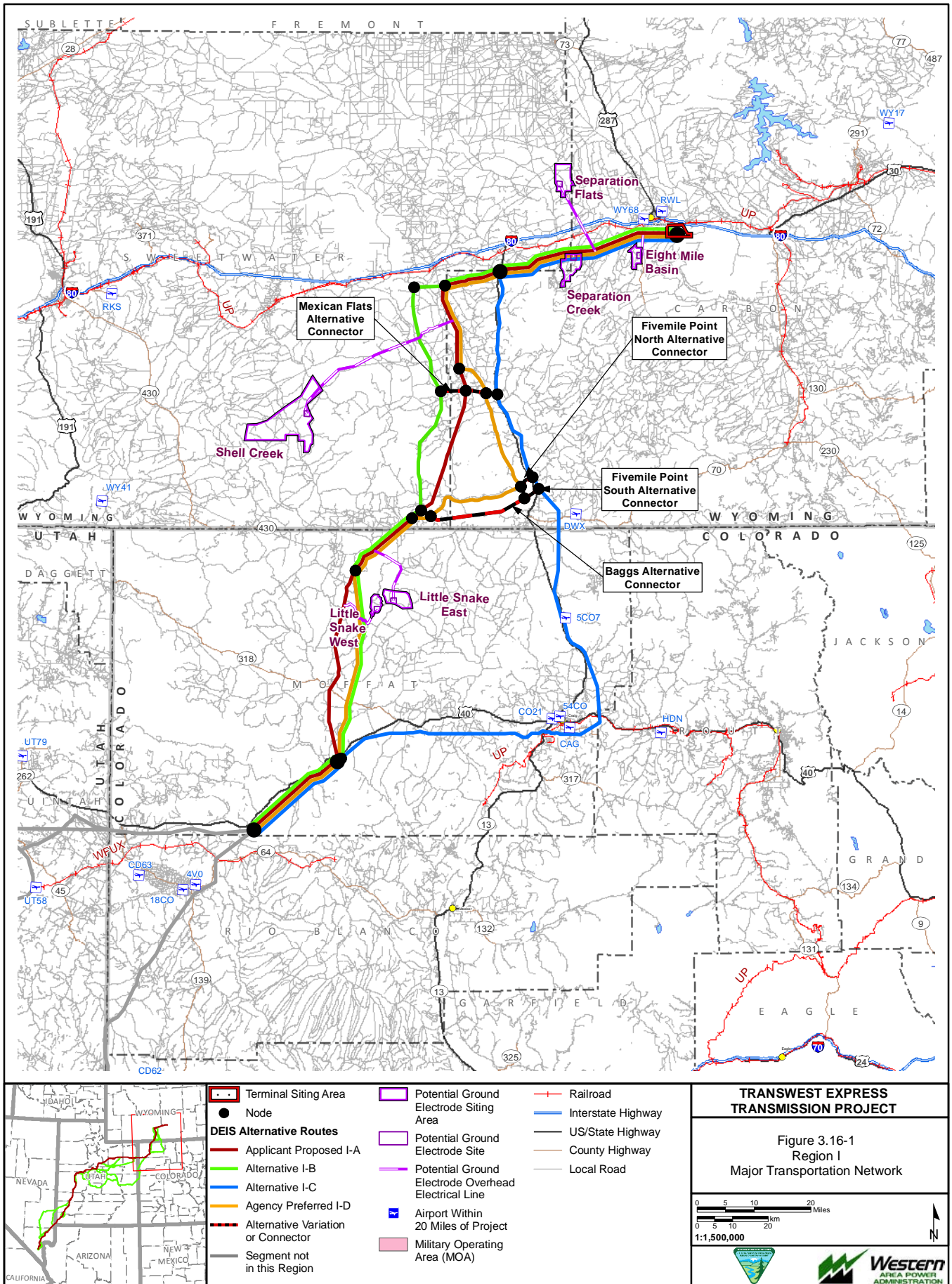
The information and maps presented in this discussion were compiled from various Project documents, state and federal documents, regulations, and guidelines. Some of the baseline map information was derived from the U.S. DOT, Research and Innovative Technology Administration, Bureau of Transportation Statistics. Additional baseline map information was derived from the U.S. Census TIGER/Line data and other federal data sources.

3.16.3 Analysis Area

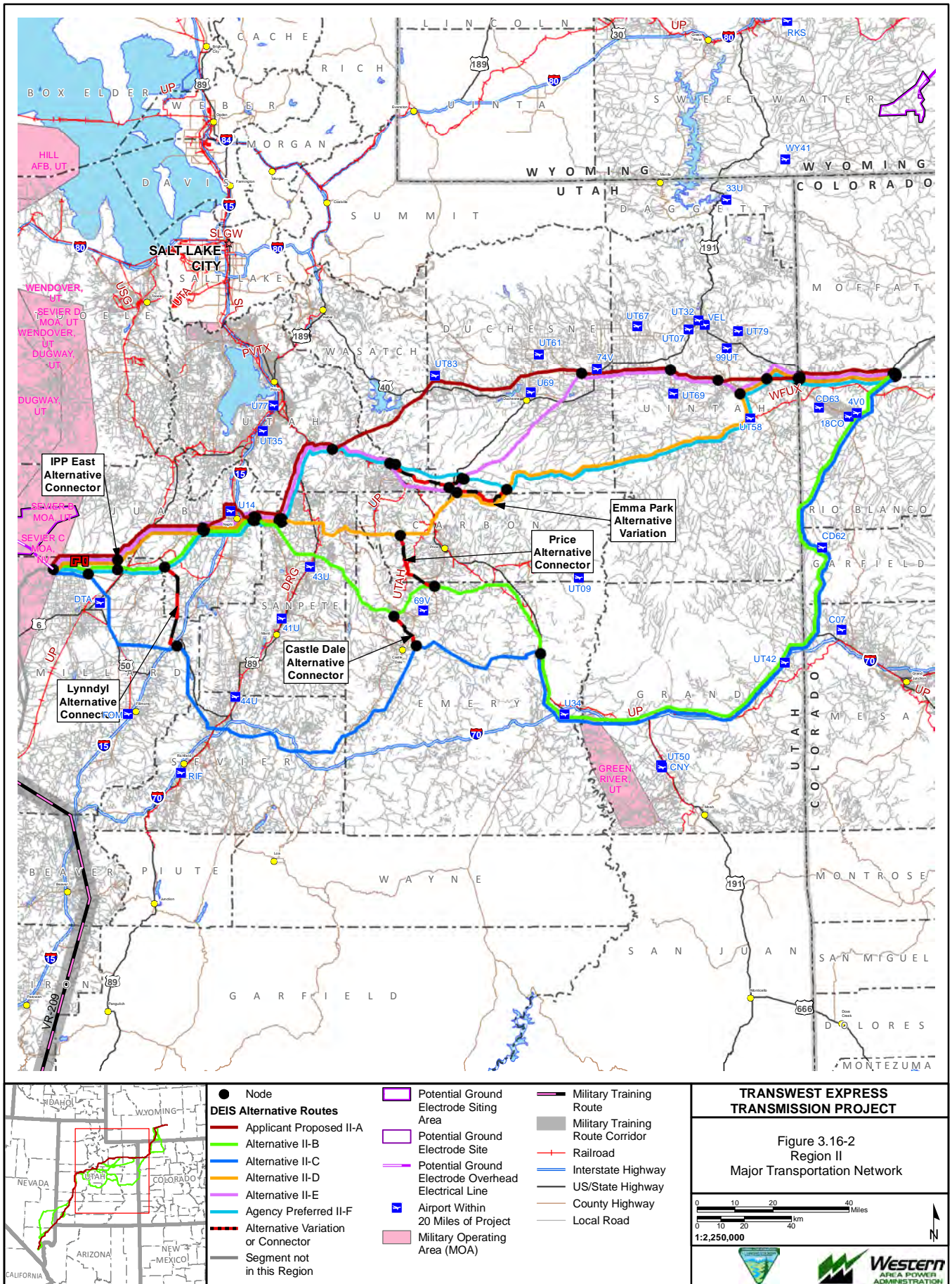
The analysis area for the alternatives has two components. The first component is the overall area defined by the national, state and local road and railroad transportation network serving the alternative routes. This area is characterized in the figures that show the overall corridor from Wyoming to Nevada (**Figures 3.16-1** through **3.16-4**). The second component is composed of smaller, more focused areas defined by specific interconnections between the larger road, railroad and airport networks and individual transportation facilities and activities that cross or otherwise connect with or relate to alternatives and associated features. The smaller areas typically include improved and unimproved routes within the local roadway network, railroads, airports, and controlled airspaces. The roads within this portion of the analysis area are considered the Project "backbone" roads.

Figure 3.16-5 and **Figure 3.16-6** provide examples of the local roadway network (road density, distribution, and type) to generally characterize the second component of the analysis area. The following discussions address both components of the analysis area.

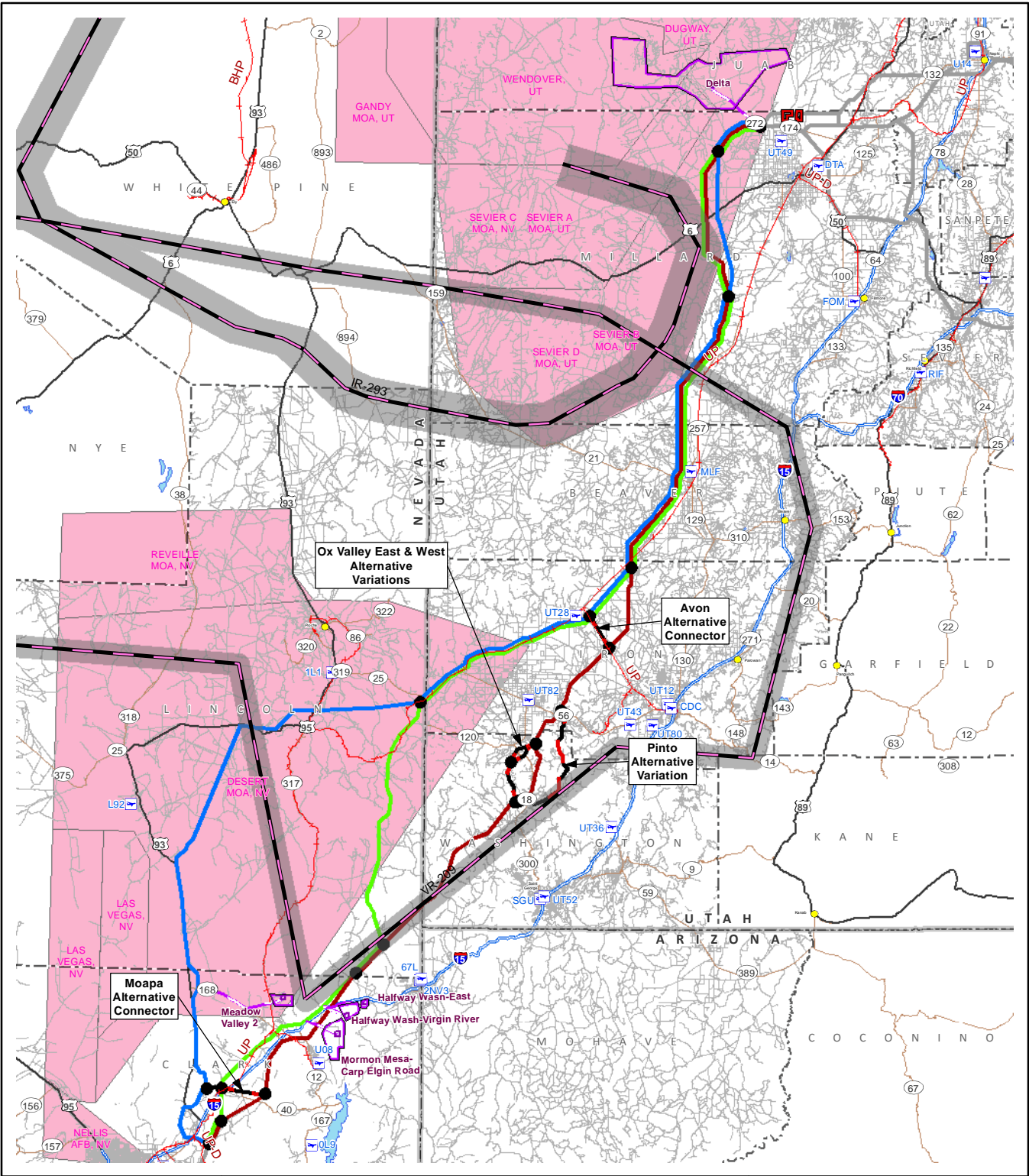
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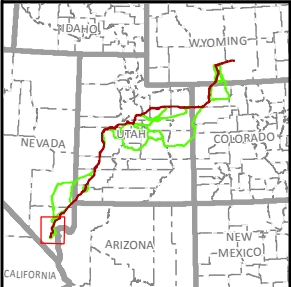
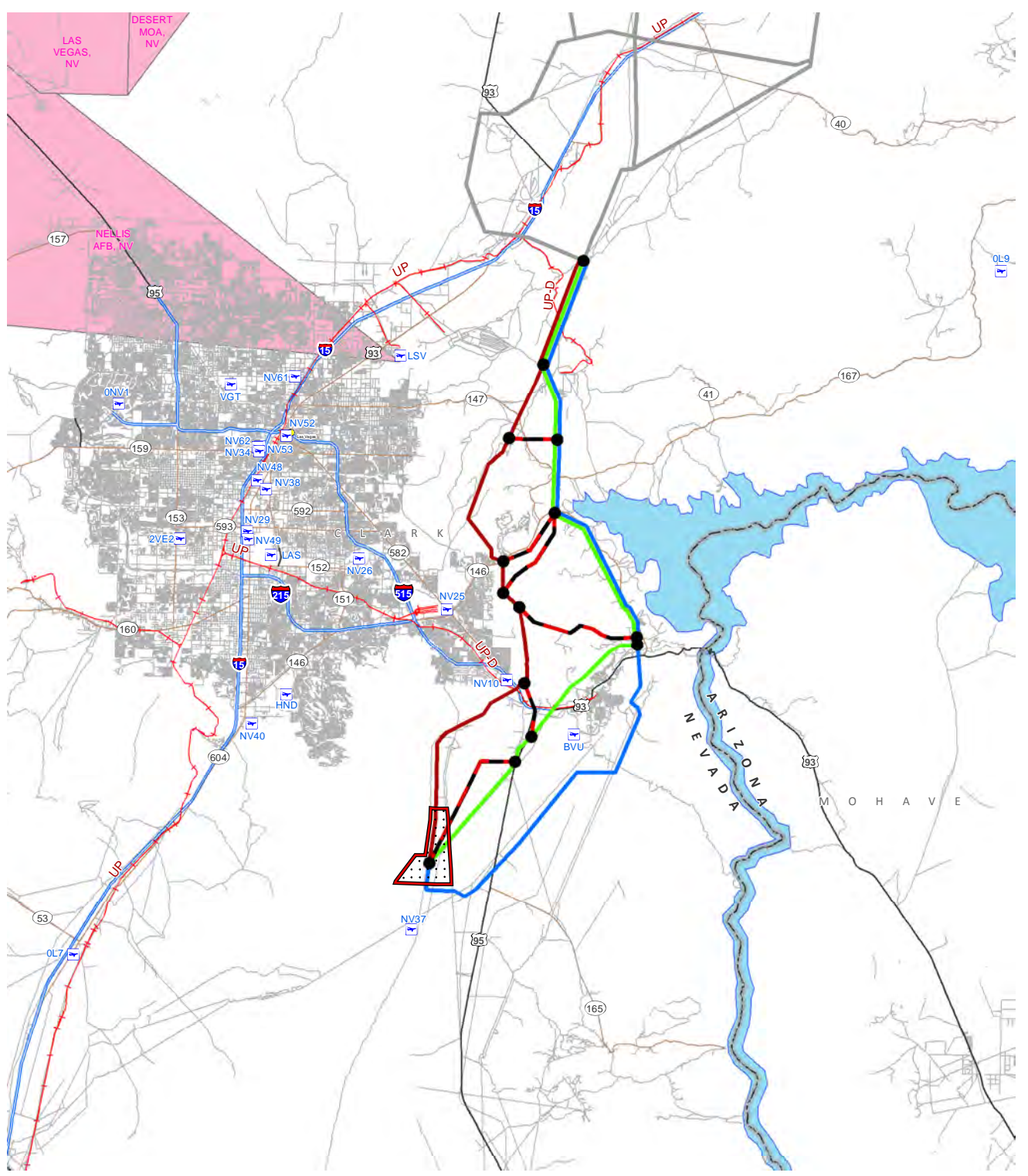


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<p>Terminal Siting Area</p> <p>● Node</p> <p>DEIS Alternative Routes</p> <p>— Applicant Proposed III-A</p> <p>— Agency Preferred III-B</p> <p>— Alternative III-C</p> <p>— Alternative Variation or Connector</p> <p>— Segment not in this Region</p>		<p>— Potential Ground Electrode Siting Area</p> <p>— Potential Ground Electrode Site</p> <p>— Potential Ground Electrode Overhead Electrical Line</p> <p>— Airport Within 20 Miles of Project</p> <p>— Military Training Route</p>		<p>— Military Training Route Corridor</p> <p>— Military Operating Area (MOA)</p> <p>— Railroad</p> <p>— Interstate Highway</p> <p>— US/State Highway</p> <p>— County Highway</p> <p>— Local Road</p>	
<p align="center">TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p align="center">Figure 3.16-3 Region III Major Transportation Network</p> <p align="center">0 10 20 40 Miles 0 10 20 40 km 1:2,000,000</p> <p align="right"> </p>					

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Terminal Siting Area	Airport Within 20 Miles of Project
Node	Military Operating Area (MOA)
DEIS Alternative Routes	Railroad
Applicant Proposed/ Agency Preferred IV-A	Interstate Highway
Alternative IV-B	US/State Highway
Alternative IV-C	County Highway
Alternative Variation or Connector	Local Road
Segment not in this Region	

TRANSWEST EXPRESS TRANSMISSION PROJECT

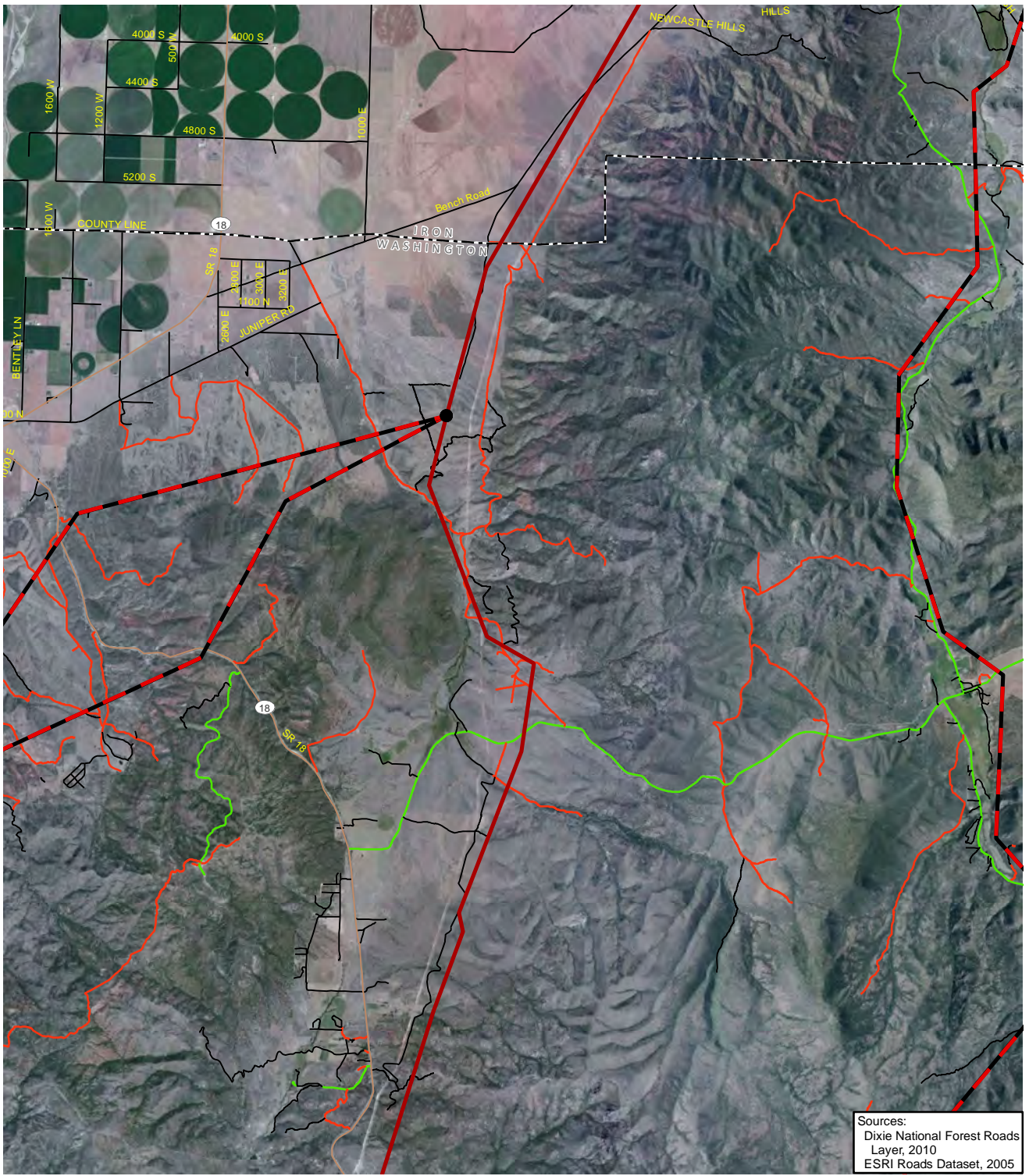
Figure 3.16-4
Region IV
Major Transportation Network

0 2.5 5 10 Miles

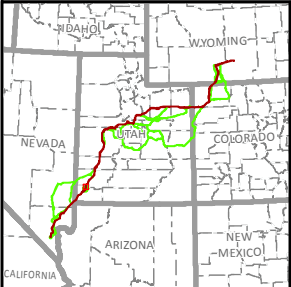
0 2.5 5 10 km

1:500,000

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Sources:
 Dixie National Forest Roads Layer, 2010
 ESRI Roads Dataset, 2005

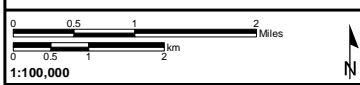


- Node
- DEIS Alternative Routes**
- Applicant Proposed III-A
- Alternative Variation
- Interstate Highway
- US/State Highway
- Local Road/Highway

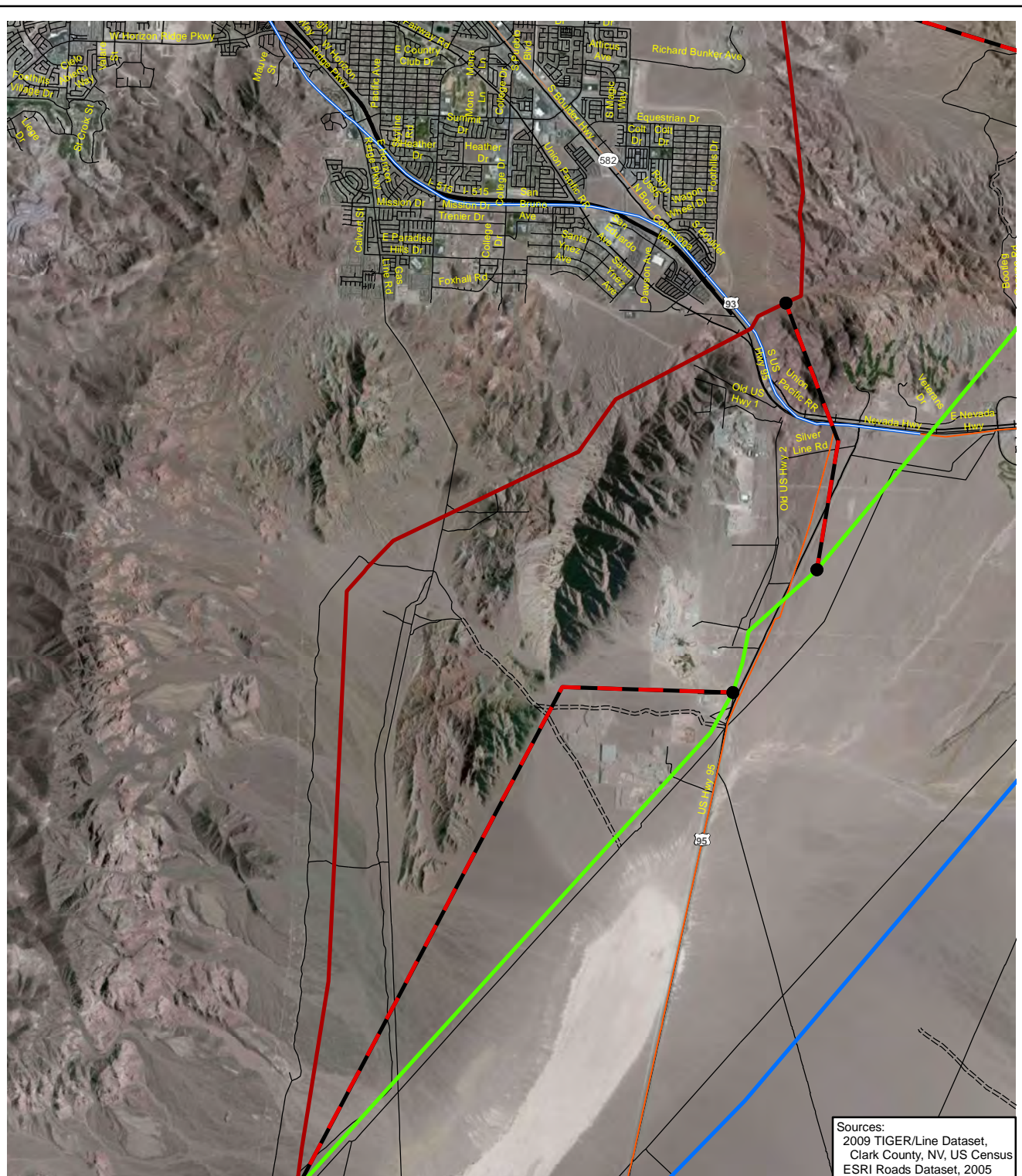
- Dixie NF Road Classification**
- High Clearance Vehicles
- Suitable for Passenger Cars
- Local/Miscellaneous Roads

TRANSWEST EXPRESS TRANSMISSION PROJECT

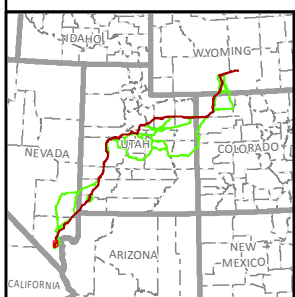
Figure 3.16-5
 Examples of the Local Roadway Network (Backbone Roads) within the Analysis Area



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Sources:
2009 TIGER/Line Dataset,
Clark County, NV, US Census
ESRI Roads Dataset, 2005



- Node
- DEIS Alternative Routes**
- Applicant Proposed/ Agency Preferred IV-A
- Alternative IV-B
- Alternative IV-C
- Alternative Variation or Connector
- Interstate Highway
- US/State Highway
- Local Road/Highway
- TIGER/Line Classifications**
- Primary Road
- Secondary Road
- Local Road
- Vehicular Trail (4WD)
- Railroad

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.16-6
Examples of the Local Roadway Network (Backbone Roads) within the Analysis Area

0 0.5 1 2 Miles

0 0.5 1 2 km

1:100,000

3.16.4 Baseline Description

3.16.4.1 Roads

Roadway Network

The interstate system, U.S. highways, and state highways provide national and state routes through the analysis area for automobiles and trucks. These roads can support high travel speeds and traffic volumes by meeting specific state and federal design standards.

The local roadway networks serving the analysis area provide higher levels of access within the analysis area. Local roads in the analysis area are designed to carry lower volumes at lower speeds than federal and state roads. Some portions of the analysis area have extensive local roadway networks (urban and suburban areas), while other portions of the analysis area have few to no local roads (rural and remote areas). Roadway types located within the analysis area include major and minor arterials and collectors, and unpaved roads.

Local roadway conditions characterize different accessibility and terrain conditions found within the overall Project corridor and can be classified into four categories:

- Urban-Flat;
- Suburban-Rolling;
- Rural-Steep; and
- Remote-Mountainous.

Each condition within the analysis area presents specific and unique transportation and access issues and challenges. For example, issues and challenges associated with developed or relatively flat areas with established roadway networks frequently involve the potential for residential and business access constraints, congestion, and deficient intersection design and operations.

Issues and challenges involving undeveloped areas and/or steeper terrain and unimproved roads are often linked to construction complexity (sharp horizontal and vertical curves), safety features (sight distance and speed control), and maintenance considerations (road and slope stability based on geology, geotechnical factors, and drainage/stormwater control features like culverts and ditches). Unimproved roads present ongoing maintenance requirements for public agencies. Typical maintenance requirements include grading and adding roadbase to smooth travel surfaces. These activities are highly dependent on factors such as use characteristics, slope, and weather conditions. Maintenance requirements can be increased by higher than normal travel volumes and the use of these roads by heavy trucks.

The use of, or modification to, existing roadways and the construction of new roadways require direct interaction with local public agencies responsible for these roadways and adherence to applicable local, state and federal standards and requirements.

Project Roadway Accident Statistics

Each State in the analysis area has its own method of collecting and reporting crash data and statistics. Most DOTs report four types of data: total, property damage only, injury, and fatal crashes. Accident type, factors involved, and driver demographics also may be included. A high level or summary analysis of crash data was performed on individual roadways or county areas to characterize the affected environment of the Project analysis area.

WDOT published the *Wyoming FY2012 Problem Identification* (WDOT 2012). From the report, based on 2008 to 2010 crash information, a highway safety index state ranking system was established. Crash information was reported by county.

CDOT reports crash data based on individual roadways. Data provided by CDOT are plotted on safety performance functions, which are specific to rural or urban, terrain type and number of lanes. The safety performance function consists of the annual average daily traffic (AADT) vs. Accidents per Mile per Year graph containing data points from similar roadway types throughout the state of Colorado. Depending on where the specific roadway data point falls on the graph gives a general indication if the roadway's crash data are within an expected range (CDOT 2005).

UDOT provides crash data by county. There are 13 counties in the analysis area within Utah: Beaver, Carbon, Duchesne, Emery, Grand, Iron, Juab, Millard, Sanpete, Sevier, Uintah, Utah and Wasatch. The *Utah Crash Summary 2010* (Utah State Department of Public Safety 2010) ranks each county on total crash rate per 100 million vehicle miles traveled as well as providing a county-by-county highway safety ranking.

NDOT also provides crash data by county. The analysis area involves two counties, Clark and Lincoln (NDOT 2011).

Accident statistics for unimproved local roadways are not readily available or consistent. Key safety issues often involve vehicles operating at unsafe speeds given road conditions, mixing several vehicle classes (passenger cars, motorcycles, trucks and slow/wide construction vehicles), poor lighting or drainage conditions, and limited sight distance.

Public and Private Access Conditions involving Local Roadways

The local roadway network exists to provide access to public and private property. These roads also connect communities and provide access to natural resources, recreation areas, and utility corridors. Depending on location, access may be available at all times and in other areas, access is limited or prohibited. Private property may be served by public and/or private roads. Public property is primarily served by public roads, but there are some exceptions based on specific agreements (easements) between landowners and land management agencies. Most private roads do not provide public access and may or may not be gated to limit unauthorized travel.

3.16.4.2 Railroads

Roads, railroads, transmission lines, and other uses of utility corridors often follow common parallel alignments, often crossing one another. The use of a common corridor and railroad crossings in general present potential safety issues and risks routinely addressed throughout the country.

3.16.4.3 Airports

Based on proximity of the Project to existing airports, some of these airports and their operations present the potential for safety considerations.

3.16.4.4 Military Airspace Operating Areas

The major military facilities in the analysis area include:

- Nevada Test and Training Range (NTTR);
- Utah Test and Training Range (UTTR); and
- Utah Launch Complex/White Sands Missile Range near Green River, Utah.

The NTTR, affiliated with Nellis Air Force Base (AFB), Creech AFB, and Luke AFB, includes special designations for Low Altitude Tactical Navigation airspace and emergency aircraft evacuation/ejection areas within the analysis area. These designations and related details are set forth in a Letter of Agreement between the U.S. Air Force (USAF) and BLM (USAF-BLM 2005). The details of the Letter of Agreement are presented here: http://www.airspacecoordination.org/coord/nellis_LOA.pdf.

WVEC and other utility corridors pass through the NTTR and the Desert MOA. Refer to **Figures 2-3** and **3.16-3** for the boundaries of the Desert MOA. The flight “altitude floors” are set at 100 feet above-ground level (AGL) within the Desert MOA. However, WVEC Final EIS and RMP utility corridors exist within the surface area boundaries of the Desert MOA.

The NTTR involves almost 3 million acres of land and is a valuable military aviation and economic resource. The NTTR is Air Combat Command’s largest complex with 3 airfields, 2 ranges, and 10 other sites providing 12,000 square nautical miles of airspace (MacNeill 2012). MTR VR-209 passes through the NTTR as shown in **Figure 3.16-3**. Special Operating Procedure (9) states “Caution: Watch for power lines...” The importance of Special Operating Procedure (9) is that military pilots using VR-209 are currently informed about the presence of power lines.

The UTTR, affiliated with Hill AFB, also is in the analysis area. Like the NTTR, the UTTR is a valuable military aviation and economic resource. The Hill AFB Sevier A and C MOA and the Hill AFB Sevier B and D MOA involve routine and low-risk training and testing. The UTTR was designated in 1979 specifically to support cruise missile testing, which is ongoing. The Hill AFB Sevier A and B MOA restrictions address low altitude flights. The flight altitude floors are set at 100 feet AGL within the Hill AFB Sevier A and B MOAs. The UTTR supports approximately 1,200 sorties annually that train in the 100-foot AGL regime. There are few places in U.S. airspace that allow flights to this low altitude other than UTTR and NTTR. The Hill AFB Sevier C and D MOAs occur above the A and B MOAs and address aircraft operations at higher altitudes. However, WVEC Final EIS and RMP utility corridors exist within surface area boundaries of the Hill AFB Sevier MOAs. MTR VR-209 and MTR IR-293 pass through the UTTR as shown in **Figure 3.16-3**. Minimum (flight) altitudes are established to provide at least 100 feet vertical clearance of known man-made obstructions within the route width. Obstructions under 200 feet AGL were not considered in route design.

At Hill AFB, most of the operations require use of air space and training includes a great deal of interaction with ground forces. The UTTR has approximately 13,000 square nautical miles of air space, about half of which is MOA and half is restricted air space (EGS/TWE 2009).

WVEC and other utility corridors pass through the UTTR (see **Figure 2-4** through **2-7** and **Figure 3.16-3**). A moratorium on planning from the 2000 Defense Act states that no planning would occur on public lands under the jurisdiction of the BLM in the State of Utah that are adjacent to or near the UTTR and Dugway Proving Ground or beneath the MOAs, Restricted Areas, and airspace that make up the UTTR. If the alternatives and/or the associated features are proposed on federal lands "adjacent to, near or beneath" an MOA a Resource Management Plan Amendment is required (Ashcroft 2011; BLM 1985).

The moratorium on planning would only apply if an RMP Amendment is required based on a lack of conformance with the existing land use plan. A Project can be sited “adjacent to, near or beneath” a MOA as long as it conforms to the existing RMP.

The Utah Launch Complex/White Sands Missile Range currently is not used for military air space operations. However, the U.S. Department of Defense may use this site in the future for military air space operations or other operations. WVEC Final EIS, RMP, and LRMP utility corridors pass through the northern end of the site (see **Figure 2-4** through **2-7** and **Figure 3.16-2**).

3.16.5 Regional Summary

Table 3.16-1 indicates the major transportation network infrastructure in the analysis area summarized by Project region and includes major roadways, railroads, and airports. **Figures 3.16-1** through **3.16-4** depict the transportation infrastructure by Project region.

Table 3.16-1 Major Transportation Network Infrastructure by Project Regions

Region	Interstate Highways	U.S. Highways	State Highways	Railroads	Airports
I	I-80	30, 40, 191, 287	13, 45, 70, 88, 318, 430, 789	Union Pacific WFUX	Rawlins, Wyoming; Craig, Colorado
II	I-15, I-70	6, 40, 50, 89, 191	10, 24, 28, 35, 64, 87, 89, 125, 132, 135 139, 174, 208, 260	Union Pacific WFUX	Delta, Utah; Price, Utah; Nephi, Utah; Vernal, Utah; Green River, Utah
III	I-15	6, 50, 89, 93, 95, 189	21, 56, 78, 147, 168, 169, 219, 257, 319	Union Pacific	Delta, Utah; Milford, Utah; St. George, Utah; Cedar City, Utah
IV	I-15 I-215 I-515	93, 95	147, 564	Union Pacific	McCarren International, Las Vegas, Nevada

3.16.5.1 Roadways

Roadway Network, Access and Terrain Conditions

The level of road development, public and private property access and topography vary considerably in each of the Project regions. However, regional road network, local access, applicable standards, congestion, and safety conditions are similar within the four regions of the analysis area. Conditions in Region IV generally are more developed resulting in more congestion and safety issues; however, the terrain is less steep than in the other Regions.

Capacity

The Highway Capacity Manual (Transportation Research Board 2010) is used to estimate a volume-to-capacity (v/c) ratio. Volume-to-capacity ratio is the hourly volume (in passenger car equivalent) divided by the hourly capacity of the roadway being analyzed. Operating at or near capacity (depending on the agency) is considered a failure. The key data inputs for estimating a v/c ratio include: hourly traffic volume, number of lanes, terrain type and percentage of trucks.

Peak hour volumes were estimated from the AADT volumes provided by State DOTs and the number of lanes corresponding to the AADT were recorded. In all cases, the terrain type was considered rolling and a traffic volume consisting of 12 percent trucks was assumed. These assumptions generally match analysis area characteristics. State DOTs provided AADT volumes for interstates and state highways. Data were collected from 2009 or later for the major roadways listed previously at or near locations where access may be needed and where crossings may occur. For all major roadways within the analysis area (all states), the volume-to-capacity ratio during the peak hour is estimated to be 0.35 or better (i.e., all roadways are operating at 35 percent of their capacity).

In some locations within the analysis area, past, ongoing and anticipated activities have added, add or would add “unusually” high levels of traffic to a particular local roadway network. This traffic is associated with construction, operation and/or maintenance of various types of industrial projects (pipelines, power transmission lines, telecommunication lines, oil and gas exploration and production,

mining, power generation (coal, solar, and wind), road construction, and resource management activities such as timber harvest, fire suppression and burn area rehabilitation. These activities typically increase travel on the road network during finite construction periods or in some cases for extended periods associated with facility operations or both. This traffic, in combination with baseline traffic levels, can create congestion, safety, and/or road maintenance issues during the overlapping timeframes.

The cumulative impact analysis presented in Chapter 5.0 identifies past, present and reasonably foreseeable projects within the analysis area.

Accident Rate Conditions by State

Accident information is generally compiled and reported by States. The Project regions relate to state boundaries as follows:

Region I	Wyoming, Colorado and Utah
Region II	Colorado and Utah
Region III	Utah and Nevada
Region IV	Nevada

The following information presents accident conditions by State.

Wyoming: The statewide safety index average is 12.0 with 1.0 being the worst rank. Roadway accident statistics for Wyoming indicate that Carbon, Fremont, and Sweetwater counties have a total ranking safety index of 12.60, 6.00, and 10.20, respectively. According to this ranking, Fremont and Sweetwater counties fall below the statewide average and Carbon County is slightly above the statewide average (WDOT 2012).

Colorado: Based on crash information in Colorado provided by CDOT, all roadways in the analysis area are within the expected range, except SH 13 near Craig, Colorado (CDOT 2005).

Utah: Out of the 13 counties analyzed, all rank safer than the statewide average based on crash rate per 100 million vehicle miles traveled except Utah and Duchesne counties. The State of Utah has a second way of evaluating safety using additional criteria. Based on this county highway safety ranking, Duchesne, Wasatch, Uintah, and Utah counties fall below the safety ranking average, meaning the roadways are less safe than the average roadway.

Nevada: Based on data provided by NDOT from 2008 to 2010, Clark County has a higher total crash rate per 100 million vehicle miles traveled than the state average. This is expected since Las Vegas is located in the county and urban crash rates tend to be higher than average. Lincoln County has a lower total crash rate than the statewide average (NDOT 2011).

3.16.5.2 Railroads

More railroad tracks are found in Region IV than in the other regions. Railroad density is the highest in the northwestern portion of Region IV.

3.16.5.3 Airports

Airports are distributed throughout the analysis area, but cluster in the urban area within Region IV. Region I has the fewest airports.

3.16.6 Impacts to Transportation and Access

This section of the EIS describes potential impacts of the alternatives on the national, state, and local transportation networks serving the Project analysis area. The discussion covers impacts on roads, railroads and airports. One primary focus of this analysis is on access road construction requirements and their impacts on transportation and access.

The analysis area for the alternatives and their associated features has two components. The first component is the overall area defined by the national, state and local road and railroad transportation network serving the alternatives. The second component is composed of smaller, more focused areas defined by specific interconnections between the larger road, railroad and airport network and individual transportation facilities and activities that cross or otherwise connect with or relate to the alternatives and their associated features. The smaller areas typically include improved and unimproved routes within the local roadway network, railroads, airports, and controlled airspaces. The roads within this portion of the analysis area are considered the Project “backbone” roads. In general, the overall width of the second component of the analysis area ranges from 2 to 5 miles split evenly from the alignment centerlines. The following discussions address both components of the analysis area.

Key transportation and access impact issues raised in the scoping process included concerns about the following topics:

- Road construction requirements to provide access to the 250-foot-wide transmission line ROW and the features of the associated alternatives; and
- Increased traffic volumes on local roads and related impacts on access, safety, and road maintenance.

Transportation and access concerns in the analysis area and issues addressed in this section of the EIS include:

- Expansions of the local roadway network, trip generation and related impacts on capacity/congestion, travel time, access, and safety;
- Transmission line railroad crossings and related safety issues;
- Transmission line proximity to airports and associated safety issues; and
- Transmission line proximity to military airspace operation areas.

Traditional transportation planning and analysis methods are applied to characterize potential impacts. However, a special programmatic methodology was employed to determine the miles of access road construction requirements and to assess their impacts (see Chapter 2.0 and **Appendix D**).

A programmatic methodology was developed to estimate miles of new access roads, differentiating between required access roads both inside and outside the 2-mile transmission line corridor. In addition, four terrain types (flat, rolling, steep, and mountainous) were considered to determine different road improvement needs along the routes. The methodology used the results obtained from the 18 example segments and the slope of the 250-foot-wide transmission line ROW to estimate miles of new access roads required for every transmission line segment. The segment totals were then aggregated to create a total number of access road miles needed for each alternative in each Region. Access road miles along with other metrics were used to make comparisons between the alternatives. This programmatic methodology and the results were reviewed and approved by the EIS Project team for use in the Draft EIS analysis.

Route-specific Road Access Plans would be developed for the Agency Preferred Alternative once the Agency Preferred Alternative is determined (TWE-6). Each Road Access Plan would be composed of a map defining the 250-foot-wide transmission line ROW, structures (towers) and right of way, and the requirements of the backbone access network (roadway routes to the transmission line). The backbone access network requirements would define existing routes that do not require improvements, existing routes that require improvements, and new routes to be constructed. The surface type (gravel, paved or other) and terrain type (flat, rolling, steep and mountainous) also would be defined. The overall set of Road Access Plans for the Agency Preferred Alternative would be used to refine the impacts analysis for the Agency Preferred Alternative and to define location-specific mitigation measures, as needed. Public agencies responsible for roads within the backbone access network would use the Road Access Plan to develop appropriate conditions for use of each road during their individual permit review processes.

West Wide Energy Corridor Final Programmatic EIS Best Management Practices (TRAN-1, TRAN-2, TRAN-3, and TRAN-4 from **Appendix C**) supplement the Road Access Plan development process:

TRAN-1: The applicant shall prepare an access road siting and management plan that incorporates relevant agency standards regarding road design, construction, maintenance, and decommissioning. Corridors would be closed to public access unless determined by the appropriate federal land manager to be managed as part of an existing travel and transportation network in a land use plan or subsequent travel management plan(s).

TRAN-2: The applicant shall prepare a comprehensive transportation plan for the transport of transmission tower or pipeline components, main assembly cranes, and other large equipment. The plan should address specific sizes, weights, origin, destination, and unique equipment handling requirements. The plan should evaluate alternative transportation routes and should comply with state regulations and all necessary permitting requirements. The plan should address site access roads and eliminate hazards from truck traffic or impacts to normal traffic flow. The plan should include measures such as informational signage and traffic controls that may be necessary during construction or maintenance of facilities.

TRAN-3: Applicants shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) should be identified and addressed in the traffic management plan.

TRAN-4: Additional access roads needed for decommissioning shall follow the paths of access roads established during construction to the greatest extent possible; all access roads not required for the continued operation and maintenance of other energy systems present in the corridor shall be removed and their footprints reclaimed and restored.

In addition, BMPs dealing directly with process requirements (compliance with applicable laws, regulations, agency stipulations, and the requirements of the ROD) and specific impact issues further supplement the Road Access Plan development process (see **Appendix C**). Examples of BMPs directly related to transportation and access issues include:

All new roads would be designed and constructed to a safe and appropriate standard, “no higher than necessary” to accommodate intended vehicular use. Roads would follow the contour of the land where practical.

Construction would be scheduled for slower times of visitation during the week and slower seasons to minimize the impacts of construction traffic on public access.

Newly permitted routes would be obliterated and/or returned to their original condition when they no longer serve their permitted purpose or public interest.

The alternative requiring the most miles of road construction would have the most impact on the roadway network by improving and extending the network and resulting road access, along with creating new permanent disturbance. In addition, this alternative would require the highest level of new road maintenance and would increase safety and access impacts, especially in areas with steep and mountainous terrain.

The analysis applies miles of roadway building as a comparative metric along with other metrics such as:

- Roadway capacity relative to anticipated vehicle trip generation;
- Proportion of public vs. private land crossed by the transmission line;
- Number of major road crossings;
- Number of railroad crossings;
- Proximity to airport flight patterns; and
- Proximity to military airspace operating areas.

The expansion of the roadway network for Project purposes increases the transportation network with associated impacts on resources such as vegetation, soils, water quality, and wildlife habitats. Impacts to other resources from access road construction are discussed in the respective resource sections of this chapter. Impacts from Project development on the existing transportation network are addressed in this section of the EIS.

Table 3.16-2 presents a summary of resource topics, analysis considerations, and relevant assumptions.

Table 3.16-2 Relevant Analysis Considerations for Transportation and Access

Resource Topic	Analysis Considerations and Relevant Assumptions ¹
Road Construction: Enhancements to the Local Roadway Network	Analyze road construction requirements using a special methodology that defines miles of new road by terrain type to establish local roadway network enhancements. Major assumptions include road improvements expand the existing roadway network and improve travel conditions after completion; Road Access Plans would be developed for the Agency Preferred Alternative; and road improvements would comply with applicable design and construction standards and permit requirements (refer to TRAN-1, TRAN-2, TRAN-3, and TRAN-4). Additional technical assumptions also were used to derive anticipated access road miles.
Road Safety	Evaluate road safety in relation to additional miles of new roads and road use involving terrain types, especially steep and mountainous. The major assumption involves linking slow moving vehicles and vehicles traveling on steep and mountainous roads with limited sight distance and other factors to characterize overall potential safety risks.
Road Maintenance and Load Limits	Evaluate road maintenance in relation to addition of miles of steep and mountainous roads and road use estimates by Project vehicles. The major assumption is that new road miles, especially steep and mountainous roads and trip generation, coupled with an evaluation of existing load limits, are reasonable metrics for assessing potential future road maintenance requirements.

Table 3.16-2 Relevant Analysis Considerations for Transportation and Access

Resource Topic	Analysis Considerations and Relevant Assumptions ¹
Trip Generation, Roadway Capacity and Congestion	Analyze construction, operation, maintenance, and decommissioning of the proposed alternatives and associated facilities in terms of maximum daily trip generation. Major assumptions used in the analysis are construction descriptions and schedules presented by the Project proponent.
Access	Evaluate the potential for public and private property access disruption due to roadway construction. It is assumed that the relative impacts on public and private access are characterized by evaluating the proportion of public and private land traversed by the transmission lines. Issues associated with restricted access are addressed in Sections 3.13, Recreation Resources, and 3.14, Land Use.
Transmission Line Installation over Major Roads and Railroads	Determine the number of major roadway (e.g., interstate highways, U.S. highways, state highways) and railroad track crossings to assess the overall potential for travel delays. It is assumed that temporary traffic delays and/or detours may occur when materials, equipment, and transmission lines are installed over these travel corridors.
Airport and Related Military Airspace Operation Area Conflicts	Determine the number of airports and controlled airspace areas within 5 miles of the alternatives and associated facilities to assess the relative air navigation hazard impacts by alternative. It is assumed that transmission towers and conductors within 5 miles of an airport or designated air space area may increase air navigation hazards during and after construction and that the addition of tower and conductors within Military Airspace Operating Areas outside of existing utility corridors present substantial conflicts.

¹ **Appendix C** identifies design features (proponent commitments) to decrease impacts, and RMP stipulations, specific to each BLM Field Office or Forest Service Forest, to avoid or decrease Project impacts (Refer to TRAN-1 through TRAN-8, and others).

Trip generation rates were developed for the construction, operation, and decommissioning phases of the Project. The TWE PDTR included a 2.5-year construction schedule and workforce information for the overall transmission line and individual tasks to complete the Project. Each task was given an approximate duration, sequence, and workforce needed, in terms of people and vehicles/equipment. The estimates were reported for a typical 20-mile section of transmission line.

The duration of transmission line construction activities involving any given parcel of land may extend up to 1 year, although the total amount of time of actual construction activity would be much shorter, in the range of a few months. Over any particular section of the route, transmission line construction would be characterized by short periods (ranging from 1 day to 1 to 2 weeks) of relatively intense activity interspersed with periods with no activity. Typical work days would be Monday through Saturday, 7am to 7pm.

Based on this information and a conservative approach, daily trip generation rates were estimated for specific construction locations that would change as progress is achieved along individual transmission line segments. It was estimated that the maximum daily trips generated from construction of the Project on a given day would be from 200 to 250 trips. These trips would vary in terms of vehicle type (automobile, small truck, large truck, and transport vehicles for 30-ton cranes).

The construction period daily trips would be distributed over 12 hours (7am to 7pm) with higher trip generation rates between 7am and 9am and 4pm to 6pm. Approximately 20 percent of the daily construction trips would be expected to occur during a 1-hour peak period. Assuming all morning and afternoon peak trips would be inbound and outbound, respectively, the total number of trips per hour would be about 50 or less than one vehicle every minute.

This conservative analysis assumes all trips would be on one road headed to one specific location along the transmission line. Under more likely conditions, these trips would be distributed to multiple

destinations over more than one access road. Also, trip generation would be considerably lower from 9am to 4pm. Many inbound vehicles would arrive and then remain on-site during the construction period and would not be outbound until construction in their location is completed.

Given these conditions, congestion would be rare, but possible where other trip generating projects or other local conditions have substantially increased travel volumes near Project-related transmission line construction. Traffic from various kinds of development (pipelines, other power transmission lines, telecommunication lines, oil and gas exploration and production, mining, power generation (coal, solar and wind), road construction, and resource management activities such as timber harvest, fire suppression and burn area rehabilitation) occurring at the same time as transmission line activities could lead to congestion, safety issues and increased maintenance requirements.

Trip generation from the operations and maintenance phase would be substantially less than the construction phase. The types of vehicles used for inspection include helicopters and 4x4 trucks and ATVs. When inspections deem repair is needed, vehicle types would vary based on actual conditions, but would be similar to the vehicle mix assumed during the construction phase.

The decommissioning phase of the Project would be similar to the construction phase. Maximum daily trip generation would range from 200 to 250 trips. Peak hour trip generation would range from 40 to 50 vehicles per hour (see **Table 3.16-3**).

Table 3.16-3 Estimated Trip Generation Relative to Roadway Capacity within the Existing Backbone Roadway Network

Roadway Type	Total Hourly Capacity	Project-related Trip Generation Percent of Total Hourly Capacity (Estimated 50 One-Way Peak Hour Trips)
Class II Highway Speed Limit: 55 mph	1750 875 in each direction	3
Local Arterial (Paved) Speed Limit: 25 - 35 mph	780 390 in each direction	6
Two Lane Gravel Road (Good Condition)	700 – 1000 350 to 500 in each direction	5 to 7
Two Lane Gravel Road (Poor to Fair Condition)	500 – 699 250 to 350 in each direction	7 - 10
Unimproved Road (Unsuitable for TransWest Construction Vehicles)	100 – 500 50 - 200 in each direction	N/A

A similar conservative approach was taken to estimate the daily trip generation rates for the construction of the Northern and Southern terminals. A draft construction schedule was broken into tasks detailing anticipated duration, employees, and vehicles required per task. Based on the construction schedule, estimated trip generation by the construction of the Northern or Southern terminals would be 400 to 450 trips per day. This assumes that every vehicle needed for a particular task enters and exits the site every day. However, it is more logical that certain vehicles would arrive when needed and be left on site until their specific duty is completed. Using this more conservative approach, it is estimated that the trips generated by the construction of the Northern or Southern terminals would be 220 to 270 trips per day.

Table 3.16-3 places the anticipated trip generation rates in perspective relative to the capacity of various roadway types within the existing backbone roadway network.

Based on the data in **Table 3.16-3**, the incremental impact of the peak hour traffic is minor on roads suitable for the anticipated Project-related vehicles and additional work is needed on key capacity issues required to improve roads that are inadequate. Five primary variables contribute to unimproved roadway adequacy:

- 1) Surface type;
- 2) Drainage;
- 3) Road width;
- 4) Width of clear zone; and
- 5) Road alignment rating (comfortable travel speed).

As described previously, route-specific road access plans would be developed for the Agency Preferred Alternative once it is determined. These plans would make determinations about roadway adequacy and the need for road improvements. These determinations would be checked by public agencies responsible for roads within the backbone access network. Adjustments would be made, as needed, prior to approval and corresponding mitigation would be developed for implementation during the construction and operational phases of the Project. These adjustments would include the possibility that some roadways have unusual background traffic levels from ongoing industrial or other activities and/or the possibility that another project could occur in the same place and at the same time as the TransWest Project. In these situations, the local permit process would address the Project's incremental impacts along with the added impacts of the other actions.

3.16.6.1 Impacts from Terminal Construction, Operation, and Decommissioning

The Northern and Southern Terminals are proposed within general siting areas, but the specific locations have not been finalized. Road Access Plans (TWE-6) and Access Road Siting and Management Plans (TRAN-1) and other details (TRAN-2) serving these facilities are not available at this time and the special methodology assumptions involving access requirements by terrain type have not been developed. Road Access Plans, Access Road Siting and Management Plans, and site details would be prepared and analyzed for these sites and the Agency Preferred Alternative once the sites are determined. Consequently, transportation and access impacts for the terminal sites are described in general terms.

The Northern and Southern terminals would be expected to generate approximately 220 to 270 vehicle trips per day during the construction and decommissioning phases of the Project. Far fewer trips per day would be expected during the operation and maintenance phase at these locations. Based on anticipated trip generation rates, trip distribution and site conditions, transportation and access impacts are anticipated to be similar at either site. Transportation and access-related design features (TWE-6), as well as incorporation of agency BMPs (TRAN-1, TRAN-2, and TRAN-3), would minimize potential impacts. The following discussions characterize transportation and access conditions at each terminal location.

Northern Terminal

The Northern Terminal is located about 2 miles from an east/west Union Pacific railroad line that generally follows I-80 and State Route 76. Access to the Northern Terminal site and the transmission line alignments leading to and from the terminal site is available via existing I-80 interchanges and State Highway 76 intersections. A road network connected to these interchanges and intersections exists, but it is incomplete in terms of access to the terminal site. The road network is composed of public and private gravel roads. Access to the transmission line alignment and terminal site could be achieved with extensions to the existing roadway network. The use of existing private roadways would be advantageous and any necessary new roads would be designed and specified for the Agency Preferred Alternative in the Road Access Plans (TWE-6) and Access Road Site and Management

Plans (TRAN-1). Additional road maintenance would be expected from new road construction and from use of local roadways and would be implemented as specified in the Road Access Plans (TWE 6) and Access Road Site and Management Plans (TRAN-1). New connections to the I-80, State Route 76, and railroad crossings appear to be unnecessary or avoidable. The nearest airport to the northern site, Rawlins Municipal Airport, is about 5 miles away. Any potential impacts of terminal construction on air traffic would be minimized by adherence to applicant design features (TWE-55) and agency BMPs (GEN-9, AC-1, AC-4, and PHS-3).

Summary: After considering design features, agency BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. No substantial safety impacts would be expected. Access impacts would be temporary and minor. No impacts on airports or airspace operations are anticipated based on facility features and the distance to the nearest airport operations.

Southern Terminal

The Southern Terminal is located in an area currently served by U.S. Highway 95. Access to the southern terminal site, or alternative terminal site, and the transmission line alignments leading to and from the terminal site is available via one primary intersection. A road network is connected to this intersection, but it is incomplete in terms of access to the terminal site. The road network is composed of public and private paved and gravel roads. Access to the transmission line alignment and terminal site could be achieved with extensions to the existing roadway network. The use of existing private roadways would be advantageous and any necessary new roads would be designed and specified for the Agency Preferred Alternative in the Road Access Plans (TWE-6) and Access Road Site and Management Plans (TRAN-1). Additional road maintenance would be expected from new road construction and from use of local roadways and would be implemented as specified in the Road Access Plans (TWE 6) and Access Road Site and Management Plans (TRAN-1). No railroads are located in the vicinity. The nearest airport to the southern site, Boulder City Municipal, is 12 miles away.

With Design Option 2, the southern converter station would be located at IPP and there would be a series compensation station between IPP and Las Vegas. This would change construction requirements, but the transportation and access impacts from the Southern Terminal with Design Option 2 would be similar to those described for the alternatives. Design Option 2 would shift the location of trip generation from various facilities associated with the alternatives to new locations. This shift is not expected to create substantive effects that were not described for the alternatives. No substantial differences in transportation and access effects would be expected during the operation and decommissioning phases of the Project.

With Design Option 3, an additional substation would be built near IPP. No substantive transportation and access impacts would be anticipated from this substation site.

Summary: After considering design features, agency BMPs and other project approval requirements listed above and under the Northern Terminal, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. No substantial safety impacts would be expected. Access impacts would be temporary and minor. No impacts on airports or airspace operations are anticipated based on facility features and the distance to the nearest airport operations.

As part of the Construction, Operations and Maintenance (COM) Plan, an Access Road Plan would be developed for the Northern and Southern terminals during final engineering and design to define site-specific access to each structure and temporary work area. The plans would incorporate relevant local, state, and federal agency standards regarding road design, construction, maintenance, and decommissioning. The Road Access Plan would incorporate best management practices and specific

approval conditions stipulated by the agencies in their respective decision documents and permits and a variety of design commitments to avoid and minimize impacts. Specific approval conditions would vary and would likely address local road surface and use conditions.

The construction activities, workforce and equipment requirements for the 20-mile transmission line construction units would be very similar or the same for the design options as described for the alternatives.

Design Option 2 – DC from Wyoming to IPP; AC from IPP to Market Place Hub

Design Option 2 primarily involves modified transmission line facilities, the southern converter station would be located at IPP and there would be a series compensation station between IPP and Las Vegas. This would change construction requirements, but the transportation and access impacts from Design Option 2 would be similar to those described for the alternatives. Design Option 2 would shift the location of trip generation from various facilities associated with the alternatives to new locations. This shift is not expected to create substantive impacts that were not described for the alternatives. No substantial differences in transportation and access impacts would be expected during the operation and decommissioning phases of the Project.

Design Option 3 – Phased Build Out

Design Option 3 is similar to the alternatives, except the Project would be built and operated in phases, with more components located at the IPP station. Consequently, this option primarily changes the construction schedule to allow a phased build out. The previously described transportation and access impacts would occur over a more extended period of time. The transportation and access impacts from Design Option 3 would be similar to those described for the Alternatives but the impacts would be distributed over the phased construction sequence. Design Option 3 would shift the location of trip generation from various facilities associated with the alternatives to new locations. This shift is not expected to create substantive impacts that were not described for the alternatives. No new transportation and access impacts would be created by extended and phased construction periods. No substantial differences in transportation and access impacts would be expected during the operation and decommissioning phases of the Project.

3.16.6.2 Impacts Common to all Alternative Routes and Associated Components

The following discussions provide an overview of important potential transportation and access impacts that could be caused by the transmission line alternatives. Sections 3.16.6.3 through 3.16.6.6 provide comparative analyses for the impacts within Regions I through IV.

Construction Impacts

Road Construction: Enhancements to the Local Roadway Network

Road extensions, widening and other improvements would increase the size and improve the quality of the local roadway network. These impacts on the local roadway network are characterized by total roadway miles by Alternative. Road Access Plans (TWE-6) and Access Road Site and Management Plans (TRAN-1) would be developed for the Agency Preferred Alternative during final engineering and design. The Road Access Plans would define site-specific access to each structure and temporary work area and which road improvements would be permanent versus temporary. For the purpose of the Draft EIS, access road miles and disturbances are estimated for access roads within the corridor as described in Chapter 2.0 and **Appendix D**. Roadless area construction methods are described in **Appendix B**, Section 3.5.7.3, Roadless Construction Methods.

The COM Plan would incorporate environmental measures, stipulated in the lead agencies' RODs; provide information on the TWE Project design, construction, operation, and maintenance practices; and specify the environmental mitigation measures to be used and implemented by contractors and

personnel. The TWE Project would be planned, constructed, operated, and decommissioned in accordance with the agencies' RODs, the BLM's ROW Grant stipulations, USFS Special Use Permit stipulations, and requirements of other permitting agencies. The COM Plan would include a mitigation monitoring plan to address how each mitigation measure, required by permitting agencies in their respective decision documents and permits, would be monitored for compliance.

The COM Plan would include a specific Road Access Plan that incorporates relevant agency standards regarding road design, construction, maintenance, and decommissioning. The Road Access Plan would incorporate best management practices, stipulated by the agencies in their respective decision documents and permits.

Construction of new access roads would be required only as necessary to access structure sites lacking direct access from existing roads, or where topographic conditions (e.g., steep terrain, rocky outcrops, and drainages) prohibit safe overland access to the site on unpaved roads. Where terrain and soil conditions are suitable, non-graded overland access ("drive & crush") would be utilized. New access roads would be located within the 250-foot-wide transmission line ROW whenever practical and would be sited to minimize potential environmental impacts.

Site-specific improvement requirements would be specified, approved, and implemented. Roads damaged by construction vehicles would be returned to pre-construction condition, as specified by applicable agencies.

With respect to the potential environmental impacts that would be caused by road construction, the existing design features (proponent commitments) include a wide range of measures developed to avoid or decrease environmental impacts from road construction and use. Details are provided in **Appendix C**.

Summary: Impacts to the local roadway network would occur from new road construction and roadway improvements.

Road Safety

Road construction and installation of transmission lines would add vehicle travel to the roadway network and could introduce travel obstructions on local roads creating potential safety issues. No hazardous or unsafe conditions would be expected for motorists and pedestrians given compliance with design features (TWE-5, TWE-6, TWE-9, and TWE-12), agency BMPs (TRAN-1, TRAN-2, TRAN-3, and PHS-3), applicable design and operational standards, regulations, laws and permit requirements.

Construction involving narrow roads with horizontal and vertical curves and the presence of large, slow moving trucks also creates potential safety issues, especially where construction vehicles travel along routes used by others. Even though access roads serving the 250-foot-wide transmission line ROW would be designed to meet road safety standards, travel on them is likely to generate safety issues because sharp horizontal and vertical curves limit sight distance and generate the potential for excessive speeds and longer stopping distances on steep segments. The potential for safety issues is higher for large trucks, trucks with heavy loads and trucks being driven by drivers who may be unfamiliar with road conditions. Adherence to design features (TWE-5, TWE-6, TWE-9, and TWE-12) and agency BMPs (TRAN-1, TRAN-2, TRAN-3, and PHS-3) would minimize any potential safety issues.

Summary: After considering design features, BMPs, and other project approval requirements, the following conclusion can be made. Minor and temporary safety issues would be created, but no hazardous or unsafe conditions would be created.

Road Maintenance and Load Limits

Construction activity would have impacts on upgraded roads, but increased traffic and travel on these roads by heavy vehicles would contribute to local roadway degradation resulting in the need for additional road maintenance. The weight of heavy equipment and transmission structures being transported to and from construction areas may exceed the load limits specified for some roads in the analysis area. TWE would have to obtain permits from state, county, and local roadway authorities to transport heavy equipment and transmission structures. Road maintenance agreements with the applicable roadway authorities also may be required. The agreements would address the potential for:

- Road damage and corresponding liability for damage and repairs;
- Compliance failures following completion of the Road Access Plans and local permitting processes; and
- Compliance monitoring, including the need for third party monitors paid for by the Project proponent, with the third party reporting to BLM and other agencies.

Maintenance requirements for new steep and mountainous access roadways would be higher due to the higher potential for erosion and road damage during wet or icy conditions. These conditions could lead to rockfall and rutting of the travel surface. Road repair also would be more difficult and costly under these conditions, compared to routine repair on rolling and flat roads. Implementation of design features (TWE-5, TWE-6) and agency BMPs (TRAN-1 and TRAN-2) would address the need for and assure completion of required road maintenance.

Summary: After considering design features, agency BMPs, and other project approval requirements, overall impacts on road maintenance would be minor in flat and rolling terrain and moderate in steep and mountainous terrain.

Capacity and Congestion

Project construction would create minor and incidental increases in local traffic, but is not expected to create substantial congestion for extended periods. Anticipated traffic would not exceed level of service standards established by the local governments or state transportation agencies. This occurs primarily because of high existing levels of service on the local roadway network (low volumes relative to available capacity) and the relatively broad distribution of construction traffic throughout the day and within the roadway network.

Incidental congestion and delay would be expected from the following:

- Slow moving trucks and construction vehicles;
- Vehicle turning movements where construction occurs near and parallel to roadways; and
- Travel delays and detours associated with transmission line installation in some locations.

Temporary travel delays involving major roads (Interstate Highways, U.S. highways, and state highways) and railroads may occur for line installation at crossings. Shorter duration delays or no delays are anticipated where lines cross narrower roads with lower traffic volumes.

Design features (TWE-5 and TWE-6), as well as the following construction processes are included in the Project POD to address impacts from lines crossing roads and railroads during construction.

- For protection of the public during wire installation, guard structures would be erected over highways, railroads, power lines, structures, and other barriers. Guard structures would consist of H-frame wood poles placed on either side of the barriers or by using boom trucks

raising a guard cross beam. These structures would prevent ground wires, conductors, or equipment from falling across obstacles.

- Equipment for erecting guard structures would include augers, backhoes, line trucks, boom trucks, pole trailers, and cranes. Guard structures may not be required for small roads. In such cases, other safety measures such as barriers, flagmen, or other traffic controls would be used. Following stringing and tensioning of all ground wires and conductors, the guard structures would be removed and the area restored. Pilot lines would be pulled (strung) from tower to tower by either a helicopter or land operated equipment, and threaded through.
- The proposed line crossings would be coordinated with the appropriate entity and TWE would obtain all required licenses, permits, or agreements.

Agencies providing approvals for road construction would define best management practices and adherence to agency BMPs (PHS-5, PHS-6, TRAN-2, and TRAN-3), ensure traveler safety, provide for emergency response vehicle access through construction areas, and minimize delays.

The following discussion provides additional detail to clarify the extent and magnitude of potential delays and related measures to minimize safety risks and travel delays for motorists.

Interruption of road traffic is not anticipated during conductor stringing and tensioning activities unless required under the terms and conditions of a specific road or highway crossing permit. As described in Section 3.5.2.5 of the PDTR (**Appendix D**), pilot lines would be pulled from tower to tower by either a helicopter (most commonly) or land operated equipment. The use of a helicopter to pull the pilot lines is commonly used so that impacts to road traffic are minimized or avoided. For safety and efficiency reasons, conductor stringing and tensioning activities are typically performed during daylight hours and are scheduled to coincide to the extent practical with periods of least road traffic in order to minimize traffic disruptions.

For public protection during stringing activities, temporary guard structures would be erected at road crossing locations, where necessary. As described in the PDTR, these temporary guard structures would be placed on either side of the road to prevent shield wire, conductors, or equipment from falling on underlying facilities and disrupting traffic. Typically, guard structures are installed just outside of the road ROW. Although the preference is for access to each of these guard structure locations to be located outside of the road ROW, it may be necessary for the access to be within the road ROW depending upon topography and access restrictions imposed by the regulatory agencies (i.e., State DOTs, county road and bridge departments, etc.). Access use within road ROWs would be performed in compliance with the stipulations of road crossing permits and regulatory agency requirements.

Site-specific road crossing locations with excessive widths (generally greater than 200 to 300 feet), such as those at interstate highways, would require installation of temporary guard structures in medians between opposite traffic flow lanes. Although TWE does not currently anticipate needing guard structures in medians, as final engineering design progresses, locations requiring center median guard structures may be identified. The erection and dismantling of these temporary guard structures may require traffic diversions. These traffic diversions, which may last from a few hours to a day, involve closure of the shoulder of the road or, in more congested locations, might consist of the closure of one lane of traffic. Complete closure of one direction of traffic is not anticipated. Temporary traffic diversion signs, signals, markers, barriers and traffic control personnel, if required by the state DOT, would be employed. These activities would be coordinated with the appropriate state DOTs. Traffic disruptions would be kept to a minimum and TWE would comply with crossing permit requirements, which typically limit durations of traffic interruptions.

In urban locations or for extremely high volume roadways (such as interstate highways), the state DOTs may require the installation of protective steel netting above the roadway for the duration of conductor stringing and tensioning operations (generally a few days to 2 to 3 weeks). The installation

of this protective steel netting requires a brief closure of the roadway (generally a few minutes to 15 to 20 minutes) while the netting is pulled across the roadway and hoisted onto the temporary support structures. This process is repeated when the netting is removed. Because of the heavy traffic volume and the impact of stopping traffic, these nettings are typically installed during the lowest traffic period (normally 3am to 5am on a Sunday morning) per the requirements of the state DOTs. Although not anticipated, any traffic stoppage would employ all appropriate state DOT traffic safety requirements (signage, flagmen, lighting, signals, temporary barriers, law enforcement, etc.).

The delivery of large pieces of equipment or material as part of the construction process may slow or interrupt traffic on state or county roads on an intermittent basis. The durations of these types of traffic disruptions are typically very short, a few minutes or less, while the delivery truck passes down a roadway or turns a corner. The limited number of large pieces of equipment or materials that are delivered to any one portion of the Project tends to make traffic disruptions infrequent and generally unnoticeable by the motoring public.

Summary: After considering design features, agency BMPs, and other project approval requirements, the following conclusion can be made. The Project may create minor delays during installation of lines over major roadways. Incidental travel time delays are not expected to influence emergency response times substantially and would not substantially inconvenience travelers using the roadway network.

Road Access

Road construction may require incidental road closures and/or detours that temporarily create access difficulties and/or restrictions that limit access to public and private property, but adherence to design features (TWE-6) and agency BMPs (TRAN-1, TRAN-2, and TRAN-3) would help to limit and plan for the closures. Access restrictions such as those associated with roadless areas and areas with seasonal access limits are addressed in Section 3.13, Recreation Resources, and Section 3.14, Land Use.

Increased access and improved travel conditions would result from roadway network improvements as construction proceeds. This would incrementally improve emergency response times and provide access to previously inaccessible areas; however, increased access would enhance the potential for unauthorized road and trail network expansions (Section 3.13, Recreation Resources, and Section 3.14, Land Use). Increased access could lead to unplanned and prohibited access. These issues are addressed as a potential recreation impact in Section 3.13, Recreation Resources.

Summary: After considering design features, agency BMPs, and other project approval requirements, the Project would create minor access difficulties and/or restrictions that may temporarily limit access to public and private property.

Railroad Crossings

Road and transmission line construction involving railroad crossings is common. The use of existing at grade road/railroad crossings and adding new railroad/transmission line crossings create potential safety issues. As a result, a wide range of procedures and construction practices aimed at minimizing construction and post-construction impacts on motorists, railroad operations, and transmission line operations have been developed and are implemented as Project requirements. These measures focus on safety and specify design standards that must be met before construction begins. They also include construction period protocol and post-construction practices to follow to avoid vehicle, railroad, and transmission line conflicts.

Railroad crossing operations and procedures are controlled by and permitted through the railroad company operating the rail line. Terms and conditions to be followed are specified in the crossing permit. Typically, stoppage of railroad traffic is not required during construction or conductor stringing and tensioning activities. Crossing activities are similar to those for road crossings as described in the

PDTR and typically involve the use of guard structures. Stringing and tensioning activities would be performed in coordination with the appropriate railroad authorities. For safety and efficiency, stringing and tensioning activities are performed during daylight periods and scheduled to coincide with times of least railroad traffic. The railroad would typically provide a switchman who is present at all times when work is being performed near or over any railroad line.

Summary: The Project may create minor railroad operation and safety issues during installation of lines over railroad tracks, but implementation of the design features and agency BMPs discussed above under “*Capacity and Congestion*” would help to minimize those issues.

Airport and Airspace Proximity

Transmission line towers and lines are a navigation issue and become a hazard if they are located too close to airport operations or military airspace operating areas. Transmission line construction in the vicinity of an airport presents the potential for new flight safety issues. The key determinant for an effect is proximity between flight paths and transmission line locations and heights (see Section 3.16.4.4, Military Airspace Operating Areas) and compliance with applicable requirements. The TWE Project would be designed to comply with FAA regulations, including lighting regulations, to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips. In addition, coordination with military areas is required to avoid conflicts.

Summary: The Project may create operation and safety issues near airports and may create unresolved conflicts in military airspace operating areas, but incorporation of TWE design features (TWE-55) and implementation of agency BMPs (GEN-9, AC-1, AC-4, and PHS-3) are expected to lessen the extent of the safety issues to permissible levels. If not, it is currently assumed that any routes with irresolvable issues related to airports or airspace would require additional mitigation to be applied, including the possibility of suggested reroutes.

Operational Impacts

Incidental and minor safety impacts could occur in relation to slow moving Project vehicles on steep roads with limited sight distance destined for the transmission lines and related facilities, but the travel volumes would be far lower and more distributed over time than those associated with the construction phase. Impacts on maintenance requirements would be negligible. These impacts would be associated with normal travel to and from the transmission lines for inspections and repairs.

Based on the number of trips generated during the operational period and their distribution within the roadway network, substantial capacity and congestion impacts are not anticipated. Incidental congestion and delay would be expected from the following:

- Slow moving trucks and service vehicles; and
- Vehicle turning movements where activities occur near and parallel to roadways.

Incidental travel time delays are not expected to substantially influence emergency response times or local travel.

Access roads not required for facility operation and maintenance would be closed or closed and reclaimed/restored. Permanent roads built for the Project on NFS lands and BLM administered lands also would be closed to the public if determined necessary by the local land management agency. Signs would indicate the restriction or regulation, location, penalty for violation, and appropriate contact information for reporting violations. These signs would be maintained and replaced as part of the routine maintenance. The proponent would monitor permanent roads on NFS land and BLM-administered lands yearly, and the applicable land-managing agency would be provided with annual

monitoring reports. Roads would be maintained as required by applicable Special Use Permits or BLM ROW grants.

Railroad impacts would involve infrequent crossings by construction vehicles and occasional inspections and repairs in the vicinity of railroad tracks. Impacts to railroad operations could occur if a repair is needed over an active track, but this would be rare.

Impacts on airports would not change during the operational phase.

Summary: Operational phase transportation and access impacts would be similar to construction phase impacts, but the magnitude of those impacts would be less and minor.

Decommissioning Impacts

Impacts during decommissioning would be similar to those anticipated during construction. Implementation of agency BMP MIT-3, which requires that all control and mitigation measures established for the Project in the POD and other required plans must be incorporated into a decommissioning plan that would be approved by the federal land managers, would assure minimization of impacts. For access roads serving the transmission line, the Applicant is responsible for the decommissioning and reclamation of access roads following abandonment in accordance with the landowner's or land agency's direction. Roadway reclamation would reduce motor vehicle access and return the transportation network back to pre-construction conditions. Temporary access roads may be left intact through mutual agreement of the appropriate local, state and federal road and land management agencies, landowners, the tenants, and Project proponents. Removal of transmission line towers and lines would eliminate navigation hazards.

Summary: After considering design features, agency BMPs, and other project approval requirements, decommissioning impacts would be similar to those identified for the construction phase, above. Some impacts would occur after removal of the transmission lines.

3.16.6.3 Region I

Table 3.16-4 provides a tabulation of impacts associated with the alternative routes in Region I.

Table 3.16-4 Summary of Region I Alternative Route Impact Parameters

Parameter	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
New Permanent Access Roads: Miles (Flat)	67	102	79	136
New Permanent Access Roads: Miles (Rolling)	94	82	123	65
New Permanent Access Roads: Miles (Steep)	63	39	67	41
New Permanent Access Roads: Miles (Mountainous)	3	0	0	0
Total Miles of New Permanent Access Roads	227	223	269	242
Interstate Highway Crossings	0	0	0	0
U.S. Highway Crossings	1 – U.S. 40	1 – U.S. 40	1 – U.S. 40	1 – U.S. 40
State Highway Crossings	3 - 71, 318, 789	3 - 71, 789, 318	4 - 13 (x2), 70, 71	3 - 71, 318, 789
Railroad Crossings	0	0	3	0
Center Line Passing Through Public Land (miles)	117	118	100	133
Center Line Passing Through Private Land (miles)	38	41	86	39

Table 3.16-4 Summary of Region I Alternative Route Impact Parameters

Parameter	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Number of Airports within 5 Miles	2 Rawlins Muni / Harvey Field Memorial Hospital (H)	2 Rawlins Muni / Harvey Field Memorial Hospital (H)	6 Rawlins Muni / Harvey Field Memorial Hospital (H) Craig Moffat Craig (H) Mesa View Ranch Dixon	2 Rawlins Muni / Harvey Field Memorial Hospital (H)
MOAs within 20 Miles	0	0	0	0
MOAs with 250-Foot-Wide Transmission Line ROW Overlap	0	0	0	0

(H) Heliport

Alternative I-A (Applicant Proposed)

Key Parameters Summary

Alternative I-A would require construction of 227 miles of new roadway including 66 miles in steep and mountainous terrain. Four major roads would be crossed. No railroads would be crossed. The centerline would pass through 117 miles of public land and 38 miles of private land. Two airports are located within 5 miles. No military operations are located nearby. After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road crossings might occur. Access impacts would be temporary and minor. No impacts on airports or MOAs would occur.

Alternative I-B

Key Parameters Summary

Alternatives I-B would require construction of 223 miles of new roadway including 39 miles in steep terrain. Four major roads would be crossed. No railroads would be crossed. The centerline would pass through 118 miles of public land and 41 miles of private land. Two airports are located within 5 miles. No military operations are located nearby. After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road crossings might occur. Access impacts would be temporary and minor. No impacts on airports or MOAs would occur.

Alternative I-C

Key Parameters Summary

Alternatives I-C would require construction of 269 miles of new roadway including 67 miles in steep terrain. Five major road crossings and three railroad crossings are required. The centerline would pass through 100 miles of public land and 86 miles of private land. Six small airports are located within 5 miles. No military operations are located nearby. After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur because each airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements. No impacts on MOAs would occur.

Alternative I-D (Agency Preferred)

Key Parameters Summary

Alternatives I-D would require construction of 242 miles of new roadway including 41 miles in steep terrain. Four major road crossings and no railroad crossings are required. The centerline would pass through 133 miles of public land and 39 miles of private land. Two small airports are located within 5 miles. No military operations are located nearby. After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur because each airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements. No impacts on MOAs would occur.

Tuttle Easement micro-siting options 2 and 3 would add highway crossings which are not included in Option 1. Option 2 would add 2 additional highway crossings. Option 3 would add 1 crossing. Overall, there are no substantive transportation or access advantages to any of the options within Tuttle Easement micro-siting when compared to Alternative I-D.

Alternative Connectors in Region I

The Mexican Flats Alternative Connector would add 13 flat miles to the roadway network on only public land and would cross SH 789.

The Baggs Alternative Connector would add 31 rolling miles to the road network on primarily public land and would cross SH 789. A connector at this point would provide no transportation and access advantages.

The Fivemile Point North Connector would add 4 flat miles to the roadway network on primarily public land and would cross SH 789.

The Fivemile Point South Connector would add 3 flat miles to the roadway network on primarily public land and would cross SH 789.

There are no distinct transportation advantages or disadvantages to the alternatives achieved through the use of any alternate connector.

Alternative Ground Electrode Systems in Region I

It would be necessary to locate the northern ground electrode system within 100 miles of the Northern terminal as discussed in Chapter 2.0. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided by the proponent. **Table 3.16-5** provides a comparison of alternative electrode bed locations proposed near the northern terminal.

Table 3.16-5 Summary of Region I Alternative Ground Electrode System Location Impacts for Transportation and Access

Alternative Ground Electrode System Locations	Analysis and Conclusions
Separation Flat – All Alternative Routes	Approximately 13 miles from the 250-foot-wide transmission line ROW (all alternative routes), requires 17 miles of access road construction, low voltage line crosses I-80 and the railroad, expands road network, creates moderate safety and maintenance effects.

Table 3.16-5 Summary of Region I Alternative Ground Electrode System Location Impacts for Transportation and Access

Alternative Ground Electrode System Locations	Analysis and Conclusions
Separation Creek – All Alternative Routes	Partially located within the 250-foot-wide transmission line ROW, may require up to 20 miles of access road construction, has proximity to I-80, expands road network, creates moderate safety and maintenance effects.
Eight Mile Basin – All Alternative Routes	Approximately 4 miles from Alternative I-A may require up to 6 miles of access road construction, located directly off State Highway 71, creates minor safety and maintenance effects.
Shell Creek (Alternatives I-A and I-D)	Approximately 33 miles from the Alternative I-A, requires 43 miles of access road construction, requires extensive travel on unimproved roads, expands the road network the most, creates the most safety and maintenance effects.
Little Snake East (Alternatives I-A, I-B, and I-D)	Approximately 9 miles from Alternative I-A, requires 12 miles of access road construction, involves travel on existing county roads, alternative access routes available, minor safety and maintenance effects (Best for I-A).
Little Snake West (Alternative I-A)	Approximately 10 miles from Alternative I-A, requires 14 miles of access road construction, involves travel on existing county roads, alternative access routes available, minor safety and maintenance effects.
Shell Creek (Alternative I-B)	Approximately 26 miles from the Alternative I-B, requires 34 miles of access road construction, requires extensive travel on unimproved roads, expands the road network the most, and creates the most safety and maintenance effects.
Little Snake West (Alternatives I-B and I-D)	Approximately 5 miles from Alternative I-B, requires 7 miles of access road construction, involves travel on existing county roads, alternative access routes available, minor safety and maintenance effects (Best for I-B).

Region I Conclusion

Based on the information shown in **Table 3.16-4**, Alternatives I-C and I-D provide the most enhancements to the roadway network. Alternatives I-B and I-D provides the least impact from new/improved steep and mountainous roads. All other parameters are virtually equal across all alternatives.

3.16.6.4 Region II

Table 3.16-6 provides a tabulation of impacts associated with the alternative routes in Region II.

Table 3.16-6 Transportation and Access Evaluation Factors for the Alternatives in Region II

Evaluation Factors	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
New Permanent Access Roads: Miles (Flat)	89	142	206	57	96	62
New Permanent Access Roads: Miles (Rolling)	136	168	159	147	126	128
New Permanent Access Roads: Miles (Steep)	33	98	122	83	67	39
New Permanent Access Roads: Miles (Mountainous)	206	172	70	188	183	297

Table 3.16-6 Transportation and Access Evaluation Factors for the Alternatives in Region II

Evaluation Factors	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Total Miles of New Permanent Access Roads	463	580	556	474	471	526
Number of Interstate Highway Crossings	1 - I-15	5 - I-15, 70 (x4)	9 - I-15, 70 (x8)	1 - I-15	1 - I-15	1 - I-15
Number of U.S. Highway Crossings	5 – 6 (x2), 40 (x2), 89	2 – 6, 89	4 - 6, 50 (x2), 89	3 – 6 (x2), 89	6 – 6 (x2), 40 (x2), 89, 191	8- 6 (x6), 89, 191
Number of State Highway Crossings	15 – 35, 41, 45, 64, 87 (x3), 88, 91, 132 (x4), 174, 208	9 – 10, 28, 31, 64, 122, 125, 132, 139, 174	6 – 10, 64, 100, 125, 139, 322	12 – 28, 31 (x4), 45, 64, 132 (x2), 174, 264 (x2)	10 – 28, 45, 64, 87 (x2), 88, 96, 132 (x2), 174	7- 64, 45, 96,132, 28, 125,174
Number of Railroad Crossings	4	21	10	8	8	11
Center Line Passing Through Public Land (miles)	153	269	287	190	160	188
Center Line Passing Through Private Land (miles)	104	76	77	72	107	79
Number of Airports within 5 miles	6 Pelican Lake Roosevelt Muni Duchesne Muni Thunder Ridge Duchesne County Hospital (H) Nephi Muni	9 Green River Muni Westwater Baxter Pass (H) Rangely District Hospital (H) Rangely Huntington Muni Mount Pleasant Nephi Muni	7 Green River Muni Westwater Baxter Pass (H) Rangely District Hospital (H) Rangely Delta Muni	2 Bonanza Power Plant Nephi Muni	3 Pelican Lake Roosevelt Muni Nephi Muni	3 Bonanza Nephi Muni Desert Aviation
MOAs within 20 Miles	1 – Hill AFB Sevier	2 – Hill AFB Sevier Utah Launch Complex	2 – Hill AFB Sevier Utah Launch Complex	1 – Hill AFB Sevier	1 – Hill AFB Sevier	1 – Hill AFB Sevier
MOAs with 250-Foot-Wide Transmission ROW Overlap	1 – Hill AFB Sevier	2 - Utah Launch Complex Hill AFB Sevier	2 - Utah Launch Complex Hill AFB Sevier	1 - Hill AFB Sevier	1 – Hill AFB Sevier	1 – Hill AFB Sevier

(H) Heliport

Alternative II-A (Applicant Proposed)

Key Parameters Summary

Alternative II-A would require construction of 463 miles of new roadway including 239 miles in steep and mountainous terrain. A total of 21 major road crossings and 4 railroad crossings are required. The centerline would pass through 153 miles of public land and 104 miles of private land. Six airports are located within 5 miles. Alternative II-A enters into the Hill AFB Sevier B&D MOA for 3.4 miles where there is no existing transmission line within a WWEC designated corridor. Alternative II-A contains the Cedar Knoll and Strawberry IRA micro-siting adjustments, all within the transmission line corridor.

After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur because each airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements. No impacts on the Utah Launch Complex/White Sands Missile Range would be anticipated. The impacts of entering into the Hill AFB Sevier B&D MOA are described in the Region III discussion where the impacts are more substantial. Micro-siting adjustments provide no transportation and access benefits.

There are no substantive transportation or access advantages to any of the options within Strawberry IRA micro-siting when compared to Alternative II-A.

Alternative II-B

Key Parameters Summary

Alternative II-B would require construction of 580 miles of new roadway including 270 miles in steep and mountainous terrain. A total of 16 major road crossings and 21 railroad crossings are required. The centerline would pass through 269 miles of public land and 76 miles of private land. Nine airports are located within 5 miles. Alternative II-B passes through the former Utah Launch Complex/White Sands Missile Range MOA co-located with an existing transmission line within RMP and WWEC designated corridors. Alternative II-B enters into the Hill AFB Sevier B&D MOA for 1 mile co-located with an existing transmission line within a RMP designated corridor.

After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur because each airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements. No military airspace impacts on the Utah Launch Complex/White Sands Missile Range would be expected. The impacts of entering into the Hill AFB Sevier B&D MOA are described in the Region III discussion where the impacts are more substantial.

No military airspace impacts on the Hill AFB Sevier MOA would be expected. Direct conflicts with possible future military airspace operations and/or other operations involving the Utah Launch Complex/White Sands Missile Range could occur even though Alternative II-B is located within existing utility corridors where it passes through this facility.

Alternative II-C

Key Parameters Summary

Alternative II-C would require construction of 556 miles of new roadway including 192 miles in steep and mountainous terrain. A total of 19 major road crossings and 10 railroad crossings are required. The centerline would pass through 287 miles of public land and 77 miles of private land. Seven airports are located within 5 miles. Alternative II-C passes through the former Utah Launch Complex/White Sands Missile Range co-located with an existing transmission line within RMP and WWEC designated corridors. Alternative II-C enters into the Hill AFB Sevier B&D MOA for 1 mile co-located with an existing transmission line within a RMP designated corridor.

After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur because each airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA

reporting requirements. No military airspace impacts on the Utah Launch Complex/White Sands Missile Range would be expected. The impacts of entering into the Hill AFB Sevier B&D MOA are described in the Region III discussion where the impacts are more substantial.

No military airspace impacts on the Hill AFB Sevier MOA would be expected. Direct conflicts with possible future military airspace operations and/or other operations involving the Utah Launch Complex/White Sands Missile Range could occur even though Alternative II-C is located within existing utility corridors where it passes through this facility.

Alternative II-D

Key Parameters Summary

Alternative II-D would require construction of 474 miles of new roadway including 271 miles in steep and mountainous terrain. A total of 16 major road crossings and 8 railroad crossings are required. The centerline would pass through 190 miles of public land and 72 miles of private land. Two airports are located within 5 miles. Alternative II-D enters into the Hill AFB Sevier B&D MOA for 3 miles where there is no existing transmission line within a WWEC designated corridor.

After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur because each airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements. No military airspace impacts on the Utah Launch Complex/White Sands Missile Range would be expected. The impacts of entering into the Hill AFB Sevier B&D MOA are described in the Region III discussion where the impacts are more substantial.

Alternative II-E

Key Parameters Summary

Alternative II-E would require construction of 471 miles of new roadway including 250 miles in steep and mountainous terrain. A total of 17 major road crossings and eight railroad crossings are required. The centerline would pass through 160 miles of public land and 107 miles of private land. Three airports are located within 5 miles. Alternative II-E enters into the Hill AFB Sevier B&D MOA for 3 miles where there is no existing transmission line within a WWEC designated corridor. Alternative II-E contains the Cedar Knoll micro-siting adjustments, both within transmission line corridor.

After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur because each airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements. No military airspace impacts on the Utah Launch Complex/White Sands Missile Range would be expected. The impacts of entering into the Hill AFB Sevier B&D MOA are described in the Region III discussion where the impacts are more substantial. Micro-siting adjustments provide no transportation and access benefits.

Alternative II-F (Agency Preferred)

Key Parameters Summary

Alternative II-F would require construction of 526 miles of new roadway including 336 miles in steep and mountainous terrain. A total of 16 major road crossings and 11 railroad crossings are required. The centerline would pass through 188 miles of public land and 79 miles of private land. Three airports are located within 5 miles. Alternative II-F passes through the Hill Sevier B&D MOA for 1 mile

co-located with an existing transmission line within a RMP designated corridor. Alternative II-F contains the Cedar Knoll micro-siting adjustments, both within transmission line corridor.

After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur because each airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements. No military airspace impacts on the Utah Launch Complex/White Sands Missile Range would be expected. Micro-siting adjustments provide no transportation and access benefits.

Cedar Knoll IRA micro-siting Option 2 is slightly closer to Highway 89 which would result in less access road mileage needed to reach the site. Overall, there are no substantive transportation or access advantages to any of the options within the Cedar Knoll IRA micro-siting options when compared to Alternative II-F.

Alternative Variation in Region II

Emma Park Alternative Variation

The Emma Park Alternative Variation is approximately 3 miles longer than the comparable portion of Alternative II-F, but requires 4 fewer miles of new access roads. The Emma Park Alternative Variation adds 7 additional miles of private land along the transmission line relative to Alternative II-F. This variation has 1 major roadway crossing, which is the same as Alternative II-F. The Emma Park Alternative Variation provides no substantive transportation or access advantages when compared to Alternative II-F.

Alternative Connectors in Region II

The Castle Dale Alternative Connector adds 20 road miles involving a mix of flat miles (10 miles) and mountainous miles (10 miles). The Castle Dale Alternative Connector passes through 7 miles of public land and 4 miles of private land.

The Price Alternative Connector adds 31 mostly steep (21 miles) access road miles and passes through 15 miles of public land and 4 miles of private land. Two railroad crossings are required.

The Lynndyl Alternative Connector adds 34 mostly flat and rolling access road miles and passes through 15 miles of private land and 9 miles of public land. The connector requires one major road crossing and no railroad or airport conflicts. This connection provides a north/south route with no substantive transportation and access advantages.

The IPP East Alternative Connector involves 3 flat access road miles and passes through 3 miles of public land with no road, railroad, or airport conflicts. This connector provides a conflict free north/south route.

The Highway 191 Alternative Connector adds 13 road miles of mountainous roads. The Highway 191 Alternative Connector passes through 3 miles of public land and 2 miles of private land. This connector also has 1 major roadway crossing, Highway 191. Use of this connector provides no substantive transportation or access advantages.

There are no distinct transportation advantages or disadvantages to the alternatives achieved through the use of any alternate connector.

Region II Conclusion

Based on the information shown in **Table 3.16-6**, Alternative II-C provides the most enhancements to the roadway network and the least impact from new/improved steep and mountainous roads. All other parameters are virtually equal across all alternatives.

3.16.6.5 Region III

Table 3.16-7 provides a tabulation of impacts associated with the alternative routes in Region III.

Table 3.16-7 Transportation and Access Evaluation factors for the Alternatives in Region III

Evaluation Factors	Alternative III-A	Alternative III-B	Alternative III-C
New Permanent Access Roads: Miles (Flat)	223	262	279
New Permanent Access Roads: Miles (Rolling)	15	73	56
New Permanent Access Roads: Miles (Steep)	135	39	96
New Permanent Access Roads: Miles (Mountainous)	50	27	3
Total Miles of New Permanent Access Roads	423	401	433
Interstate Highway Crossings	1 – I-15	1 – I-15	1 – I-15
U.S. Highway Crossings	4 – U.S. 6, Old 6/50 (x2), 40	2 – U.S. 6/50, Old 6/50	5 – U.S. 6/50, Old 6/50, U.S. 93 (x3)
State Highway Crossings	7 – 12, 18 (x3), 21, 56, 144	4 – 21, 56, 78, 168	3, 21, 56, 168
Railroad Crossings	4	10	11
Center Line Passing Through Public Land (miles)	239	236	247
Center Line Passing Through Private Land (miles)	37	48	61
Number of Airports within 5 miles	1 Milford Muni / Briscoe Field	2 Milford Muni / Briscoe Field Sun Valley Estates	2 Milford Muni / Briscoe Field Sun Valley Estates
MOAs within 20 Miles	4 Hill AFB Sevier MOA Wendover MOA Nellis Desert MOA Nellis MOA	4 Hill AFB Sevier MOA Wendover MOA Nellis Desert MOA Nellis MOA	5 Hill AFB Sevier MOA Wendover MOA Nellis Desert MOA Nellis MOA
MOAs with 250-Foot-Wide Transmission ROW Overlap	Hill AFB Sevier B MOA (Most Overlap)	Hill AFB Sevier B MOA Nellis Desert MOA (Conflict)	Hill AFB Sevier B MOA Nellis Desert MOA (Most Conflict)

Alternative III-A (Applicant Proposed)

Key Parameters Summary

Alternative III-A would require construction of 423 miles of new roadway including 185 miles in steep and mountainous terrain. A total of 12 major road crossings and 4 railroad crossings are required. The centerline would pass through 239 miles of public land and 37 miles of private land. One airport is located within 5 miles. After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur. Alternative III-A passes through the Hill AFB Sevier B MOA within existing utility corridors and is

located within 20 miles of the Nellis AFB Desert MOA boundary. Alternative III-A also is located within close proximity to MTR IR-293 within the Hill AFB Sevier B MOA, crosses MTR VR-209 in Millard County, Utah outside of the Hill AFB Sevier B MOA, and is in close proximity to (parallel) and crosses over MTR VR-209 outside of the Desert MOA in Clark County, Nevada. In each case, existing utility corridors are present.

Alternative III-A passes through the Hill AFB Sevier B MOA and is co-located with an existing transmission line for approximately 8 miles and then not co-located for the remaining 30 miles through the MOA, but generally is within existing RMP and WVEC corridors when not co-located with other transmission lines. Alternative III-A also is located within close proximity to MTR IR-293 within the Hill AFB Sevier B MOA, crosses MTR VR-209 in Millard County, Utah, outside of the Hill AFB Sevier B MOA, and is in close proximity to (parallel) and crosses over MTR VR-209 outside of the Desert MOA. The MTR VR-209 crossover is located in Lincoln County, Nevada. Alternative III-A is in close proximity to MTR VR-209 in Washington County, Utah, and in Lincoln and Clark counties, Nevada. In each case, existing utility corridors are present.

The use of existing utility corridors within military MOAs creates minor to severe impacts on military operations and the military's mission (refer to the discussion under Alternative III-B for related details).

Alternative III-B (Agency Preferred)

Key Parameters Summary

Alternative III-B would require construction of 401 miles of new roadway including 66 miles in steep and mountainous terrain. A total of 7 major road crossings and 10 railroad crossings are required. The centerline would pass through 236 miles of public land and 48 miles of private land. Two airports are located within 5 miles. After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports would occur because the small airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements.

Alternative III-B passes through the Hill AFB Sevier B MOA inside and outside of established utility corridors. Alternative III-B crosses MTR VR-209 in Millard County, Utah, outside of the Hill AFB Sevier B MOA, and is in close proximity to (parallel) and crosses over MTR VR-209 outside of the Desert MOA in Lincoln and Clark counties, Nevada. In each case, existing utility corridors are present.

Alternative III-B passes through the Nellis AFB Desert MOA within and outside of RMP and WVEC corridors. Alternative III-B is not co-located with an existing transmission line or aligned with existing utility corridors for 51.5 miles.

The addition of transmission lines within MOAs where no existing transmission lines are present and no existing utility corridors have been designated creates practical and regulatory conflicts with military air space operations and may require a BLM RMP Amendment depending on the RMP affected. This situation would be addressed on a case-by-case basis, ensuring coordination, as needed, with the military and the State of Utah. Final resolution of this issue is required as Alternative III-B has been selected as the Agency Preferred Alternative.

At the Hill AFB Sevier B MOA, the proposed transmission line structures would exceed the 100-foot vertical height restriction. This and the presence of new transmission lines in corridors without overhead lines would interfere with the military's ability to train pilots at extremely low levels and would impact cruise missile testing. To address this issue, DOD has requested that all stanchions, poles, and other transmission-related infrastructure (regardless of height and location) be lighted, marked, and charted on FAA flight sectionals, maps, and other appropriate navigation reference material to ensure

flight safety and proper VFR/IFR de-confliction on/near the UTTR. The IPP transmission line also exceeds the 100-foot height restriction, but it is not lighted. Adding light to each TWE structure through the Sevier B MOA may cause impacts to the University of Utah's Telescope Array Project, which requires dark night skies.

The presence of transmission line personnel within MOAs at Hill AFB Sevier B MOA may require rescheduling maneuvers. All construction activities in MOAs would require coordination and scheduling with the military to avoid potential conflicts. All transmission line helicopter activity would require flight plan coordination and formal notification. All transmission line personnel planning to enter MOAs would be reported to the military with adequate lead time. The notifications would provide specific locations and timeframes for their activities.

Transmission line equipment that emits radio frequencies may interfere with military communications and operations. As a result, specific radio frequencies emitted by the Project's microwave communication facilities would be selected based on coordination with the military to avoid any conflict with radio communications at Hill AFB Sevier B MOA and the UTTR. The use of transmission line cameras also would require coordination with the military.

At Nellis AFB, the transmission line would impact military operations at Nellis AFB, the NTTR and the Nellis Small Arms Range (SAR)/Jettison Hill boundaries. Measures referenced in the Hill AFB Sevier B MOA discussion also would apply to impacts created within Nellis AFB. However, even after implementation of these measures, various impacts would be expected.

The transmission lines would disrupt military activity and could be damaged by military activity creating financial and system reliability impacts. In addition, transmission line repair and maintenance may be prevented by military operations. The presence of transmission lines also may impact low-level fixed and rotary wing flying operations.

The line would cross the Nellis SAR in the Las Vegas Valley. The presence of a transmission line in this location is incompatible with authorized emergency jettison procedures (Jettison Hill), low-level rotary and fixed wing arrival and departure routes, and live fire operations conducted in the area. Transmission line facilities may be damaged by authorized live fire and/or jettison activities in the area. The proximity of military operations can limit the transmission line operator's ability to respond to contingency problems or emergency situations.

Authorized Low Altitude Tactical Navigation (LATN) airspace and MTRs are located directly above the 250-foot-wide transmission line ROW extending from the Beryl, Utah, area to the northeastern edge of Las Vegas. The segment of transmission line between these two locations would impact low-flying military aircraft and navigation operations. In addition, authorized (LATN) airspace and property used for training is located along the southeastern edge of Las Vegas, in the Gold Butte area. Alternate routes extending along the western edge of Lake Mead would negatively impact helicopter training and LATN capabilities.

The authorized emergency aircraft evacuation/ejection area (i.e., location where pilots exit the aircraft and allow the airplane to fly uncontrolled until the aircraft impacts the ground) is located in the Dry Lake area where the line would be located. Transmission infrastructure built within the emergency aircraft ditch area may be interrupted, severely damaged, or potentially destroyed during an in-flight emergency due to uncontrolled aircraft flight into the structures.

The line would be located within operational areas for A-10 aircraft and helicopters. These areas are used as practice landing areas for training. Apex Hill (just south of U.S. 93) would be an area of concern because it is within an approach and departure zone. These zones are fixed and the east-to-west routes that are not located adjacent to existing transmission lines and may pose a safety hazard for pilots.

The transmission lines may interfere with sensitive flight instruments including navigational aids and aircraft radar. The conditions that exist in and around the test and training range are one-of-a-kind and offer exceptional radar/communication response that cannot be duplicated anywhere else. The applicant would take steps to address this issue. One step includes the use of steel pole, rather than lattice structures.

Uncoordinated construction activity on or near Nellis AFB, Creech AFB and the NTTR, such as usage of cranes and other heavy equipment high enough to penetrate airspace or cause visible distractions like excessive exhaust emissions or dust near airfield operations, is incompatible with military operations. The use of helicopters for the purpose of line construction, maintenance, and inspection on all routes would impact military flying operations on or near Nellis, Creech, and the NTTR to include low-level flight areas, LATN, MTRs, MOAs, and advanced military fixed/rotary wing testing and training missions. Additionally, civilian helicopters used for construction may be impacted by low-level supersonic over flight.

Terminal Instrument Procedures (TERPs) will be impacted at the southern end of Region III where Alternative III-B and III-C intersect and just to the west of this intersection along the Alternative III-C alignment. TERPs address “surfaces” constructed from the electronic signals transmitted by ground and space based air navigation electronic equipment. TERPs are the instrument procedures that aircraft pilots use to fly between airports and land on runways. Each approach and departure is divided into segments as an aircraft proceeds to a safe landing or departure. Each segment is a trapezoid or “trap,” roughly shaped. Within each trap a TERPs expert must ensure an aircraft, at the extreme limits of its authorized altitudes within the trap, has obstacle clearance. The proposed transmission lines and towers conflict with existing departure traps in the two locations. The Air Force will need to review the final transmission line route and TERPs if the line passes through either or both of the two departure trap areas. This review will include final pole locations.

The addition of new transmission line corridors located outside of established corridors conflicts with substantial past and future investments in military facilities by making what is available to the military less usable and less safe.

Alternative III-C

Key Parameters Summary

Alternative III-C would require construction of 433 miles of new roadway including 99 miles in steep and mountainous terrain. A total of 9 major road crossings and 11 railroad crossings are required. The centerline would pass through 247 miles of public land and 61 miles of private land. Two airports are located within 5 miles. After considering design features, BMP and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airport areas would occur because the airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements.

Alternative III-C passes through the Hill AFB Sevier B MOA within established utility corridors. Alternative III-C crosses MTR VR-209 in Millard County, Utah, outside of the Hill AFB Sevier MOA, and crosses MTR VR-209 inside of the Desert MOA in Lincoln County, Nevada. Alternative III-C crosses the Panaca area, where the DOD has no height restrictions for aircraft. In each case, existing utility corridors are present.

Alternative III-C passes through the Nellis AFB Desert MOA within and outside of RMP and WWEC corridors. Alternative III-C is not co-located with an existing transmission line or aligned with existing utility corridors for 69 miles. Alternative III-C passes within 1 mile of the unimproved airstrips used by

the military within the Desert MOA. One airstrip is located in the Delamar dry lake bed. The other is located south of U.S. 93 on the eastern side of Delamar Valley.

The addition of transmission lines within MOAs where no existing transmission lines are present and no existing utility corridors have been designated creates practical and regulatory conflicts with military air space operations and may require a BLM RMP Amendment depending on the RMP affected. This situation would be addressed on a case-by-case basis, ensuring coordination, as needed, with the military and the State of Utah. The discussion under Alternative III-B, above, regarding Hill AFB Sevier B and Nellis AFB Desert MOA also would apply to Alternative III-C. However, the effects on the Desert MOA would be increased by Alternative III-C due to the 17 additional miles of transmission line located outside of existing designated corridors, that military flights are closer to the ground, and the proximity of the Nellis AFB drop zone (10 miles). Transmission line lighting would help mitigate drop zone proximity effects. The addition of new transmission line corridors located outside of established corridors conflicts with substantial past and future investments in military facilities by making what is available to the military less usable and less safe (refer to the discussion under Alternative III-B for related details).

Alternative Variations in Region III

The Ox Valley East and Ox Valley West Variations are slightly less than 2 miles longer than the comparable portion of Alternative III-A. The terrain differences in miles are as follows:

	Flat	Rolling	Steep	Mountainous
Ox Valley East Alternative Variation	0	0	16	19
Ox Valley West Alternative Variation	0	1	15	19
Comparable (Alternative III-A)	1	0	9	23

These terrain differences are minor and would result in few if any real transportation advantages. Both variations primarily pass through public lands with one major roadway crossing.

The Pinto Variation has only 1 mile less road than the comparable portion of Alternative III-A. The terrain differences in miles are as follows:

	Flat	Rolling	Steep	Mountainous
Pinto Alternative Variation	0	27	19	0
Comparable (Alternative III-A)	9	1	14	22

The Pinto Alternative Variation includes slightly more steep terrain and no mountainous terrain. Overall, this difference provides some advantages relative to the comparable portion of Alternative III-A. This variation primarily passes through public lands with one major roadway crossing. One key disadvantage of the Pinto Alternative Variation is that it encroaches into MTR VR-209 (refer to the previous discussion of MOA and MTR conflicts caused by the Alternatives in Region III).

Alternative Connectors in Region III

The Avon Alternative Connector adds 10 flat miles with 5 miles passing through public lands and 3 miles passing through private lands with no major roadway crossings. The Sun Valley Estates airport is located within 5 miles.

The Moapa Alternative Connector adds 17 miles of new primarily flat road with two major road crossings and one railroad crossing, all on public land. One railroad crossing is required.

Alternative Ground Electrode Systems in Region III

It would be necessary to locate the southern ground electrode system within 100 miles of the Southern Terminal as discussed in Chapter 2.0. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided by the proponent.

Table 3.16-8 provides a comparison of alternative electrode bed locations proposed near the Southern Terminal. Some locations might serve multiple alternative routes, while others could only be associated with a certain alternative route.

Table 3.16-8 Summary of Region III Alternative Ground Electrode System Location Impacts for Transportation and Access

Alternative Ground Electrode System Locations	Analysis and Conclusion
Mormon Mesa- Carp Elgin Rd (Alternative III-A)	Approximately 6 miles from Alternative III-A, requires 7 miles of access road construction, expands road network, and creates minor safety and maintenance impacts.
Halfway Wash-Virgin River (Alternative III-A)	Approximately 4 miles from Alternative III-A, requires 5 miles of access road construction, expands road network, has proximity to I-15, and creates minor safety and maintenance impacts.
Halfway Wash-East (Alternative III-A)	Approximately 8 miles from Alternative III-A, requires 10 miles of access road construction, expands road network, has proximity to I-15, and creates minor safety and maintenance impacts.
Mormon Mesa- Carp Elgin Rd (Alternative III-B)	Approximately 8 miles from Alternative III-B, requires 10 miles of access road construction, expands road network, has proximity to I-15, and creates minor safety and maintenance impacts.
Halfway Wash –Virgin River (Alternative III-B)	Approximately 6 miles from Alternative III-B, requires 7 miles of access road construction, expands road network, has proximity to I-15, and creates minor safety and maintenance impacts.
Halfway Wash East (Alternative III-B)	Approximately 8 miles from Alternative III-A, requires 10 miles of access road construction, expands road network, has proximity to I-15, and creates minor safety and maintenance impacts.
Meadow Valley II (Alternative III-C)	Approximately 22 miles from Alternative III-C, access via SH 168, with 29 miles of access road construction to reach the site, minor roadway network expansion and minor increase in safety and maintenance impacts.

Region III Conclusion

Based on the information shown in **Table 3.16-7**, Alternative III-B provides the most enhancements to the roadway network and the least impact from new/improved steep and mountainous roads when compared to Alternative III-A. The main deciding factor between alternatives is their impacts on DOD land. Alternative III-C creates the most conflict. Alternative III-A creates the least conflict.

3.16.6.6 Region IV

Table 3.16-9 provides a comparison of impacts associated with the alternative routes in Region IV.

Table 3.16-9 Transportation and Access Evaluation factors for the Alternatives in Region IV

Evaluation Factors	Alternative IV-A	Alternative IV-B	Alternative IV-C
New Permanent Access Roads: Miles (Flat)	9	15	27
New Permanent Access Roads: Miles (Rolling)	26	19	16
New Permanent Access Roads: Miles (Steep)	11	5	6
New Permanent Access Roads: Miles (Mountainous)	14	32	26
Total Miles of New Permanent Access Roads	60	71	74

Table 3.16-9 Transportation and Access Evaluation factors for the Alternatives in Region IV

Evaluation Factors	Alternative IV-A	Alternative IV-B	Alternative IV-C
Interstate Highway Crossings	0	0	0
U.S. Highway Crossings	2 – 93 (x2)	3 - 93 (x2), 95	2 - 93, 95
State Highway Crossings	3 – 146 (x2), 147	4 – 146, 166 (x2), 167	4 – 146, 166 (x2), 167
Railroad Crossings	2	2	1
Center Line Passing Through Public Land (miles)	31	23	24
Center Line Passing Through Private Land (miles)	6	16	21
Number of Airports within 5 miles	4 St. Rose Dominican Hospital (H) Car Country (H) Boulder City Muni Eldorado Substation (H)	2 Boulder City Muni Car Country (H) Eldorado Substation (H)	2 Eldorado Substation (H) Boulder City Muni (H)
MOAs within 20 Miles	Nellis AFB	Nellis AFB	Nellis AFB
MOAs with 250-Foot-Wide Transmission Line ROW Overlap	0	0	0

(H) Heliport

Alternative IV-A (Applicant Proposed and Agency Preferred)*Key Parameters Summary*

Alternative IV-A would require construction of 60 miles of new roadway including 25 miles in steep and mountainous terrain. A total of 5 major road crossings and two railroad crossings are required. The centerline would pass through 31 miles of public land and 6 miles of private land. Four airports are located within 5 miles. The alternative is within 20 miles of Nellis AFB, but is not within 20 miles of the Desert MOA. After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports areas would occur because the airport facility is located far enough away from the centerline to avoid creating a navigation hazard or FAA reporting requirements. No impacts on MOAs would occur.

Alternative IV-B*Key Parameters Summary*

Alternative IV-B would require construction of 71 miles of new roadway including 37 miles in steep and mountainous terrain. A total of 7 major road crossings and two railroad crossing are required. The centerline would pass through 23 miles of public land and 16 miles of private land. Two airports are located within 5 miles. The Project is within 20 miles of Nellis AFB, but is not within 20 miles of the Desert MOA. After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road and railroad crossings might occur. Access impacts would be temporary and minor. No impacts on airports or MOAs would occur.

Alternative IV-C

Key Parameters Summary

Alternative IV-C would require construction of 74 miles of new roadway including 32 miles in steep and mountainous terrain. A total of 6 major road crossings and one railroad crossing are required. The centerline would pass through 24 miles of public land and 21 miles of private land. Two airports are located within 5 miles. The Project is within 20 miles of Nellis AFB, but is not within 20 miles of the Desert MOA. After considering design features, BMPs, and other project approval requirements, the following conclusions can be made. Incremental increases in traffic would not cause congestion that exceeds appropriate levels of service. Only minor delays from road crossings might occur. Access impacts would be temporary and minor. No impacts on airports or MOAs would occur.

Alternative Variations in Region IV

The transportation and access characteristics of the Marketplace Variation are virtually identical to the comparable portion of Alternative IV-B except that the Marketplace Variation is about one mile longer and requires more new access road construction. The Eldorado Substation heliport, Boulder City Municipal airport, and the Car Country heliport are located within 5 miles. There are no apparent unique constraints or opportunities for transportation or access by utilizing the variation.

Alternative Connectors in Region IV

The Sunrise Mountain Alternative Connector adds 4 miles of new flat and rolling road on public land with no major road or railroad crossings. There are no apparent unique constraints or opportunities for transportation or access by utilizing this connector.

The Lake Las Vegas Alternative Connector adds 7 miles of new steep road through mostly public land with no major road or railroad crossings. The Car Country heliport is located within 5 miles. There are no apparent unique constraints or opportunities for transportation or access by utilizing this connector.

The Three Kids Mine Alternative Connector adds 12 miles of new mostly mountainous road through mostly public land with no major road or railroad crossings. The Car Country and St. Rose Dominican Hospital heliports are located within 5 miles. There are no apparent unique constraints or opportunities for transportation or access by utilizing this connector.

The River Mountains Alternative Connector adds 19 miles of mountainous roads on public land with no major road or railroad crossings. The Car Country and St. Rose Dominican Hospital heliports are located within 5 miles. There are no apparent unique constraints or opportunities for transportation or access by utilizing this more mountainous connector.

The Railroad Pass Alternative Connector adds 6 miles of mostly mountainous roads on private land with one major road crossing and one railroad crossing. The Boulder City Municipal airport and the Car Country heliport are located within 5 miles. There are no apparent unique constraints or opportunities for transportation or access by utilizing this more mountainous connector.

Region IV Conclusion

Based on the information shown in **Table 3.16-9**, Alternatives IV-B and IV-C provide the most enhancements to the roadway network while Alternative IV-A provides the least impact from new/improved steep and mountainous roads. All other parameters are virtually equal across all alternatives.

3.16.6.7 Residual Impacts

The following residual transportation and access impacts would be expected after mitigation:

- The local roadway network would be expanded and improved creating increased access, improved travel conditions, improved roadway safety, and reduced short-term maintenance requirements (Beneficial);
- Travel volumes on the local roadway network would increase creating traffic conflicts (Minor Adverse Impact); and
- Alternatives that directly or indirectly conflict with MOAs and/or MTRs would create aviation and military operation conflicts (Substantial Adverse Impact).

3.16.6.8 Impacts to Transportation and Access from the No Action Alternative

The No Action Alternative would not generate the transportation network impacts associated with road improvements and would avoid the construction period incidental transportation impacts described for the Action Alternatives. Minor delays associated with road and transmission line construction would be avoided. Temporary property access disruptions and travel safety issues associated with higher vehicle volumes and heavy, slow moving trucks would be avoided. Road maintenance benefits from improvements and the potential for added road maintenance from the use of local roads by heavy vehicles would not occur. Transmission line railroad crossings and airport navigation hazards from transmission line towers and wires would not be created.

3.16.6.9 Irreversible and Irretrievable Commitment of Resources

The following irreversible and irretrievable commitments of transportation and access resources would be expected from the proposed action and alternatives:

- A portion of the local roadway network capacity would be lost during the construction period. This loss would be irretrievable;
- The use of non-renewable resources and resources that cannot be recycled would occur as a result of roadway construction. This use of these resources would be considered irreversible; and
- Military airspace, military aviation possibilities, and military training operation capabilities would be lost as a result of alternatives that directly or indirectly conflict with MOAs and MTRs. This loss would be substantial and irretrievable during the life of the Project. These impacts would not be irreversible as these capabilities would be available once the transmission line is decommissioned.

3.16.6.10 Relationship Between Local Short-Term Uses and Long-Term Productivity

The proposed action and alternatives would reduce the short-term uses of the local roadway network during construction, but would increase long-term productivity by enhancing connectivity and improving travel conditions.

3.17 Social and Economic Resources

The section describes social and economic conditions and assesses the temporary and long-term effects in the geographic area that could be affected by the Project. The region of study for socioeconomics encompasses 23 counties across 4 states – Wyoming, Colorado, Utah, and Nevada. Information is provided for population and demographics, economic conditions, and social conditions including environmental justice. Socioeconomic conditions and resources addressed include short-term and long-term effects on economic conditions, population, housing, public facilities and services, and tax revenues.

3.17.1 Regulatory Framework

Social and economic conditions are not subject to direct regulation or management, although the NEPA requires they be addressed. Social and economic conditions also are commonly recognized and addressed as a concern in a wide variety of federal, state, and local planning and management processes. Two such planning processes that are particularly relevant to the proposed project are the land use management planning processes conducted by the BLM and the Forest Service for the public lands under their respective management. Guidance regarding consideration of social and economic conditions in those processes is provided by the following:

- BLM, Land Use Planning Handbook, H-1601-1
- U.S. Forest Service, Land Management Handbook, FSH 1909.12

Additional information regarding local land use planning is found in Section 3.14, Land Use.

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, published in the Federal Register in 1994, tasks “each Federal agency [to] make achieving environmental justice part of its mission.”

3.17.2 Data Sources

This analysis relies heavily on published information available from federal and state governmental agencies, supplemented by information from academic and private sources. The key data sources include the following:

- Federal agencies: Census Bureau, Bureau of Economic Analysis, Bureau of Labor Statistics, U.S. Department of the Interior and U.S. Department of Agriculture
- State agencies: respective economic, demographic, labor and revenue/taxation departments.

3.17.3 Analysis Area

The geographic extent of the analysis area for social and economic conditions, including environmental justice, is comprised of the 23 counties in which one or more of the alternative routes are located and the communities within those counties that are likely to host non-local construction workers associated with the project. The counties included in the analysis area, and their respective county seats, are listed in **Table 3.17-1**.

Table 3.17-1 Counties and County Seats in the Analysis Area

State	County	County Seat
Wyoming	Carbon	Rawlins
	Sweetwater	Green River
Colorado	Garfield	Glenwood Springs
	Mesa	Grand Junction
	Moffat	Craig
	Rio Blanco	Meeker
	Routt	Steamboat Springs
Utah	Beaver	Beaver
	Carbon	Price
	Duchesne	Duchesne
	Emery	Castle Dale
	Grand	Moab
	Iron	Parowan
	Juab	Nephi
	Millard	Fillmore
	Sanpete	Manti
	Sevier	Richfield
	Uintah	Vernal
	Utah	Provo
	Wasatch	Heber City
Washington	St. George	
Nevada	Clark	Las Vegas
	Lincoln	Pioche

The socioeconomic assessment is focused on the counties in which one or more alternative routes are located based on the following considerations:

- Most of the construction on linear projects in rural areas, such as pipelines, transmission lines, and even highways, is accomplished by a series of construction crews that move along the corridors as the project progresses,
- Many of the direct jobs are filled by workers with specialized skills who relocate temporarily for the express purpose of working on a specific project,
- Few of the non-local workers are accompanied by friends, relatives or other household members, so most of the population influx are workers directly associated with the project
- The non-local workers shift their temporary place of residence (i.e., motels, a private RV, or other accommodations) over time, to reduce commuting time and costs,
- The size of the project-related workforce and availability of temporary housing capacity within the analysis area is such that it is unlikely that many workers would need or choose to commute to communities outside of the affected counties
- With the exception of some basic construction materials, such as sand and gravel, most of the sources of the materials and equipment would be sourced from far outside the region.

The net result of these factors is that the effects on most communities would be of relatively short-duration, typically involve less than the total workforce associated with the project at any one time, have lower secondary employment effects than would be expected for a comparably sized more conventional large-scale construction project at a single location, and result in a relatively low temporary population influx. The effect on local employment and unemployment would be limited in most communities.

3.17.4 Baseline Description

This section uses selected economic and demographic data and narrative to provide a general description of socioeconomic conditions in the analysis area, focusing on conditions potentially affected by construction of the proposed transmission line project.

All 23 counties in the analysis area gained population during the last decade. Between 2000 and 2010, the combined population of the 23 counties increased by 871,054 residents, to 3,158,560; the change represents a net increase of 38.1 percent (**Table 3.17-2**). The largest share of the total growth occurred in the Las Vegas metropolitan area (Clark County, Nevada). Substantial net growth also occurred in the Utah portion of the analysis area between 2000 and 2010. The main drivers of the population growth included retirement migration, natural resource development, and migration associated with other economic development and a broad range of lifestyle factors.

Table 3.17-2 Population in the Social and Economic Analysis Area, 2000 and 2010

State / (Number of counties included)	2000 Population	2010 Population	Population Change, 2000-2010	
			Absolute	Percent
Wyoming (2 counties)	53,252	59,691	6,439	12.1
Colorado (5 counties)	198,825	247,082	48,257	24.3
Utah (14 counties)	655,499	895,173	239,674	36.6
Nevada (2 counties)	1,379,930	1,956,614	576,684	41.8
Analysis Area Total	2,287,506	3,158,560	871,054	38.1

Source: U.S. Census Bureau, 2011a.

The analysis area is predominately rural. Seventeen of the counties in the analysis area had fewer than 30,000 residents, with the least populous county having just 4,165 residents in 2010. Four urban counties, containing one or more metropolitan areas, also are included in the analysis area; Grand Junction, Colorado; Provo-Orem and St. George, Utah; and Las Vegas, Nevada; the latter with a 2010 population of more than 1.95 million residents (**Figure 3.17-1**). Population densities ranged from less than 1.0 to 257.8 persons per square mile in 2010, compared to the national average of 87.4 (U.S. Census Bureau 2001b).

There are six Indian Reservations located in the analysis area: the Uintah and Ouray Indian Reservation (Utah), Paiute Indian Reservation (Utah), Moapa Indian Reservation (Nevada), Snow Mountain Indian Reservation (Nevada), Las Vegas Colony (Nevada), and a portion of the Fort Mojave Indian Reservation (Nevada).¹ The largest of these is the Uintah and Ouray Indian Reservation in northeast Utah.

¹ The Snow Mountain Indian Reservation, Las Vegas Colony, and Fort Mojave Indian Reservation are located at considerable distance from any proposed facilities associated with the TWE project.

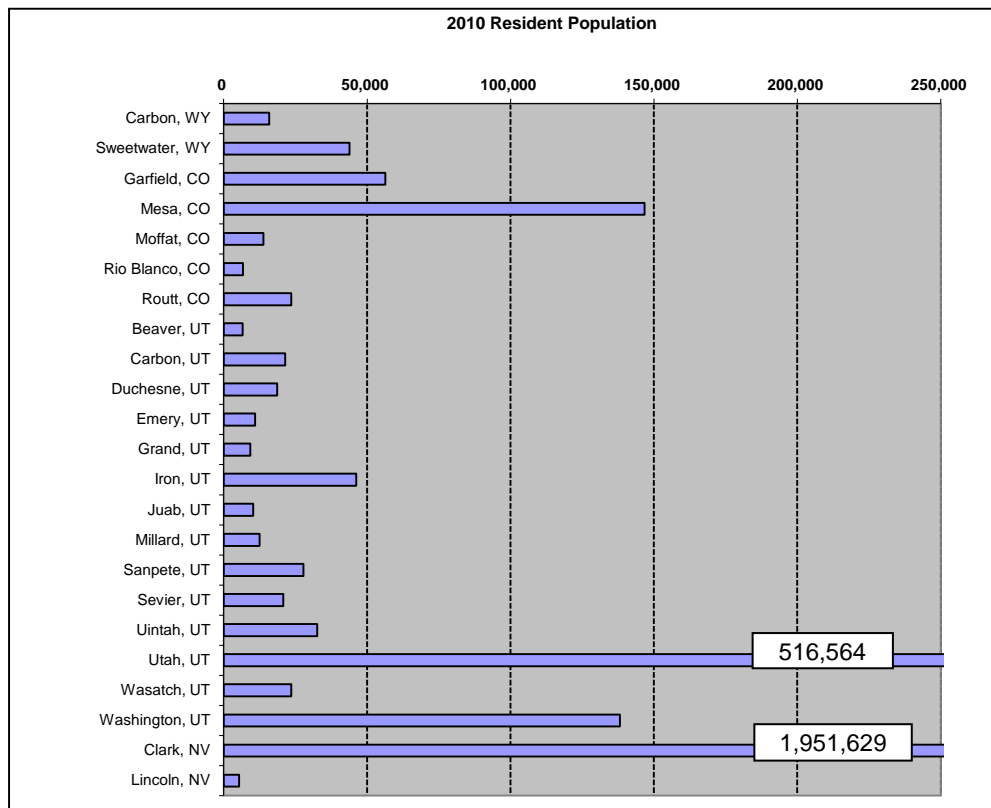


Figure 3.17-1 2010 Population of Counties in the Social and Economic Analysis Area

Prior to the recent national recession, the analysis area had experienced a period of economic growth. Total employment across the analysis area in 2009 was over 1.7 million jobs. That total was nearly 332,000 above the total in 2001, but more than 111,000 fewer jobs than existed at the outset of the national recession. Private sector non-farm jobs accounted for nearly 1.52 million, or 87.6 percent, of the 2009 total. Public sector employment totaled nearly 196,000 jobs, with farm jobs accounting for the remainder. The construction industry, which lost 60,000 jobs between 2007 and 2009, continued to account for more than 127,000 jobs in the analysis area. The accommodations and food industries provided more than 283,000 jobs in 2009, the bulk of which were based in the Las Vegas area (U.S. Bureau of Economic Analysis 2011).

Unemployment rates increased across the analysis area during the national recession that began in late 2007, in some instances dramatically. In 2007, prior to the full weight of the recession becoming apparent, an average of more than 58,000 residents, representing 3.8 percent of the labor force, were unemployed. As the recession continued, average unemployment across the analysis area approached 197,000 in 2010, representing 12.7 percent of the labor force. Average annual unemployment among the counties in the analysis area during 2010 ranged from 5.1 percent to 15.2 percent, with a median rate of 8.8 percent. National unemployment averaged 9.6 percent for the same period (U.S. Bureau of Labor Statistics 2011).

Social conditions and lifestyles in the analysis area vary considerably, reflecting the influences of factors including the economic and geographic setting, the state in which the area is situated, cultural backgrounds, land use and ownership, and climate, among others. Natural resources, the “outdoors,” and public lands, whether in the form of national parks or natural gas resources, play important roles in social conditions and lifestyles across the rural areas. In general, rural residents exhibit a relatively high degree of self-reliance, often looking to local government to focus primarily on the provision of essential public administration,

infrastructure, and services. Over the past 10 to 20 years, economic development and growth have contributed to substantial change in social conditions in much of the rural portions of the analysis area.

Natural resources, the “outdoors,” and public lands also influence social conditions in the more urban portions of the analysis area, but the influence is less pronounced. In contrast to the rural areas, growth and development have been a dominant influence shaping social conditions in the metropolitan areas across the analysis area. Immigration of many new residents has been both a cause and an effect associated with the growth.

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, tasks “each Federal agency [to] make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations.” Along with most of the country, racial and ethnic diversity has been increasing across the analysis area in recent years. However, with the exception of Clark County, minorities account for smaller shares of the respective county populations in the analysis area than they do at the nation level. Poverty rates across the analysis area also tend to be below the national average, which is reflected in

Table 3.17-3.

Table 3.17-3 Selected Social Characteristics in the Social and Economic Analysis Area, As Reported in the 2010 Census

	Racial or Ethnic Minority Population		Percent of Total Population in Poverty – 2009	Population Density – Persons/Square Mile (range)
	Number of Resident	Percent of Total Population		
United States	111,927,986	36.3	14.3	87.4
Wyoming (2 counties)	11,576	19.4	7.8	2.2 – 4.2
Colorado (5 counties)	47,876	19.4	10.1	2.1 – 44.1
Utah (14 counties)	133,701	14.9	11.7	1.5 – 257.8
Nevada (2 counties)	1,015,961	51.9	12.4	0.5 – 247.3

Source: U.S. Census Bureau 2011b,c.

As described in Section 2.4.2, the overall analysis area is subdivided into four regions. Selected socioeconomic information and descriptions, with pertinent tallies and sub-totals for each of the four regions, are presented below. **Table 3.17-4** lists the constituent counties associated with each of the four regions. Population change in the analysis area between 2000 and 2010, when examined on a regional basis, ranged from 12.7 percent in Region I to 41.9 percent in Region III. Region I is predominately rural, whereas Region III includes the rapidly growing St. George, Utah, and Clark County, Nevada, urban areas. In absolute terms, the former change equates to a net increase of 10,950 residents, while the latter represents more than 637,000 additional residents. In all regions, the population growth was concentrated in and around the larger communities in each county.

Table 3.17-5 lists the incorporated and unincorporated communities of 2,000 or more residents in each region. These communities tend to be those with the most governmental services, short-term lodging accommodations, and retail trade and service establishments that may be affected by short-term demands. However, not all of those communities would experience short- or long-term growth in association with the project. At the same time, there are many smaller communities within the analysis area, which are not listed in **Table 3.17-5** that may experience some socioeconomic effects associated with the project, primarily

related to hosting temporary workers as the construction moves along the corridor. The table is followed by a brief discussion of key economic and social trends for each region.

Table 3.17-4 Counties in the Social and Economic Analysis Area, by Region¹

Region I	Region II	Region III	Region IV
Carbon, Wyoming Sweetwater, Wyoming Moffat, Colorado Routt, Colorado	Moffat, Colorado Rio Blanco, Colorado Garfield, Colorado Mesa, Colorado Uintah, Utah Duchesne, Utah Carbon, Utah Emery, Utah Wasatch, Utah Utah, Utah Sanpete, Utah Juab, Utah Millard, Utah Grand, Utah Sevier, Utah	Millard, Utah Beaver, Utah Iron, Utah Washington, Utah Lincoln, Nevada Clark, Nevada	Clark, Nevada

¹ Counties in each region generally are listed from east to west and north to south along the transmission line routing, i.e., from Wyoming to Nevada.

Table 3.17-5 Population in the Social and Economic Analysis Area 2000 and 2010, by Region

Region*	2000 Pop. (Census)	2010 Pop. (Census)	Net Change	Percent Change	Communities with 2,000 or more Residents**
I	86,045	96,995	10,950	12.7	Rawlins, North Rock Springs CDP, Rock Springs, Green River, Craig, and Steamboat Springs.
II	704,577	927,839	223,262	31.7	Carbondale, Glenwood Springs, New Castle, Rifle, Silt, Battlement Mesa CDP, Clifton CDP, Fruitvale CDP, Grand Junction, Fruita, Orchard Mesa CDP, Palisade, Redlands CDP, Maeser CDP, Vernal, Roosevelt, Helper, Price, Huntington, Moab, Heber City, Midway, Park City, Alpine, American Fork, Cedar Hills, Draper, Eagle Mountain, Elk Ridge, Highland, Lehi, Lindon, Mapleton, Orem, Payson, Pleasant Grove, Provo, Salem, Santaquin, Saratoga Springs, Spanish Fork, Springville, Ephraim, Gunnison, Manti, Mount Pleasant, Nephi, Richfield, Salina, Delta, Fillmore.
III	1,522,473	2,160,024	637,551	41.9	Beaver, Cedar City, Enoch, Parowan, Hildale, Hurricane, Ivins, LaVerkin, Saint George, Santa Clara, Washington, Boulder City, Enterprise CDP, Henderson, Las Vegas, Laughlin CDP, Mesquite, Moapa Valley, Nellis AFB CDP, North Las Vegas, Paradise CDP, Sandy Valley CDP, Spring Valley CDP, Summerlin South CDP, Sunrise Manor CDP, Whitney CDP, and Winchester CDP.

Table 3.17-5 Population in the Social and Economic Analysis Area 2000 and 2010, by Region

Region*	2000 Pop. (Census)	2010 Pop. (Census)	Net Change	Percent Change	Communities with 2,000 or more Residents**
IV	1,375,765	1,951,269	575,504	41.8	Boulder City, Enterprise CDP, Henderson, Las Vegas, Laughlin CDP, Mesquite, Moapa Valley, Nellis AFB, North Las Vegas, Paradise CDP, Sandy Valley CDP, Spring Valley CDP, Summerlin South CDP, Sunrise Manor CDP, Whitney CDP, and Winchester CDP.

* The geographic definition of the regions results in some double-counting of population between regions. The double-counting is most pronounced between Regions III and IV due to inclusion of Clark County, Nevada, in each region.

** The list includes incorporated cities and towns and unincorporated communities with more than 2,000 residents that are recognized as Census Designated Places (CDPs) by the U.S. Census Bureau. CDPs are closely settled, named, unincorporated communities that generally contain a mixture of residential, commercial, and retail areas similar to those found in incorporated places of similar sizes. Each CDP contains an identifiable core encompassing the area that is associated strongly with the CDP name and contains the majority of the CDP's population, housing, commercial structures, and economic activity. Not included in the list are the numerous smaller communities and settlements located with the analysis area.

Source: U.S. Census Bureau 2011a.

3.17.4.1 Region I

Region I is comprised of four counties in south-central Wyoming and northwestern Colorado. In 2010, the total population of the region was 96,995, a net increase of 12.7 percent compared to the 2000 population (Table 3.17-5).

The region's economy is heavily dependent on energy-resource development, including oil and gas, coal, trona and other mineral mining, and electrical generation and transmission. Due in large part to that reliance, the contemporary history of the region is characterized by periods of economic expansion and contraction. Tourism and outdoor recreation also are important contributors to the regional economy – portions of the I-80 corridor, Flaming Gorge National Recreation Area (NRA), Dinosaur National Monument, the Medicine Bow and Ashley national forests, and extensive public lands managed by the BLM are located in Region I. Hunting and fishing, by residents and visitors alike, are important outdoor activities in much of this region. Farming and ranching, the latter heavily reliant on grazing on BLM and USFS lands, is important to the region from an economic, land use, and cultural perspective.

Oil and gas development, including substantial pipeline and other ancillary infrastructure development, has been a dominant factor influencing socioeconomic conditions across the region in recent years. That development has supported economic expansion, low unemployment, and higher wages and income for residents, along with population immigration, new housing development, expansion of the retail trade and service industries, and expansion and improvements of public community infrastructure and services in many communities within the region, including Rawlins, Wamsutter, Rock Springs, Vernal, and Rangely. Several wind energy projects also have been built and are operating in the region.

The national economic recession and sharp declines in natural gas prices (among other potential factors) slowed the pace of energy development in the region dramatically. As a result, employment declined and unemployment increased. Nonetheless, more than 69,675 jobs were reported in the region in 2009, with nearly 6,500 construction jobs reported as reflected in Table 3.17-6. Unemployment rates, estimated at 8.0 percent across the region in 2010, more than double the rates of a few years earlier, remained substantially below the national average of 9.6 percent.

Table 3.17-6 Selected Economic Characteristics in the Social and Economic Analysis Area, by Region

Region	Total Employment - 2009 (REIS)	Total Construction Employment 2009 (REIS)	Total Farm Employment 2009 (REIS)	Annual Avg. Unemployment No. and Rate - 2010
I	69,675	6,487	1,805	6,614 / 8.0% (est.)
II	475,996	43,371	12,088	36,568 / 8.5% (est.)
III	1,187,353	77,955	3,086	156,393 / 14.7% (est.)
IV	1,082,964	75,809	241	147,510 / 15.2%

Sources: U.S. Bureau of Economic Analysis, 2011 and Bureau of Labor Statistics, 2011.

The economic downturn had far reaching consequences for social conditions in the region as well. Many households were affected by declining incomes, many unemployed left the area, new home construction virtually stopped, local governments adjusted to declining revenues by trimming staff and services, and businesses closed. These changes affected social relationships and the lifestyles of individuals and households. Social institutions and organizations also were affected.

One legacy of energy development and tourism and outdoor recreation travel in recent years is the expansion of the hospitality industry and the bolstering of the retail trade sector across the region. According to the U.S. Census Bureau County Business Patterns, there were a total of 353 motels, hotels, private RV/campgrounds, restaurants and other eating and drinking locales in Region I (**Table 3.17-7**). Together the motels, hotels, and RV/campgrounds offer nearly 9,500 rooms and spaces (**Table 3.17-8**). Most of those establishments are located in the larger towns, such as Rawlins, Rock Springs, and Vernal that also function as regional trade and service centers.

Table 3.17-7 Retail Trade and Hospitality Oriented Establishments and Employment in the Social and Economic Analysis Area, County Business Patterns 2009¹

Region	Retail Trade		Accommodations and Food Services	
	Number of Establishments	Estimated Total Employees	Number of Establishments	Estimated Total Employees
I	583	5,878	353	7,320
II	3,718	51,867	315	6,522
III	5,943	98,213	330	158,635
IV	5,644	94,865	287	158,186

¹ The geographic definition of the regions results in some double-counting of establishments and employees between regions. The double-counting is most pronounced between Regions III and IV due to inclusion of Clark County, Nevada, in each region.

Source: U.S. Census Bureau 2011d.

Table 3.17-8 Temporary Overnight Housing Capacity (Motel/Hotel Rooms and RV/Campground Spaces) in the Social and Economic Analysis Area^{1,2}

Region	Motel/Hotel Rooms	RV/Tent Sites	Total Short-term Lodging Capacity
I	7,383	2,115	9,498
II	26,265	10,127	36,392

Table 3.17-8 Temporary Overnight Housing Capacity (Motel/Hotel Rooms and RV/Campground Spaces) in the Social and Economic Analysis Area^{1,2}

Region	Motel/Hotel Rooms	RV/Tent Sites	Total Short-term Lodging Capacity
III	143,101	7,278	150,379
IV	140,740	6,206	146,946

¹ The geographic definition of the regions results in some double-counting of rooms and RV/tent sites between regions. The double-counting is most pronounced between Regions III and IV due to inclusion of Clark County, Nevada, in each region.

² The total rooms and RV/tent sites does not include bed and breakfasts or spaces at public campgrounds on the National Forest, public lands, or state parks.

Sources: Colorado Tourism Office 2011; Nevada Commission on Tourism 2011; Utah Office of Tourism 2011; Wyoming Tourism 2011.

Energy development continues in Region I, albeit at a slower pace than occurred prior to the recession, a period characterized by higher natural gas prices. Currently known resources will sustain oil and gas development for the foreseeable future. Higher energy prices for natural gas could foster an increase in new development, although the oil and gas industry is presently focusing new investments in the Bakken, Niobrara, Marcellus, and Barnett shale plays in other parts of the country.

3.17.4.2 Region II

This region encompasses 15 counties in west-central Colorado and the central tier of Utah, including the Grand Junction and Provo-Orem metropolitan areas. Region II includes the Uintah and Ouray Indian Reservation. Like Region I, energy development is a vital element of the region's economy. Such development includes active oil and gas development in the Uintah Basin, coal mining in central Utah counties, and electrical generation in multiple locations. Tourism and outdoor recreation also are important contributors to the regional economy – portions of several national forests, Arches and Capitol Reef (part) national parks and the Colorado and Dinosaur national monuments, numerous state parks, and the I-70 and I-15 corridors are located in Region II. Hunting and fishing, by residents and visitors alike, along with hiking, camping, mountain biking, OHV use, and watching wildlife are important outdoor activities in much of this region. Farming and ranching, supported by grazing on BLM and USFS lands, are important to the region from an economic, land use, and cultural perspective. As compared to the other three regions, farming accounts for a larger share of the total agricultural output in Region II. Region II includes the Uintah and Ouray Indian Reservation (Utah).

In 2010, Region II had 927,839 inhabitants, a net increase of more than 223,000 residents or 31.7 percent compared to the 2000 population (**Table 3.17-5**). The population gains were concentrated in the two metropolitan areas, in particular Provo-Orem (Utah County, Utah). The non-metropolitan counties have populations ranging from 6,666 (Rio Blanco County, Colorado) to 56,389 (Garfield County, Colorado). The Provo-Orem metropolitan area has been recognized for a high-quality of life for residents and is characterized by a relatively diverse economy, while that portion of Region II comprised of Colorado and eastern Utah are more dependent on natural resource development, tourism and outdoor recreation, and agriculture.

In 2009, employment in Region II totaled nearly 476,000 jobs, including 43,371 jobs in the construction industries. More than 3,700 retail establishments employed nearly 52,000 people to serve the needs of household and business consumers. There were 315 motels and hotels, restaurants and other eating and drinking places in Region II. The former category offers more than 36,000 rooms and RV/camping sites to meet travel and tourism needs. While many of these establishments and the associated overnight lodging capacity are located in the Provo-Orem area, recent energy development promoted expansion of the lodging base in the eastern portion of the Region.

Unemployment across Region II ranged from 6.6 percent to 10.8 percent on a county level in 2010, with an average of 8.5 percent. Although higher than unemployment in Region I, most areas in Region II continued to fare better than the nation as a whole.

3.17.4.3 Region III

Among the four regions, Region III is the most diverse in terms of socioeconomic setting, encompassing six counties in southwestern Utah and southern Nevada. The region includes Beaver County, Utah and Lincoln County, Nevada, both of which are quite rural and sparsely populated, but also the Las Vegas metropolitan area in Clark County and the St. George metropolitan area in Washington County. Clark County also is home to Nellis Air Force Base. Portions of several national forests, Zion National Park, Cedar Breaks National Monument, and Lake Mead NRA, Valley of Fire State Park (Nevada) and portions of the I-15 corridor also are located in Region III. The Paiute Indian Reservation (Utah), Moapa Indian Reservation (Nevada), Snow Mountain Indian Reservation (Nevada), Las Vegas Colony (Nevada), and a portion of the Fort Mojave Indian Reservation (Nevada) are located in Region III.

In 2010, the total population of the region was 2.16 million, a net increase of 637,551 residents (41.9 percent) over the 2000 population (**Table 3.17-5**). The population gains and the economic data for Region III are dominated by those for Clark County, among the fastest growing metropolitan areas in the nation over the past 20 years. Washington (St. George) and Iron (Cedar City) counties in Utah also realized substantial growth during the decade. The remaining three counties are sparsely populated, ranging from 5,345 to 12,503 residents in 2010.

Over time, economic development efforts in Clark County had some success in recruiting and fostering expansion of financial services, technology-oriented manufacturing, and professional services in an effort to diversify the economy and reduce its dependency on entertainment and to a lesser extent, the federal government. That success, along with climate, a reasonable cost of living, relatively abundant job opportunities, and other factors, stimulated strong migration into the area, not only by retirees, but younger, working age adults and families. At the same time, the entertainment and gaming industries set out on a dramatic expansion, fueled by general economic prosperity across the nation and in overseas areas that accounted for many international travelers to Las Vegas. The net result was a boom in residential and commercial construction. Retirement and lifestyle migration also was a major contributor to the growth in southwestern Utah. Similar to Clark County, that growth was accompanied by an increase in residential and commercial construction, and expansion of the local trade and services industries. Unemployment across the region was substantially below the national average.

Economic conditions changed rapidly in response to the economic recession, combined with the fallout of the housing mortgage crisis. Total employment in Region III was 1,187,353 jobs in 2009, over 90 percent of which were based in Clark County. The total employment in 2009 reflects a loss of more than 95,000 jobs as compared to 2007, nearly 88,000 of which had been based in Clark County, with much of that job attrition coming from the construction and related industries. Job losses in Iron and Washington counties during the same 2-year period totaled more than 7,300. Unemployment climbed to record high levels of 15.7 percent in Clark County and to double-digit levels elsewhere in Region III. Unemployment across the region averaged 14.7 percent for 2010, representing more than 156,000 unemployed.

Not surprisingly, Region III supports an extensive base of more than 150,000 hotel and motel rooms and RV/camp sites. The majority of these are in Clark County; however, nearly 3,500 rooms and RV/camp sites exist elsewhere in Region III, primarily in the St. George and Cedar City areas. The region also hosts a large base of retail trade establishments.

Some signs of economic improvement are evident in the Las Vegas area, i.e., small year-over-year increases in the overall number of visitors and overall gaming revenues. However, the timing and scale of a

broader economic recovery are highly uncertain. Although slowed, new construction and growth continue in the St. George area; that too is expected to continue for the foreseeable future.

3.17.4.4 Region IV

This region is comprised solely of Clark County, Nevada. Lake Mead NRA, Valley of the Fire State Park, and the I-15 corridor, and the area serves as a major gateway to Grand Canyon and Death Valley National Parks. As described earlier, the Las Vegas metropolitan area was among the fastest growing metropolitan areas in the nation prior to the recent economic recession, gaining more than 575,000 residents between 2000 and 2010 (**Table 3.17-5**). Approximately 40 percent of the net population growth in Clark County over the past decade occurred in Henderson in the southeast portion of the Las Vegas Valley. Boulder City is approximately five miles southeast of Henderson and the Las Vegas Valley, separated by Railroad Pass, which carries U.S. Highway 93/95. Boulder City saw virtually no growth in population between 2000 and 2010, registering a net increase of just 57 residents. The Moapa Indian Reservation, Snow Mountain Indian Reservation, Las Vegas Colony, and a portion of the Fort Mojave Indian Reservation are in Region IV.²

In contrast to the high-energy entertainment and casino/resort image that many associate with Las Vegas, Henderson is a suburban bedroom community, characterized by vast tracts of newer residential and consumer oriented development, interspersed with areas of light industry. Steep, hilly terrain, including the approach to Railroad Pass, constrains Henderson's expansion to the south. Henderson experienced a sharp decline in construction activity, loss of jobs for residents, declining property values, and reduced tax revenues due to the recession and housing financing crisis.

Boulder City, which served as the primary staging area for the construction of the Hoover Dam, today is a combination of bedroom, retirement, and recreation gateway community. U.S. Highway 93, which serves as the primary highway access to the Hoover Dam, crosses the recently completed Mike O'Callaghan-Pat Tillman Bridge over the Colorado River to Arizona, and an important access to the Lake Mead NRA passes through Boulder City. Retail trade and services, much of it geared toward travelers and outdoor recreational pursuits, and federal employment, are important elements of the community's economy. More so than by the recession, the Boulder City economy has been buffeted by the continuing effects of the epic, drought-related drop in water levels in Lake Mead that dramatically reduced recreation visitation and associated economic benefits for the area.

3.17.5 Impacts to Socioeconomic Conditions

This section addresses potential impacts to socioeconomic conditions in the region of study associated with the Project and the Alternative Routes, Alternative Variations and Alternative Connectors during project construction, operations and decommissioning. Socioeconomic conditions and resources addressed include short-term and long-term impacts on economic conditions, population, housing, public facilities and services, and tax revenues.

The following socioeconomic issues and concerns were identified during the agency and public scoping:

- Potential effects on local tax revenues and short-term economic benefits from temporary employment opportunities;
- Potential effects on local agricultural output (e.g., a reduction in cultivated cropland and pastureland, increased management costs, or effects on grazing on public lands due to reduction in forage quality);

²The Snow Mountain Indian Reservation, Las Vegas Colony, and Fort Mojave Indian Reservations are located at considerable distance from any proposed facilities associated with the TWE project.

- Potential effects to private property values, especially for agricultural lands and residential development;
- Potential economic and social effects due to project-related effects on outdoor recreation opportunities and activities, including big game hunting, camping, hiking and OHV use;
- Concern regarding potential effects on long-term economic and community development and growth based on proximity of the power line corridors to communities;
- Concern regarding the use of eminent domain and associated economic and social effects; and
- Potential effects on quality of life and other social values of residents of the regions crossed by project-related effects on land use, visual, and outdoor recreation.

Table 3.17-9 lists important assumptions and other considerations for the socioeconomics analysis.

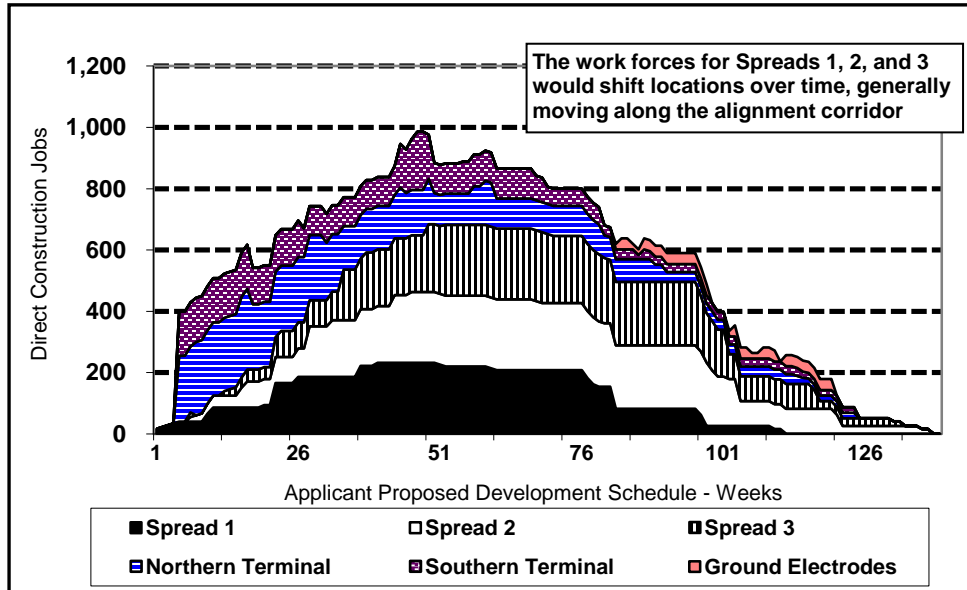
Table 3.17-9 Analysis Considerations Relevant to Socioeconomics

Resource Topic	Analysis Considerations and Relevant Assumptions
Permitting	The Project will be subject to permitting through the Wyoming Industrial Siting Administration, one topic of which will be an assessment of housing needs, resources, and project-related effects.
Economic Impacts	<p>The direct employment requirement and construction schedule for the project would be as outlined in the PDTR. Communities in the vicinity of the common end points for Spreads 1 and 2 and Spreads 2 and 3 would not be affected concurrently by the construction workforces for two spreads.</p> <p>For Alternatives B and C, it is assumed that additional direct labor would be added to complete each spread within the same amount of time proposed to complete Alternative A.</p> <p>Delivery of non-locally procured materials and equipment to staging areas for the project is assumed to be via truck, or rail delivery to an existing rail loadout facility, with materials then trans-loaded for delivery to the site by truck.</p>
Public Sector Revenues	<p>Estimates of sales and use tax are derived based on the estimated project development costs provided by TransWest.</p> <p>Ad valorem tax revenues are addressed qualitatively.</p>
Effects on Private and Public Lands	<p>Based on GIS coverage and analysis of land use surface ownership.</p> <p>Assessment to be coordinated with Land Use (see Section 3.15)</p>
Environmental Justice Considerations	Would there be disproportionately high human health and environmental effects of the Project on minority populations and low-income populations.

In addition to the Alternative Routes, which determine the general proximity of construction activity to nearby potentially affected communities, three other important parameters affecting the socioeconomic effects of the Alternatives are the schedule/pace of development, the direct employment requirements, and the estimated capital outlays for materials and equipment.

Construction Schedule and Estimated Direct Employment

TransWest's preliminary project development schedule calls for completion of the entire project over a 137-week period (approximately 32 months or just over 2½ years). The beginning and end of the schedule is defined by the planned construction of the transmission line, with the schedule for construction of each of the terminals and ground electrodes occurring within that timetable. **Figure 3.17-2** summarizes the overall project development schedule and direct employment, by major component, for the Project.



Source: TWE, PDTR. May 2011.

Figure 3.17-2 Projected Direct Construction Employment During Development

Direct employment associated with the construction of each spread would average approximately 140 jobs over the 2-plus year construction schedule, with a temporary peak of approximately 230 jobs. However, the work force for each spread will be distributed in different locations along the corridor such that the number of temporary nonlocal workers located at any one time, in any given location/community, would likely number fewer than 100. Although local contractors and workers could fill some of the direct needs, particularly in locations near larger communities such as Las Vegas, Grand Junction, and Provo/Orem, non-local workers would be needed in the more rural areas and to complete some of the more specialized tasks.

Not apparent in **Figure 3.17-2** is the spatial dimension of the project whereby construction on multiple components would occur concurrently, but the nexus of construction on each component would be spatially separated by substantial distances (e.g., the Northern Terminal in Wyoming, the Southern Terminal in Nevada) and move along the corridor over time. Construction of the Project under Alternative A would occur in three “spreads,” each representing a major segment of the overall 725+ mile-long transmission corridor as follows:³

- Spread 1 for Alternative A covers approximately 221 miles, extending from the northern terminal near Rawlins, Wyoming, to a point between Vernal and Roosevelt, Utah. Spread 1 spans all of Region I and a portion of Region II. The development schedule calls for completion of Spread 1 in 111 weeks. Construction activity is anticipated to occur somewhere within Spread 1 throughout the year (i.e., timing limitations related to wildlife considerations would not result in a temporary cessation of activity across the entire spread).
- Spread 2 covers approximately 235 miles, extending across central Utah from the western end of Spread 1 to a point in the vicinity of the IPP, approximately 25 miles west of Fillmore, Utah. The proposed schedule to complete Spread 2 spans 131 weeks, commencing 7 weeks after the

³ Note that the geographic segmentation of the spreads does not correspond directly with the four regions (see **Figures 2-21 through 2-24**).

beginning of work on Spread 1. Spread 2 covers the western portion of Region II and northern portion of Region III.

- Spread 3 covers the remainder of Region III not covered by Spread 2, and all of Region IV, extending approximately 269 miles through western Utah into Nevada, continuing to the north and west of Lake Mead, then south to the southern terminal. The schedule to complete construction of Spread 3 is 120 weeks. Construction of Spread 3 is planned to commence concurrently with Spread 2.

The lengths of the three spreads would vary for the alternative routes, resulting in corresponding changes in the development schedule and/or changes in the level of construction employment to complete the respective spreads. The differences would not be expected to substantively alter the assessment or conclusions regarding potential socioeconomic effects of the project.

A separate contract, potentially with different contractors, would govern construction in each spread. The use of three spreads allows concurrent construction in multiple locations across the overall route. In fact, due to the linear nature of the corridor and multiple activities involved (e.g., surveying, transmission tower pad construction and erection, and transmission line stringing), construction activities would occur concurrently in multiple locations in any given spread. Moreover, some construction activities can be quickly repositioned to different locations in response to weather, BLM-imposed limitations on construction for wildlife protection, or unanticipated events. The movement and distribution of the construction workforce across the spread strongly influences the scale and duration of short-term socioeconomic effects on communities in proximity to the corridor. Separate contracts also would be developed for construction of each terminal and each ground electrode system.

The overall length of the transmission line corridors for the Agency Preferred Alternative and Alternatives B and C are longer than that for Alternative A, by 100 and 173 miles, respectively (**Table 3.17-10**). The Alternative D corridors in Regions I and II are 5 miles longer than the corresponding corridors for Alternative A, and the Alternative E corridor in Region II is 9 miles longer than that in Alternative A.

Table 3.17-10 Approximate Length of the Transmission Line Corridor by Alternative Route and Region

Alternative	Miles of Transmission Line					Difference Compared to Alternative A	
	Region I	Region II	Region III	Region IV	Total	Miles	Percent
Agency Preferred	172	270	311	39	795	65	8
Alternative A	155	257	276	39	727	--	--
Alternative B	159	345	282	41	827	100	14
Alternative C	186	365	308	45	904	173	24
Alternative D	172	262	311	NA	783	56	2
Alternative E	NA	266	NA	NA	266	9*	<1**
Alternative F	NA	270	NA	NA	270	13*	<1**

Notes: NA = not applicable because the alternative corridor is not defined in the particular region.

* Difference in Regions I and II only

** The percent difference is derived by combining the alternative corridors with the corridors from Alternative A for the other regions.

Sources: TWE and AECOM 2011.

In contrast to the transient nature of construction activity along the transmission line corridors, each of the terminals and ground electrodes involve construction at a defined location over a period of time. Construction of each terminal would require approximately 28 months, with work forces to be based in the Rawlins/Sinclair area for the northern terminal and the Las Vegas Valley/Boulder City area for the southern

terminal. Construction of each of the ground electrodes, one in Region I and the other in Region III, would require about 9 months, scheduled such that completion coincides with the completion of the transmission lines and terminals. Because of their fixed location, the short-term socioeconomic effects associated with the terminal and ground electrode facilities would be similar to those with many other traditional fixed-location construction projects.

Project Development Cost and Public Sector Revenues

Construction and operation of the electrical power transmission system would generate a variety of tax and fee revenues to state and local governments. The primary sources of tax revenues associated with the construction and operation of the project would include sales and use taxes levied on taxable purchases of materials, supplies and equipment by the applicant and contractors during construction, local consumer purchases by construction workers employed on the project, including lodging expenses, and the annual ad valorem/property taxes on the transmission line and other infrastructure following completion.

The estimated project development costs for the alternatives range from approximately \$2.47 billion for Alternative A to \$2.78 billion for Alternative C (**Table 3.17-11**); the cost range reflecting the difference in length of transmission line. Implementation of one or more of the alternative variations, collectors or ground electrode locations could result in additional differences in development costs; however, such differences would likely be minor in comparison to the base cost of Alternative A or cost differences associated with the alternative routes.

Table 3.17-11 Approximate Project Construction Cost, By Alternative Route

	Transmission Lines**	Terminals and Ground Electrodes	Project Total	Difference Compared to Alternative A
Agency Preferred	\$1.42 billion	\$1.17 billion	\$2.59 billion	+ \$0.12 billion / 5%
Alternative A	\$1.30 billion	\$1.17 billion	\$2.47 billion	--
Alternative B	\$1.48 billion	\$1.17 billion	\$2.65 billion	+ \$0.18 billion / 7%
Alternative C	\$1.61 billion	\$1.17 billion	\$2.78 billion	+ \$0.31 billion / 13%
Alternative D	\$1.40 billion	\$1.17 billion	\$2.57 billion	+ \$0.10 billion / 4%
Alternative E	\$1.32 billion	\$1.17 billion	\$2.49 billion	+ \$0.02 billion / 1%
Alternative F	\$1.33 billion	\$1.17 billion	\$2.50 billion	+ \$0.03 billion / 1%

** Approximate costs for transmission lines assume the same average per mile construction cost, regardless of topography, geology or other factors.

Sources: TWE (Alternative A) and AECOM (Alternatives B – F) 2013, 2012, 2011.

The capital investment associated with the project would generate sales and use tax proceeds for state and local governments during construction and become the basis for long-term ad valorem/property taxes for local governments, public education, and other special service entities with taxing jurisdiction covering the facilities. The tax generation for a specific jurisdiction would be a function of the levels of spending within the jurisdiction and applicable tax rates. Tax regulations and rates vary between the states and among jurisdictions within a state. **Table 3.17-12** summarizes the sales and use tax rates that would apply to project construction.

Based on the preliminary construction cost estimates, an assumed value of taxable material and equipment purchases equivalent to 40 to 50 percent of the total project cost and the applicable state tax rates, construction of the entire project would generate sales and use taxes on the order of \$45 million to \$60 million. An estimated 45 to 55 percent of that total would accrue to the state and local governments in Nevada. Taxable purchases made by the applicant and contractors in local jurisdictions that levy sales taxes, would generate additional sales and use taxes, but the amount of revenue would likely be limited in comparison to the material purchases for the transmission line, terminals and ground electrodes.

Table 3.17-12 State and Local Sales and Use Tax Rates Associated with New Industrial Construction in the Analysis Area, by State

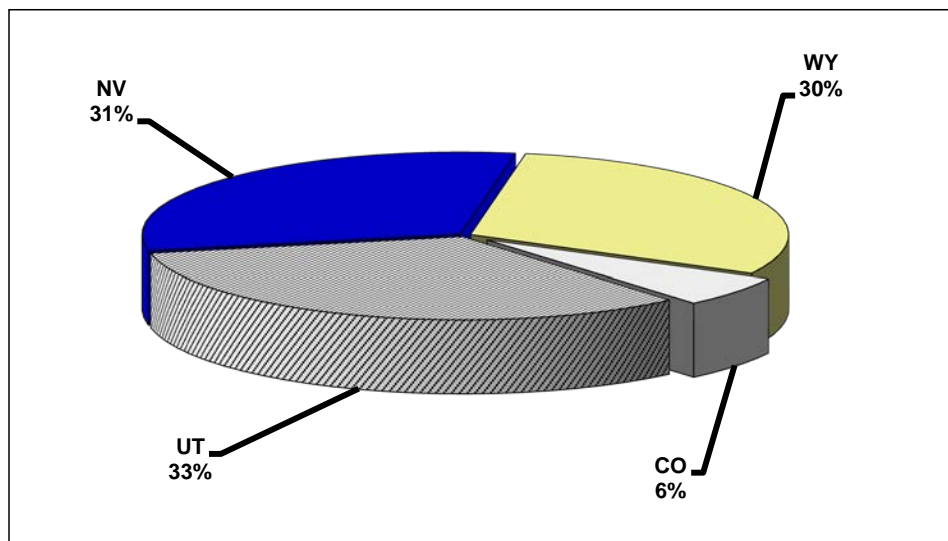
State	State Sales and Use	Local Sales and Use (Range)	Lodging Tax (Range)
Wyoming	4.0%	Local option, up to 2%	Local option, up to 4%
Colorado	2.9%	Local option, up to 4.75%	Local option, up to 2%
Utah	4.0%	Local option, up to 2.05%	State 1%, plus local option up to 5.25%
Nevada	6.85%	Local option, up to 1.25%	Local option, Up to 2%

Note: The local rates reflect tax rates for cities, counties, or a combination of the two.

Sources: Wyoming Department of Revenue; Colorado Department of Revenue; Utah State Tax Commission; Nevada Department of Taxation.

Consumer spending by construction workers also would generate sales taxes, along with lodging and other assorted taxes and fees. Again, tax rates and the application to specific types of purchases vary across the states and local jurisdictions.

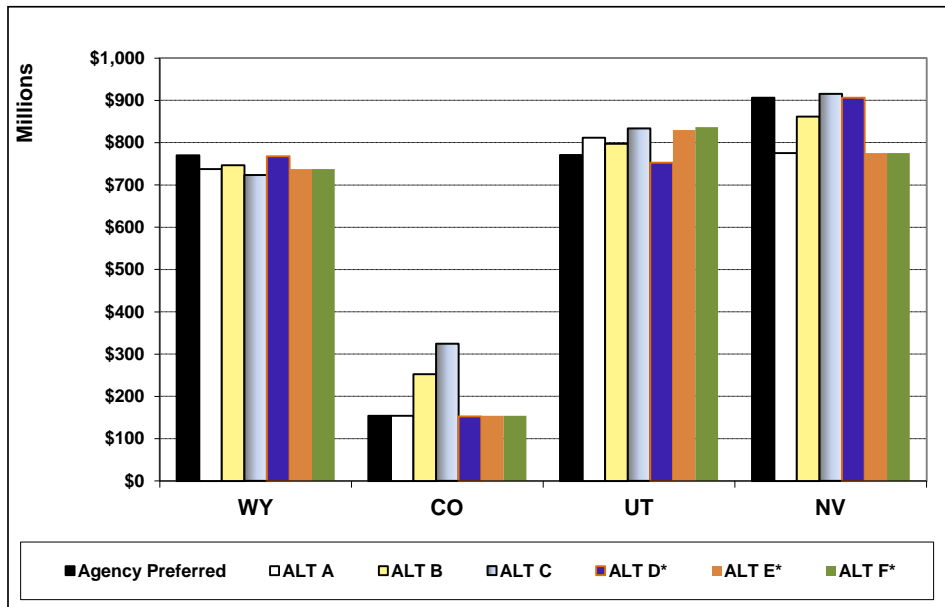
For ad valorem/property tax purposes, interstate transmission lines are assessed by the respective state revenue/taxation agencies, rather than by local assessors. The assessed valuations are determined using multiple valuation approaches, the derivation of which typically relies on information that complies with industry data reporting standards established by the Federal Energy Regulatory Commission. Project cost would likely serve as the initial basis for assessment; each state assessing the share of the total project value contributed by the facilities located within the state. Utah, Nevada, and Wyoming would each benefit from approximately one-third of the total investment, with about 6 percent located in Colorado (**Figure 3.17-3**). Virtually all of the proposed facilities would be located in unincorporated areas, limiting the future accrual of property tax revenues to local cities and towns.



Sources: TWE and AECOM 2011.

Figure 3.17-3 Approximate Geographic Distribution of \$2.47 Billion Capital Investment for the Project – Alternative A

Implementation of either Alternative B or C would increase the level of investment and valuation in Colorado and Nevada, with offsetting reductions in relative terms in Utah and Wyoming (Figure 3.17-4). With Alternative C the share of the total capital investment in Colorado would climb to 12 percent, double that with Alternative A.



* The shifts in geographic distribution reflect the differences in costs associated with the Alternatives D, E, and F corridors in Regions I, II, and III, assuming they would be paired with the Alternative A alternatives in Region IV.

Sources: TWE and AECOM 2012, 2011.

Figure 3.17-4 Geographic Distribution of Project-related Capital Investment for the Alternatives

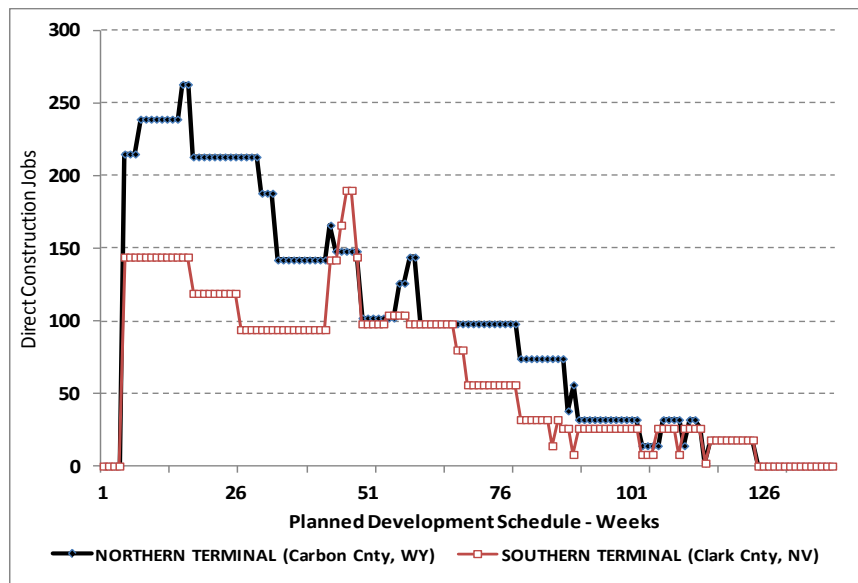
Estimates of the annual ad valorem/property tax revenues during operations were not prepared due to the lack of information needed to project the future assessed value of the transmission system, the multiplicity of individual taxing jurisdictions affected and the respective tax rates that would apply.

3.17.5.1 Impacts to Socioeconomic Conditions from Terminal Construction, Operation, and Decommissioning

This section addresses the short and long-term social and economic effects that would arise in conjunction with the construction of the two terminals. Such impacts would include short-term increases in direct and indirect employment, and demands on temporary housing, public facilities, and public services in and near Rawlins/Sinclair and in the Las Vegas metropolitan area. Short-term effects would occur over a 27- to 28-month period for construction of each terminal. Construction activity on the terminals would occur on a year-round basis. Each of the terminals would involve construction activity at a fixed site/location, unlike the transmission line construction that would involve multiple work crews moving along the route.

Construction of the two terminals likely would involve a combination of local and non-local contractors, employing resident and non-resident workers. The local work force in Clark County, Nevada, likely would supply most of the specialized skills and trades needed to complete the terminals whereas there would be a greater reliance on non-local workers in Carbon County, Wyoming. In either instance, the non-resident workers temporarily would relocate to the respective communities given the 27- to 28-month construction period.

The work force requirements for each terminal would be highest during the first 8 to 9 months of construction, declining over time. According to the labor requirement estimates by TransWest, construction of the northern terminal is projected to require approximately 50 percent more labor than that for the southern terminal. **Figure 3.17-5** shows projected direct employment for construction of the two terminals, assuming concurrent development, illustrating the similarity in labor requirements over time as well as the higher labor needs associated with the northern terminal.



Note: Although the labor requirements for the two terminals appear together on the above figure, the two locations are approximately 580 air miles apart.

Figure 3.17-5 Direct Construction Employment for the Northern and Southern Terminals Assuming Concurrent Development Schedules

Employment: TransWest estimates that up to 263 jobs would be involved directly with construction of the northern terminal, with a peak employment of 190 jobs for the southern terminal. Peak employment associated with northern terminal could occur concurrently with the period of highest employment associated with Spread 1 (**Figure 3.17-2**). Average direct construction employment for the northern and southern terminals would be 113 and 76 jobs, respectively. Firms supplying goods and services to the project and contractors involved in construction, and those serving temporary lodging and consumer needs of workers also would benefit economically from the project. Benefits would include increases in sales, possible new business starts, and hiring additional employees or increased hours worked for existing owners and employees. It is estimated that an average of 0.7 indirect and induced jobs (together referred to as secondary jobs hereafter) would be generated in the Rawlins/Carbon County and Las Vegas Valley economies for each direct job associated with the project.⁴ The labor requirements associated with each terminal are summarized in **Table 3.17-13**.

⁴ Secondary employment includes two types of non-direct employment: indirect and induced. Indirect employment includes jobs supported by company and contractor purchases of goods and services from local and regional businesses. Induced employment includes jobs supported by employee spending of Project-related income and by business, local government, and school district spending in response to increased demand. Induced employment would occur across many economic sectors. The 0.7 secondary jobs multiplier is an assumption based on economic data and estimated multipliers for energy development and industrial construction projects in the Rocky Mountain/Intermountain West.

Table 3.17-13 Short-Term Employment Effects Associated with Construction of the Terminals

	Northern Terminal	Southern Terminal
Direct Construction Jobs – Peak	263	190
Direct Construction Jobs - Average over 28 months	113	76
Secondary Jobs - 0.7 x average direct	79	54
Total Direct and Secondary Jobs - Average	192	130
Total Average Employment as a Percent of 2010 Total County Employment	2%	<0.2%

Sources: TWE and AECOM.

Population and Demographics: The influx of non-resident workers to meet demand for specialized labor would result in a temporary population influx into the Rawlins and Sinclair communities (northern terminal) and Las Vegas Valley, including Boulder City (southern terminal). The size and relative scale of the population influx would depend on the availability of local residents to fill direct, indirect, and induced jobs. In the Rawlins/Sinclair area, the population influx could be upwards of 200 to 300 depending on the time of year when construction begins, the level of oil and gas development in the region at the time, and labor needs generated by other projects. Many of the non-resident construction workers relocating to the area temporarily would not be accompanied by other family members. Consequently local schools would see little increase in enrollments, and any such increase would only be over one or two school years.

Local labor likely would fill a majority of all jobs associated with construction of the southern terminal near Boulder City, Nevada, due to the larger size and mix of skilled workers available in the local labor force. Consequently, little project-related population influx would be expected in the Las Vegas Valley.

Temporary Housing: Construction of the terminals would increase demand for temporary housing in affected communities, with the timing and magnitude of demand corresponding to the influx of non-resident workers. Overall demand would be comprised of a combination of a few ownership units, conventional single family and apartment rentals, RV/camper parking spots, and motel rooms. Rental property owners and local lodging establishments who meet the needs of construction workers would realize increased revenues.

Project-related demand for temporary housing in Rawlins and Sinclair could compete with the needs from other energy development projects, including the Chokecherry-Sierra Madre wind energy project, and seasonal demands associated with business travel and tourism. The supply of temporary lodging is constrained. Thus, construction of the terminals would contribute to temporary shortages and may result in work force commuting to/from other communities. Because construction of the terminals would involve increased demand for a moderately long period, the project may stimulate investment in new temporary housing.

Little population influx is anticipated in the Las Vegas Valley in conjunction with the project. Any increase in demand could likely be accommodated by existing supply in Henderson, Boulder City, and elsewhere. Demand for RV/campground spots may compete with other tourism demands in Boulder City area, and there would be potential competition for space at the Lake Mead NRA campground, although individual visitors staying overnight are limited to 30 days per visit, 90 days total within 12 months.

Public facilities and services in Rawlins, Sinclair, and Las Vegas Valley: Public facilities and services most likely to be affected by construction of the terminals include law enforcement, emergency medical services, water, wastewater, road and bridge, and general administration. Potential effects include an increase in the number of calls on local police and sheriff departments and EMS related to motor vehicle accidents, traffic enforcement, and altercations. The incremental demand on water and wastewater systems would be similar in nature to the demands associated with tourists and travelers, which are already being

accommodated. As mentioned earlier, local school districts would not be expected to experience a significant increase in enrollments or other effects on facilities and services.

Based on recent local experience with major construction projects and the seasonal tourism and travel demand, the scale of the project-related short-term demand in Rawlins would generally be within the capacity of local service providers. Although no need for capacity expansion is foreseen at this time, following severe cutbacks in capacity during the recent recession, the City of Rawlins may interpret the project-related demand as contributing to a general need to expand service capacity.

Accounting for the available capacity and demands from tourism and travel in the metro area, the limited population influx from project related demands at the southern terminal would be well within the capacity of local service providers.

Fiscal effects for affected units of government – primarily local: Each terminal would involve an estimated \$550 million investment. This investment would result in substantial short-term sales and use taxes generated by purchases of materials and supplies and sales taxes on consumer purchases by construction workers.

The tax revenue benefits of this spending for the northern terminal would accrue primarily to the State of Wyoming, Carbon County, and city of Rawlins. Additional impact assistance revenues may accrue to local governments through the future siting process of the WISD. Once operational, the terminal would become a substantial long-term increment to the ad valorem tax base for Carbon County, Carbon County School District #1, and some special districts. Ad valorem tax benefits to Rawlins would be indirect, that is, through the effect of the project in supporting or raising the valuation of homes and commercial property in the city.

Construction of the southern terminal would generate substantial short-term sales and use taxes on purchases of materials and supplies and sales taxes on consumer purchases by construction workers. The tax revenues would accrue primarily to the State of Nevada and Clark County. Long-term increases in ad valorem tax base would benefit Clark County, Clark County School District, and special districts. Ad valorem revenue benefits to Boulder City, Henderson and other communities would be indirect.

Effects on social values and quality of life: In the Rawlins area, construction and operations of the terminals could contribute to an incremental increase in dissatisfaction for some residents in Carbon County because of location and concentration of industrial construction activity in proximity to the community and construction-related traffic. Others would view the temporary activity in a favorable light given the effects associated with the recent economic recession. In the Las Vegas Valley, due to the terminal's proposed location in a sparsely populated area, construction of the terminal would generate little impact on social values and quality of life.

Due to their location, access and surrounding land uses, the completion of the terminals would have little impact on outdoor recreation, agriculture, or tourism as they relate to quality of life. The terminal may be visible from locations in the Sloan Canyon NCA.

At the northern terminal, the institutionalized population incarcerated at the Wyoming State Penitentiary potentially qualifies for consideration under EO 12898. The status of the inmate population relative to EJ is unclear. The minority/racial make-up of the population tends to be relatively high and the income status of the prison population is not material. Moreover, the state assumes some responsibility for the health and welfare of the inmates. However, the inmate population generally has less access to information and little opportunity to participate in scoping relative to land use and health and safety issues. In some instances, for instance, during the development of an RMP, such issues may not warrant much concern because of the lack of site specific development proposals and a tendency to look to prison officials to address potential concerns. In this particular instance involving a potentially hazardous, industrial use, it is unclear whether EJ concerns exist. However, no high impacts to human health or environmental quality have been identified in

conjunction with construction of the northern terminal. Potential EJ concerns do not arise in conjunction with the southern terminal due to its location in a sparsely populated rural area.

Summary: Construction of the two terminals would result in temporary increases in local employment, generating increased labor income, and sales revenue for local retail, service and other businesses in Carbon County, Wyoming, and Clark County, Nevada. The total direct and secondary employment associated with construction of the terminals would be equivalent to 2.0 percent of total 2010 employment in Carbon County and less than 0.2 percent in Clark County. The economic stimulus associated with construction would extend over approximately 28 months. Demand for specialized labor skills is likely to result in some population influx, more so in Carbon County than in the Las Vegas Valley, with corresponding demands on public facilities and services. Due to the limited scale of the population influx, no major increases in local government staffing, facility capacity, or increase in public expenditures would be anticipated to serve these demands. The states of Wyoming and Nevada, the two counties and local communities would realize one-time increases in sales and use tax revenues in conjunction with construction. In conclusion, no significant socioeconomic effects have been identified in conjunction with construction of the two terminals.

Operations Impacts

Long-term operation and maintenance of the terminals would create a small number of permanent jobs in Rawlins/Sinclair and Las Vegas Valley/Boulder City. The operations work force would be augmented by temporary contract workers, to conduct both scheduled and unscheduled maintenance and repairs. Ongoing operations of the terminals would indirectly support other jobs in the community.

The long-term operations and maintenance jobs would result in limited scale population increases, along with demands on housing and public facilities and services, including a few students in public schools. However, in and of itself, the anticipated scale of the demand would unlikely require additional capacity or staffing.

Completion of the terminal could contribute to long-term effects on social values and quality of life for some area residents. In the Rawlins area, the project could contribute to an incremental increase in dissatisfaction for some residents in Carbon County because of location and concentration of industrial activity along the southern boundary of the community. In the Las Vegas Valley, completion of the terminal may contribute to increased dissatisfaction for some residents and visitors due to concentration of development and visibility from U.S. 93/95 and the Sloan Canyon NCA.

Due to their location, access and surrounding land uses, operation of the terminals would have little impact on outdoor recreation, agriculture, or tourism as they pertain to quality of life.

Long-term fiscal effects would include the incremental addition to local ad valorem tax base, both directly and indirectly, additional fees, and incremental sales and use taxes. Carbon County, Wyoming, and Clark County, Nevada, would be the primary beneficiaries of such revenues.

Due to their location in proximity to other major electrical transmission, railroad, and other industrial and municipal facilities, the construction and operations of the two terminals would have little or no direct or indirect effect on property values in the respective communities.

Decommissioning Impacts

Decommissioning impacts would result in temporary economic and population effects in Rawlins, Sinclair, and Las Vegas Valley similar to those during construction; temporary direct and secondary job gains, short-term population influx with demands on housing and local facilities and services. These impacts would likely be of much shorter duration and smaller scale than those associated with construction.

Decommissioning would not generate sales and use taxes from the purchases of materials and equipment to the same extent as initial construction would.

Differences in Effects to Socioeconomic Conditions from Design Options or Alternative Location for the Southern Terminal

Design Option 2 – DC from Wyoming to IPP; AC from IPP to Marketplace Hub

Implementing this design option would have the following implications for socioeconomic impacts.

- The socioeconomic effects in Regions I and II would be the same as those for Alternative A.
- An increase in short-term construction impacts in Millard County due to the construction of a new AC/DC converter station. Additional investments would result in additional local tax revenues.
- An increase in short-term construction impacts in Millard or Juab counties in conjunction with the construction of a ground electrode.
- Minor temporary socioeconomic effects in Region III (Iron or Lincoln counties), over approximately a 1-year duration, associated with the construction of a series compensation station in the AC portion of the transmission line.
- Little, if any, incremental impact on long-term employment and population in Millard or Clark counties.
- Potential temporary differences in social and economic impacts (i.e., minor differences in employment) due to changes in the transmission line from DC to AC between IPP and the Eldorado Valley.
- Elimination of impacts associated with construction and operation of a ground electrode in the southern portion of Region IV (Clark County).
- Changes in short-term construction effects and long-term ad valorem tax revenues in Clark County due to the construction of a substation rather than the more costly AC/DC converter station.
- Decommissioning impacts for Design Option 2 would be similar as those for Alternative A.

Design Option 3 – Phased Build

Implementing this design option would result in short and long-term social and economic effects similar to those described above for the Applicant Proposed design, with the following differences:

- Short-term construction impacts could occur in several phases, over a more extended period. The period of time over which the phased construction would be completed is uncertain.
- The overall level of short-term employment and population influx, and the level of capital investment likely would be higher due to phased construction, with some communities experiencing a second “round” of effects. Incrementally higher short-term social and economic effects would occur in the Rawlins, Wyoming, and Delta, Utah, areas.
- Additional capital investments would result in additional tax revenues.
- Short-term effects associated with substation construction in the Rawlins area would be lower than those for the northern terminal under Alternative A, but with a second series of short-term effects occurring with the future conversion to a full converter station during Phase 2. Anticipated effects would include short-term job opportunities, demand for temporary housing, increases in business and tax revenues, increases in local traffic and demands for some services.
- Short-term socioeconomic effects would occur in northwestern Utah during Phase I in conjunction with the construction of a compensating station. The socioeconomic effects anticipated during

Phase 2 would be comparable in type, magnitude, severity, and duration to those associated with Alternative A.

- The timing of socioeconomic effects in Regions III and IV would be delayed until Phase 2, with the timing contingent upon when the phased build out is completed. Most of the anticipated effects would be comparable to those associated with Alternative A.
- Short-term socioeconomic effects, similar to those associated with Alternative A would occur in Regions I and II as construction and rigging crews convert the system from 1,500 kV AC to 600 kV DC operations.
- Demand for temporary housing and the indirect and induced demands on public facilities and services and beneficial effects on local business in the Delta area would be higher due to the construction of a substation.
- The short term socioeconomic effects associated with construction of the ground electrodes would be delayed until Phase 2.
- Fiscal benefits associated with facilities to be completed in Phase 2 would be deferred.
- Little, if any, incremental impact on long-term employment and population.
- Decommissioning impacts would likely be similar for Alternative A and Design Option 3.

Alternative Location of the Southern Terminal

Implementing this option would locate the southern terminal slightly north of the proposed location. As a result, some realignment of the transmission line would occur, which could in turn result in minor differences in temporary employment, spending, taxes, demands on housing and local facilities and services. However, the differences would be negligible in terms of the effects on local social and economic conditions.

Additional Mitigation

Additional mitigation has been prescribed to lessen the impacts described above.

SOCIO-1: *TWE must address temporary housing needs in conjunction with a Wyoming Industrial Siting Permit that must be obtained prior to the commencement of construction. That plan should address the combined housing needs during construction of the northern terminal, ground electrode, and Spread 1, particularly given potential competition for housing from other development in the area. Local officials should be consulted in the development of that plan. The housing plan should address housing needs associated with construction related indirect and induced jobs that would be supported.*

Effectiveness: Implementation of a pro-active housing plan could substantially reduce the potential for temporary housing shortages to become a source of adverse socioeconomic impacts within the analysis area, particularly during the period of peak employment. Such impacts would extend from housing to community services, public sector revenues, and social effects for workers and residents alike. The effectiveness of the plan will be contingent upon the specific elements, strategies, and programs used.

SOCIO-2: *TWE should encourage its contractors, to the maximum extent practicable, to purchase materials, equipment and supplies locally, have construction materials delivered on an FOB basis to the counties in which the materials will be utilized, and complete all reports regarding taxable purchases in a timely manner so that proper attribution of sales and use tax payments can occur.*

Effectiveness: Maximizing local purchases and promoting the correct attribution of purchases to the appropriate local governments is highly effective in insuring that local governments receive the maximum tax revenue benefit during the construction of the project. Such taxes are vital for local governments to address the temporary demands on public facilities and services.

SOCIO-3: TWE should conduct annual coordination meetings with local emergency management officials (law enforcement, fire, health care, state prison, etc.) to review and update emergency coordination and situation management.

Effectiveness: Such information and coordination is vital for local governments to plan public services and address public safety.

3.17.5.2 Impacts to Socioeconomic Conditions Common to All Alternative Routes and Associated Components from Construction, Operation, and Decommissioning

This section addresses the short-term and long-term socioeconomic impacts associated with construction and operation of the two ground electrode systems and the transmission line. A general overview of the short-term effects associated with construction is presented first, followed by a discussion of the long-term effects of operation. That is followed by a comparison of impacts by region and alternative.

Construction Impacts

Implementation of Alternative A would affect social and economic conditions in 16 counties in the analysis area. Social and economic conditions in many, but not all, of those counties would be affected by the selection of one of the other Alternatives or one or more routing variations. The numbers of counties affected under Alternatives B through F are 16, 15, 15, 9, and 9, respectively (**Table 3.17-14**).

Table 3.17-14 Potentially Affected Counties, by Alternative and Region

Region County, State	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Routing Variations
Region 1							
Carbon, Wyoming	XXXX	XXXX	XXXX	XXXX	-----	-----	XXXX
Sweetwater, Wyoming	XXXX	XXXX	XXXX	XXXX	-----	-----	XXXX
Moffat, Colorado	XXXX	XXXX	XXXX	XXXX	-----	-----	-----
Routt, Colorado	-----	-----	XXXX	-----	-----	-----	-----
Region 2							
Moffat, Colorado	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	-----
Rio Blanco, Colorado	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	-----
Garfield, Colorado	-----	XXXX	XXXX	-----	-----	-----	-----
Mesa, Colorado	-----	XXXX	XXXX	-----	-----	-----	-----
Uintah, Utah	XXXX	-----	-----	XXXX	XXXX	XXXX	-----
Duchesne, Utah	XXXX	-----	-----	XXXX	XXXX	XXXX	-----
Grand, Utah	-----	XXXX	XXXX	-----	-----	-----	-----
Carbon, Utah	-----	-----	-----	XXXX	XXXX	XXXX	XXXX
Emery, Utah	-----	XXXX	XXXX	XXXX	-----	-----	XXXX
Wasatch, Utah	XXXX	-----	-----	-----	-----	-----	-----
Utah, Utah	XXXX	-----	-----	-----	XXXX	XXXX	-----
Sanpete, Utah	XXXX	XXXX	-----	XXXX	XXXX	XXXX	-----
Juab, Utah	XXXX	XXXX	-----	XXXX	XXXX	XXXX	XXXX
Sevier, Utah	-----	-----	XXXX	-----	-----	-----	-----
Millard, Utah	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX

Table 3.17-14 Potentially Affected Counties, by Alternative and Region

Region County, State	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Routing Variations
Region 3							
Millard, Utah	XXXX	XXXX	XXXX	XXXX	----	----	----
Beaver, Utah	XXXX	XXXX	XXXX	XXXX	----	----	----
Iron, Utah	XXXX	XXXX	XXXX	XXXX	----	----	XXXX
Washington, Utah	XXXX	XXXX	----	----	----	----	XXXX
Lincoln, Nevada	XXXX	XXXX	XXXX	XXXX	----	----	----
Clark, Nevada	XXXX	XXXX	XXXX	XXXX	----	----	XXXX
Region 4							
Clark, Nevada	XXXX	XXXX	XXXX	XXXX	----	----	XXXX
Total Number of Counties (duplicates eliminated)	16	16	15	15	9	9	9

Note: XXXX indicates that some portion of the corridor is located in the designated county.

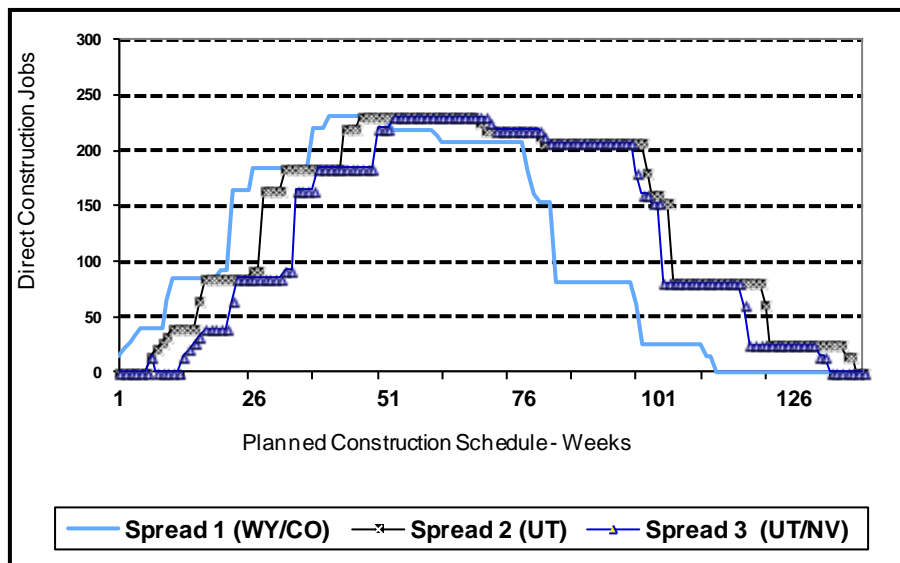
Source: TWE, 2011 through 2013.

As previously discussed, short-term construction of the transmission line would be completed using three “spreads”, each comprising more than 200 miles of the overall route, and each with its own work force, fleet of construction equipment, and schedules. The use of multiple spreads means that construction activity would occur concurrently in multiple locations across the overall project route affecting different communities.

Under Alternative A, Spread 1 covers approximately 221 miles in 2 states from the northern terminal, including all of Region I and a portion of Region II. Spread 2 covers approximately 235 miles in Utah, including the portion of Region II not included in Spread 1, and a portion of Region III. Spread 3 extends approximately 269 miles through western Utah and southern Nevada to the southern terminal. Construction activity typically proceeds in a sequential fashion along a segment of the corridor, although not necessarily moving continually from one end to the other, as the total corridor could be divided into sub-segments to account for seasonal weather conditions or timing restrictions on public lands. Thus, construction activity may be occurring over 100 miles or more of the spread during the period of peak direct employment, resulting in a dispersal of the temporary effects across multiple communities.

Figure 3.17-6 portrays the project direct employment associated with each spread over time. As shown, the direct employment increases incrementally over time as new activities, including surveying, access road construction, staging area development, material and equipment deliveries, tower pad development, tower erection, stringing and reclamation are initiated, until eventually peaking at 230 jobs. Direct employment would average approximately 140 jobs for each of the three spreads over the 2-plus year construction schedule, increasing to more than 200 jobs over the “middle” 60-to-70 weeks during which most construction activity is concentrated.

Most of the temporary impacts of transmission line construction, including temporary population influxes, increased business volume for local merchants and increased sales tax revenues, would be similar in type to those associated with development of the terminals and ground electrodes. The primary differences would stem from the movement of the construction activity along the corridor over time and the associated implications for temporary housing and potential demands on emergency response as construction proceeds away from the larger towns and into more rural areas.



Source: TWE (PDTR 2011).

Figure 3.17-6 Projected Direct Construction Jobs for the Transmission Line Components of Alternative A

Due to the mobile nature of transmission line construction and the length of each segment, virtually all of the direct construction workers would qualify as non-resident and relocate temporarily for some portion of construction, relying on private RV/campgrounds and motels for housing. When available, some public campgrounds may be used, although these tend to have length of stay limits. One-way commutes of 30 to 50 miles from the place of lodging to the active work site are not uncommon for transmission line and other linear projects. In rural areas or smaller communities, contractors sometimes include parking spaces for RVs in staging areas, or ranchers and other private landowners provide parking spaces. The combination of construction activity occurring over an extended corridor, expansion and contraction of the workforce during the mid-portion of the schedule, and geographic dispersion of temporary residency, would result in lower secondary job and income generation for the transmission lines than for the terminals. Based on an employment multiplier of 0.44 secondary jobs and an average of 200 direct jobs⁵, the equivalent of 89 secondary jobs are projected to be generated for each spread under construction. Like the direct jobs, the secondary jobs would be temporary, geographically dispersed along each spread, and filled through a combination of temporary hiring and extended hours for existing employees and proprietors. Many of the secondary jobs would be associated with eating and drinking places, motels and RV campgrounds, convenience stores/fueling stations, and grocery stores.

The progression of construction activity along the corridor would result in temporary population influxes in communities along the corridor. The peak population influx associated with each spread would likely be less than 250 persons, with the total generally dispersed across more than one community. Typically, the initial influx associated with surveying, staking, and road construction would be on the order of 10 to 20 workers. These tasks progress rapidly and workers commonly shift their temporary place of residence to the next community within days or weeks. The influx would climb as pad construction, tower assembly and erection

⁵ The 0.44 multiplier is an assumption based on economic data and estimated multipliers for energy development and industrial construction projects in the Rocky Mountain/Intermountain West. It is lower than that used for the terminals to reflect the more temporary presence of the work force in a community, the likelihood of that work force being geographically dispersed along the corridor, and the limited availability of goods and services in the rural areas of the analysis area.

and stringing activities occur, declining thereafter. Few non-employed spouses, family members, or friends typically accompany transmission line construction workers. Given the proximity of the corridors to nearby communities, the existing highway access to/from those communities, and the pace of construction, a peak population influx of approximately 100 to 125 workers in any given community would be anticipated. Because the work sites are commonly in rural areas away from the communities, the presence of the construction work force is most apparent during the evenings.

The limited duration and scale of the temporary population influx in any community would generally not be significant when considered in the context of the current population, the number of communities in the region offering lodging, retail, and public services capable of meeting needs associated with the construction workers, and widespread experience with seasonal and other temporary demands associated with tourism and energy development. In 2010, the combined population of counties crossed by one or more of the alternatives ranged from 2.90 million for Alternative A to 2.35 million for Alternative C (**Table 3.17-15**). The combined population for Alternative D across regions I and II is lower than those for Alternatives A, B, or C, while that for Alternative E in Region II would be only slightly lower than that for Alternative A. Region I, with 73,486 residents in 2010, is the least populated. Regions III and IV, both of which include the Las Vegas metropolitan area, have the highest population.

Table 3.17-15 2010 Census Population, by Region and Alternative

Region County, State	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Region I	73,486	73,486	96,995	73,486	NA
Region II	694,909	317,854	256,277	154,606	683,724
Region III	2,160,024	2,021,909	2,021,909	NA	NA
Region IV	1,951,269	1,951,269	1,951,269	NA	NA
Total Population in Directly Affected Counties**	2,902,121	2,386,951	2,348,883	228,092	683,724

** Total adjusted to avoid double-counting of Clark County.

Source: U.S. Census Bureau 2011.

The availability of temporary lodging and essential retail and traveler services are two important indicators of the capability of local communities to accommodate a temporary population influx (**Tables 3.17-16 and 3.17-17**). Such resources are relatively abundant across the region; that abundance stemming from a combination of resident demand, past or current energy resource development, a history of outdoor recreation and tourism, and locations on a major intra or interstate highway corridor. **Table 3.17-16** lists the communities in each county having 2,000 or more residents in 2010, a population threshold defined for this assessment as indicative of a size adequate to offer essential convenience retail and consumer services to attract many temporary construction workers and accommodate them without undue stress on facilities and services and local social conditions. **Table 3.17-17** summarizes the inventory of available temporary housing in each county.

Table 3.17-16 Communities with Population of 2,000 or More, by County

County	Communities with a Resident Population of 2,000 or more
Carbon, Wyoming	Rawlins
Sweetwater, Wyoming	North Rock Springs CDP, Rock Springs, Green River,
Moffat, Colorado	Craig
Routt, Colorado	Steamboat Springs

Table 3.17-16 Communities with Population of 2,000 or More, by County

County	Communities with a Resident Population of 2,000 or more
Uintah, Utah	Maeser CDP, Vernal
Rio Blanco, Colorado	Meeker, Rangely
Garfield, Colorado	Carbondale, Glenwood Springs, New Castle, Rifle, Silt
Mesa, Colorado	Clifton CDP, Fruitvale CDP, Grand Junction, Fruita, Orchard Mesa CDP, Palisade, Redlands CDP
Duchesne, Utah	Roosevelt
Carbon, Utah	Helper, Price
Grand, Utah	Moab
Emery, Utah	Huntington
Wasatch, Utah	Heber, Midway, Park City
Utah, Utah	Alpine, American Fork, Cedar Hills, Draper, Eagle Mountain, Elk Ridge, Highland, Lehi, Lindon, Mapleton, Orem, Payson, Pleasant Grove, Provo, Salem, Santaquin, Saratoga Springs, Spanish Fork, Springville
Sanpete, Utah	Ephraim, Gunnison, Manti, Mount Pleasant
Juab, Utah	Nephi
Sevier, Utah	Monroe, Richfield, Salina
Millard, Utah	Delta, Fillmore
Beaver, Utah	Beaver
Iron, Utah	Cedar City, Enoch, Parowan
Washington, Utah	Hildale, Hurricane, Ivins, LaVerkin, Saint George, Santa Clara, Washington
Lincoln, Nevada	- None -
Clark, Nevada	Boulder City, Enterprise CDP, Henderson, Las Vegas, Laughlin CDP, Mesquite, Moapa Valley, Nellis AFB CDP, North Las Vegas, Paradise CDP, Sandy Valley CDP, Spring Valley CDP, Summerlin South CDP, Sunrise Manor CDP, Whitney CDP, Winchester CDP

Note: CDP refers to Census designated places. CDPs are closely settled, named, unincorporated communities that generally contain a mixture of residential, commercial, and retail areas similar to those found in incorporated places of similar sizes. Each CDP will contain an identifiable core encompassing the area that is associated strongly with the CDP name and contains the majority of the CDP's population, housing, commercial structures, and economic activity.

Source: U.S. Census Bureau, 2011a.

Table 3.17-17 Temporary Housing (Motel Rooms and RV/Campground Spaces), by County¹

	Number of Hotels/Motels	Number of RV/Campgrounds	Total Rooms/Space	Communities with 200 or More Rooms or RV/Camping Spaces
Carbon, Wyoming	18	20	1,896	Rawlins
Sweetwater, Wyoming	28	13	2,813	Green River, Rock Springs
Moffat, Colorado	10	8	886	Craig
Routt, Colorado	23	2	3,672	Steamboat Springs
Uintah, Utah	16	16	1,139	Vernal
Rio Blanco, Colorado	19	13	575	None
Garfield, Colorado	34	12	2,583	Carbondale, Glenwood Springs, Rifle
Mesa, Colorado	42	24	4,186	Fruita, Grand Junction
Duchesne, Utah	6	22	535	None

Table 3.17-17 Temporary Housing (Motel Rooms and RV/Campground Spaces), by County¹

	Number of Hotels/Motels	Number of RV/Campgrounds	Total Rooms/Space	Communities with 200 or More Rooms or RV/Camping Spaces
Carbon, Utah	10	4	711	Price
Grand, Utah	30	22	4,457	Moab
Emery, Utah	16	10	1,068	Green River
Wasatch, Utah	47	6	5,327	Heber, Midway, Park City
Utah, Utah	37	27	4,013	Lehi, Orem, Provo
Sanpete, Utah	13	7	429	None
Juab, Utah	6	12	942	None
Sevier, Utah	19	7	1,006	Richfield
Millard, Utah	10	7	596	None
Beaver, Utah	13	3	659	Beaver
Iron, Utah	22	12	1,839	Brian Head, Cedar City
Washington, Utah	68	23	5,581	Hurricane, Springdale, Saint George
Lincoln, Nevada	8	8	339	None
Clark, Nevada	272	32	146,930	Boulder City, Henderson, Las Vegas, Laughlin, Mesquite
Total Analysis Area	770	335	193,201	

¹ An unknown number of the units or spaces are available only on a seasonal basis.

Sources: Colorado Tourism Office 2011; Nevada Commission on Tourism 2011; U.S. Census Bureau 2011b; Utah Office of Tourism 2011; Wyoming Tourism 2011.

There are many smaller communities and settlements across the analysis area that may host temporary construction workers associated with the project due to their location relative to the project work sites and larger communities, highway accessibility, availability of motels and RV/camper campgrounds, or other less formal capacity to accommodate RVs/campers. The temporary population influx could represent a substantial increase as compared to the permanent population. Local businesses would see short-term activity, which can have both upside and downside effects, for instance, increases in motor fuel sales but also non-paying drive offs. Some local residents may be discomforted by the changes in the pace of life, increases in local traffic, and other effects on lifestyles.

The location of the communities in eastern and central Utah relative to the various corridors and the availability of temporary housing accommodations suggest the potential for competition between project-related housing demand and that associated with other energy development, tourism, and outdoor recreation. Such competition could temporarily strain available resources, resulting in higher costs, longer daily commutes for workers seeking housing in other locations, increased demand on local public services, and various social problems associated with informal parking and camping where not permitted. The communities affected by such competition would vary over time as project construction progresses.

Construction of the transmission line and associated component facilities would result in temporary increased demand on law enforcement and emergency medical responders across the region. Response time to accidents or other calls for service in rural locations could be lengthy, and demands could stress the capabilities of volunteer-based responders, reduce service coverage in other portions of a responder's service area. Much of the burden for law enforcement would fall to the respective state patrols and county sheriffs. Due to the short-term nature of the increases, increases in staffing would be unlikely.

Depending on existing highway access, the increase in light and heavy duty traffic associated with project construction could result in short-term demand for additional highway, road and bridge maintenance for the respective states, counties, and municipalities. Project-related traffic volume following the completion of construction would be very low, contributing little incremental demand for maintenance. Following the completion of construction few, if any, project-related access roads would become permanent roads to be maintained by the respective states or local governments.

Construction of the transmission line would generate short-term sales and use taxes associated with the purchases of materials and supplies associated with the transmission line system and sales and lodging taxes on purchases by construction workers. Estimates of the magnitude of these revenues are not available, but these tax revenues would accrue primarily to the three state treasuries and the counties in which the facilities would be located, and the counties and cities temporarily hosting workers. Additional impact assistance revenues may accrue to local governments in Wyoming as a result of the required ISA process.

Other socioeconomic effects related to construction of the transmission lines could include the following:

- Temporary and limited long-term demand for state and local road maintenance could increase on roads relied upon for access to more remote areas by workers, movement of construction equipment, and construction material deliveries (see Section 3.16, Transportation).
- Farming and ranching operations with grazing permits on BLM and USFS lands could experience temporary and long-term economic effects associated with reductions in grazing forage quantity and quality, need for increased management effort and cost, livestock injury, or adverse effects on animal weight gain. Although the overall effects would be limited in scale given the scale of projected disturbance relative to the total rangeland in the affected area, some individual operators could experience a disproportionate share of the economic effects (see Section 3.14, Land Use).
- Farmers and ranchers operating on private lands could experience short and long-term economic effects associated with isolated incidences of temporary and long-term disruption of established farming and grazing practices due to construction activities and the locations of transmission line and other facilities. The magnitude of such effects would be mitigated through design features and mitigation (see Section 3.14, Land Use) and by financial payments for right-of-way easements to affected property owners.
- Temporary effects to outdoor recreation use and experience, including hunting, OHV use, camping and hiking may occur near active construction and along key road access corridors.
- Temporary indirect economic effects on local communities resulting from effects on outdoor recreation, potentially including disruption of access, routes, or other types of conflicts with special OHV and other scheduled recreation events, and big game hunting as construction proceeds along the corridor. The extent of such conflicts would be addressed through coordination between TransWest and the BLM FOs and **REC-4**, **REC-5**, and **REC-7** (see Section 3.13, Recreation Resources).

Real Estate Property Values

Concerns regarding the potential direct and indirect effects of new transmission lines on real estate values, particularly residential and agricultural properties, are common.

Direct effects attributed to changes in land use associated with the development of physical facilities and access, constraints on development associated with right-of-way easements, or the effect of an easement with respect to the efficiency and cost of agricultural operations have been widely recognized. Such effects are typically addressed during the easement acquisition process on public lands, and in negotiations with private landowners. Over the years, procedures and methods for determining the compensation or value of

the change in values have been established. These procedures, based heavily on real estate appraisal practice and economic and accounting practices, consider the existing and foreseeable highest and best use of a property, its size, location, access, shape, zoning, the portion of a parcel affected, and other factors.⁶

Direct effects can be either short-term, for example, disruption of agriculture grazing or crop production during construction, or long-term, for example, the loss of production due to lands associated with the transmission tower. The compensation provided in return for an easement or fee simple acquisition of property theoretically reflects the economic value of the short and long-term changes in land use from a market perspective. Negotiated settlements also may account for non-economic factors as well. Direct effects on private property values are generally recognized and limited to the ROW corridor or lands used or acquired for purposes of construction of long-term support facilities.

Potential direct or indirect effects on public lands are not captured by changes in market values, but rather represent potential trade-offs in use or effects on other resources. In some instances, the potential for impacts is recognized in land management plans and those plans limit where transmission lines can be built.

Conversely, once in place, the location of transmission lines, pipelines and other facilities on public lands can affect future land management or land uses, including the marketability and desirability of public lands designated for potential future disposal to support community development.

Concerns regarding the indirect effect focus on nearby properties. Historically, the term “nearby” referred to properties immediately adjacent to, or within a very short-distance of the right-of-way. In part, that focus reflected concerns regarding potential electro-magnetic field (EMF) related health effects on humans and livestock. More recently, interest in the visual effects has tended to expand the potential area of concern for powerlines, particularly for high voltage lines. The studies reviewed, while having some inconsistencies in their detailed results, generally pointed to small or no effects on sales price due to the presence of electric transmission lines. Some studies found an effect but this effect generally dissipated with time and distance (i.e., with little effect beyond 0.25 mile), even when views are completely unobstructed. The effects that were found ranged from approximately 2 to 9 percent. Most studies found no effect and in some cases a premium was observed. This was attributed to the additional open area usually behind the residence created by the transmission line easement. These relatively small effects are somewhat in contrast to concerns and perceptions expressed in the surveys reviewed here (Jackson and Pitts 2010). The Jackson and Pitts review goes on to conclude that perceptions, even if erroneous, still matter as the perception that a property value has declined, or might decline, can be a real social effect on an individual’s sense of well-being.

At least one study noted an improvement in market prices, suggesting that the effects of a corridor in limiting other nearby development, was a type of amenity. However, most studies suggest caution in generalizing their findings, noting that other factors, including the specifics of a particular market and the intervening topography are more important in determining values. Another factor that does not appear to have been addressed in empirical studies is the potential influence on property values of the presence of one or more existing lines, as is common along much of the proposed corridors. Existing empirical studies also do not account for potential effects on personal use or enjoyment of existing owners.

Based on the literature review cited, the potential for effects would be the highest, albeit very limited even then, in communities and locations with substantial residential development where the corridor is in close proximity to such development. The more rural and less developed the area, the lower the potential for property value impacts (Jackson and Pitts 2010).

⁶ See the Gateway West Transmission Line Draft EIS (Pgs. 3.4-55 to 57) for a discussion of property value impacts.

Environmental Justice

Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (USEPA 1998). Implementation of EO 12898 for NEPA requires the following steps:

1. Identification of the presence of minority and low-income populations and Indian Tribes in areas that may be affected by the action under consideration.
2. Determination of whether the action under consideration would have human health, environmental, or other effects on any population.
3. Determination of whether such environmental, human health or other effects would be disproportionately high and adverse on minority or low-income populations or Indian Tribes.
4. Provision of opportunities for effective community participation in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of public meetings, crucial documents, and notices (CEQ 1998).

With respect to the first criteria, there are three Indian Reservations located near one or more of the alternatives: the Uintah and Ouray Indian Reservation, a segment of the Paiute Indian Reservation in southwestern Utah, and the Moapa Indian Reservation near the Las Vegas Valley in southeastern Nevada. The largest of these is the Uintah and Ouray Indian Reservation in northeast Utah. Alternative A would cross a small portion of the Reservation, paralleling an existing line through an area of semi-rural development characterized by a combination of energy resource development, agriculture, and scattered residential and industrial development. Note that the Reservation is not a large, contiguous area, but a series of larger and smaller tracts, some of which are contiguous to others, while many others are surrounded by non-Reservation lands. Alternatives II-D, II-E, and II-F also would cross small portions of the Uintah and Ouray Reservation (see Section 3.14, Land Use). No lands that are part of the Paiute Reservation would be crossed by any of the alternative routes. Alternative B would cross approximately 14 miles of the Moapa Indian Reservation in southern Nevada, paralleling several other linear projects through an established utility corridor, as well as I-15 and the Union Pacific Railroad ROW. The crossing of the Moapa Reservation must be negotiated between TransWest and the Moapa Tribe. The Tribe has the authority to negotiate the location, management, and compensation for the transmission line across the Reservation and could choose to deny the application to cross their Reservation.

A detailed analysis of household income in proximity to the corridors is beyond the scope of this analysis. Nonetheless, given the variations in personal income among the counties, communities, and rural areas across the length of the alternative corridors, there are may be localized areas with higher shares of low income population than characterizes the corresponding county or state as a whole. However, consideration of the overall length of the corridors, combined with the avoidance of concentrated population such that the numbers of residences in close proximity to the reference lines are small (see Section 3.14); that the Moapa Tribe has authority to negotiate location and other conditions for the line to cross the Reservation; and, that no high and adverse effects to human health or other environmental resources have been identified as part of this assessment, effectively minimizes the potential for disproportionate affects to low-income populations or members of the three affected tribes or Reservations.

Additional Mitigation

Additional mitigation has been prescribed to lessen the impacts described above.

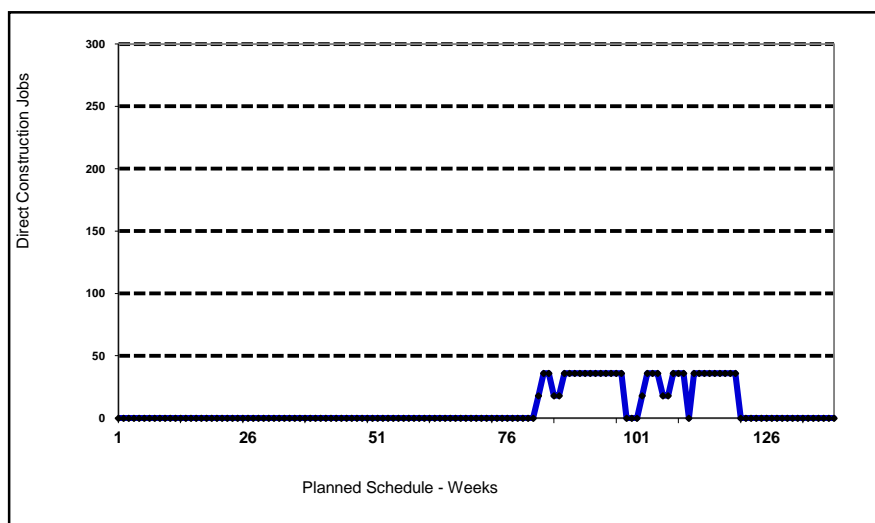
SOCIO-3: See Section 3.17.5.1, *Impacts from Terminal Construction and Operation*.

SOCIO-4: *If not required by existing regulations or included in the various operations plans to be developed (see Section 2.4), TWE should develop and implement a plan for on-going communications with local county and municipal governments to inform them of construction progress, specifically as it relates to the anticipated timing of activity across each spread.*

Effectiveness: Advanced and on-going coordination and communication with local officials has been shown to be a key element to reducing frictions between communities and construction projects, working to the benefit of all parties.

3.17.5.3 Impacts to Socioeconomic Conditions from the Construction and Operation of the Ground Electrode Systems

Temporary socioeconomic impacts also would occur in conjunction with construction of the two ground electrodes, one in the general vicinity of the Northern Terminal (i.e., near Rawlins, Wamsutter, or in north-central Moffat County, Colorado), and the other in Region III northeast of the Las Vegas Valley. These impacts would be short-duration and limited in scale because construction of each electrode would involve fewer than 20 direct workers for a period of 7 to 8 months as depicted in **Figure 3.17-7**, with the activity occurring following the peak employment associated with the two terminals and the peak employment associated with the two transmission line spreads that would be built in the same area (**Figure 3.17-2**).



Source: TWE, PDTR, 2011.

Figure 3.17-7 Direct Construction Jobs for the Ground Electrode Components

Six alternative locations have been identified for the northern ground electrode site, three for the southern site. The duration of construction could vary slightly between alternative locations due to terrain and the length of the access road required for access from existing highways or the access road built to support transmission line construction. The differences would not affect the fundamental conclusions of the assessment.

The economic stimulus associated with construction of the ground electrodes would support approximately 10 additional secondary jobs in nearby communities. Some of the jobs may be filled by non-residents, but because construction is scheduled to occur following the peak activity on the terminals, some of those workers may already be in the area, limiting the potential incremental population influx or other noticeable socioeconomic effects.

Due to the locations and size of area required, there would be limited impacts on outdoor recreation and agriculture associated with the ground electrode construction, but could involve temporary disruption of current rangeland use.

Operation Impacts

There would be limited direct long-term economic impacts, characterized by a few direct jobs and limited taxable purchases. Communities near the ground electrodes would be largely unaffected because the management and operation of such facilities relies heavily on technology that allows the operations workforce to be located in a few select communities. Direct employment would be augmented occasionally by temporary contract maintenance employees, providing temporary economic stimulus to the local economy.

Potential long-term indirect economic impacts would be on agriculture and recreation opportunities and experience, although the degree would depend in large part on current agricultural activities and the character of the recreational setting.

Very limited or no long-term population effects would be anticipated across most of the corridor. Most communities would be unaffected. Population related effects, including impacts on school enrollment, housing, and demands for facilities and services, would be minimal.

Completion of the transmission lines would result in long-term increases in ad valorem tax base for the counties where the line is located. Some special districts and school districts also may realize tax revenue from the project. Because few if any increases in long-term expenditures would be required in conjunction with the transmission line, the long-term effects on public sector fiscal conditions would be positive, but modest in scale.

On balance, there would be long-term social impacts in some locations, due to effects on open space, recreation, agriculture, and sense of place.

Decommissioning Impacts

Decommissioning would result in short-term employment and population effects similar to those during construction. Decommissioning impacts would occur across all regions, and could occur concurrently in multiple locations.

Temporary demands on housing and public facilities and services would be a function of the size of workforce and duration of the decommissioning activities.

Demand on local/regional solid waste disposal facilities could increase to accommodate disposal of solid waste. However, a substantial quantity of the materials may be recycled, which would result in those materials being transported from the region.

State and local governments would see some sales and use tax revenues from decommissioning in conjunction with work force spending. Local governments would lose benefits of the associated ad valorem tax base.

Decommissioning could result in another iteration of changes in land use, recreation, and agriculture, or conversion to a ROW for another purpose. The type, timing, and effects of the change are uncertain.

3.17.5.4 Region I

This section summarizes the temporal and geographic distribution of impacts as construction moves along the alternative routes, and the implications of that movement for affected communities.

Key Project Parameters of the Project Affecting the Assessment

Transmission Lines

- Approximate time to complete transmission line components in Region I: 80 weeks.
- Direct Construction Employment: Range: 15 to 231, Average: 203. The total consists of multiple distinct crews (survey, clearing, foundation construction, stringing, etc.) that will be spaced out at multiple geographically dispersed locations along the ROW. At times, the spacing, when combined with limited availability of temporary housing, would result in multiple communities being affected simultaneously.
- Operations Employment: few direct permanent jobs over the operating life of the line.
- Secondary Employment: the equivalent of approximately 89 jobs, based on the average direct employment. Very few during operations. The secondary jobs related to construction would be temporary and geographically dispersed across the region based on the location of construction activities and residency patterns of the temporary construction workers.

Ground Electrode

- Approximate time to complete the ground electrode in Region I: 9 months. Completion of the ground electrode expected to follow the completion of the construction of the transmission line in Region I. This work force is independent of that for the transmission line, but activity would be concurrent with construction of the northern terminal.
- Direct Construction Employment: Range – 12 to 18.
- Operations: few, if any, direct permanent jobs over the operating life of the ground electrode.
- Secondary employment: Approximately 10 jobs during construction. Temporary effects likely concentrated in one or two communities, depending on the final site selection.

Decommissioning Impacts

- Temporary employment impacts, along with impacts on temporary housing. Sales and use tax based primarily on work force spending, because of limited purchases of materials. See discussion under terminals above.

Summary of Impacts

Table 3.17-18 compares the impacts associated with the alternative routes in Region I after consideration of BMPs, design features, and mitigation measures.

Four alternative connectors have been defined in Region I, all located between I-80 and the Wyoming-Colorado state line. **Table 3.17-19** summarizes impacts associated with the alternative connectors in Region I.

Table 3.17-20 provides a comparison of alternative electrode bed locations proposed near the northern terminal. Some locations might serve multiple alternatives, while others are only associated with a single alternative. Differences in effects primarily reflect proximity to other land uses and outdoor recreation opportunities.

Table 3.17-18 Summary of Region I Alternative Route Impacts for Socioeconomics

Parameter	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Geographic distribution (differences carry through other parameters)	Direct effects in Wyoming and Colorado	Same as Alternative I-A	Same as Alternative I-A	Same as Alternative I-A
Approximate length of corridor (miles)	155	159	186	171
Approximate duration of construction: 80 weeks				
Direct and secondary jobs	Short-term: 292 average Short-term jobs would be distributed among multiple work sites and communities. Long-term: < 20 (assumed)	Short-term: Slightly higher than Alternative I-A Long-term: Same as Alternative I-A	Short-term: 10% to 20% higher than Alternative I-A. Long-term: same as Alternative I-A	Short-term: 5% to 15% higher than Alternative I-A. Long-term: same as Alternative I-A
Population influx	Short-term: Less than 250 (peak) Short-term population influx likely would be dispersed among several communities at any time. Primary communities affected include Rawlins, Wamsutter, Baggs, Dixon, Craig, and Rangely. Long-term: little, if any	Short-term: Essentially the same magnitude as Alternative I-A Long-term: Same as Alternative I-A	10% to 20% higher than Alternative I- A Slightly longer and higher effects in Rawlins, Baggs/Dixon and Craig, lesser impact in Wamsutter	5% to 15% higher than Alternative I- A Slightly longer and higher effects in Rawlins and, Baggs/Dixon and lesser impact in Wamsutter
Short-term housing demand	Good supply in Carbon and Sweetwater counties, but some locations require longer commutes to access temporary housing opportunities. Short-term housing availability more limited in Moffat County.	Same as Alternative I-A	Higher demand than Alternative I-A. Commuting to housing may be easier because of highway access.	Higher demand than Alternative I-A. Commuting to housing may be easier because of highway access.
Short-term effects on public facilities and services	Minor short and long-term effects on road maintenance, law enforcement, and emergency response. Much of the area accessible via oil and gas roads.	Comparable to Alternative I- A	Lesser impact on local road maintenance. Access reduces potential effects on emergency services.	Comparable to Alternative I- A

Table 3.17-18 Summary of Region I Alternative Route Impacts for Socioeconomics

Parameter	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Effects on public sector revenues	<p>Short-term: Substantial sales and use taxes accrue to states and counties. Not quantified, but in the millions</p> <p>Sales and lodging taxes from worker spending, primarily in Carbon and Sweetwater (WY) and Moffat (CO) counties</p> <p>Long-term: Increase in ad valorem/ property taxes benefitting primarily counties, public education and some special districts.</p> <p>Federal and perhaps state governments would realize ROW rental/ lease revenues.</p>	Comparable to Alternative I-A	<p>Direct: 10% to 20% higher than Alternative I-A</p> <p>Larger share in CO, lower share in WY</p> <p>Worker spending taxes higher</p>	<p>Direct: 5% to 15% higher than Alternative I-A</p> <p>Larger share in WY, lower share in CO</p> <p>Worker spending taxes higher</p>
Potential effects on private agricultural production, including grazing on public lands	Impacts to agriculture primarily associated with grazing on public lands	Comparable to Alternative I-A	Less impact on public grazing, higher potential for impact on irrigated farming and ranching	Comparable to Alternative I-A
Potential economic effects due to conflicts with outdoor recreation	Much of the area already affected by oil and gas development	Comparable to Alternative I-A	Less impact due to proximity to improved highway	Comparable to Alternative I-A
Effects on social values	Most of the corridor either co-located near other linear development or remote and sparsely populated	Comparable to Alternative I-A	Highest potential impact due to proximity and visibility from highways and private lands	Comparable to Alternative I-A
Effects on Property Values	Limited due to location relative to private property	Limited due to location relative to private property	Higher than Alternative I-A, but still limited due to location relative to private property	Limited due to location relative to private property
Potential Environmental Justice concerns	None, although facilities located near the Wyoming State Penitentiary	Same as Alternative I-A	Same as Alternative I-A	Same as Alternative I-A

Table 3.17-19 Summary of Region I Alternative Connector Impacts for Socioeconomics

Alternative Connector	Analysis	Advantages
Mexican Flats Alternative Connector	The connector is located in a rural, unpopulated area. Thus, there would be no appreciable differences in socioeconomic effects, despite minor differences in route length and construction costs.	This connector could reduce impacts on private lands, agriculture production, and social values in Baggs/Dixon area and Moffat County. However, would result in trade-offs as more of corridor in remote, harder to access and service areas.
Baggs Alternative Connector	Same as the Mexican Flats Alternative Connector above.	This connector could reduce impacts on private lands, agriculture production, and social values in Baggs/Dixon area (but not to the extent of the Mexican Flats Alternative Connector) and Moffat County. Trade-off would be more of corridor in remote, harder to access and service areas.
Fivemile Point North Alternative Connector	Same as the Mexican Flats Alternative Connector above.	Similar to the Baggs Alternative Connector, with slightly more benefit in Baggs/Dixon area, and same benefits in Moffat County.
Fivemile Point South Alternative Connector	Same as the Mexican Flats Alternative Connector above.	Similar to the Baggs Alternative Connector, with slightly more benefit in Baggs/Dixon area, and same benefits in Moffat County. Could be combined with portions of the Baggs Alternative and the Fivemile Point North Connectors.

Table 3.17-20 Summary of Region I Alternative Ground Electrode System Location Impacts for Socioeconomics

Alternative Ground Electrode System Locations	Analysis (Qualitative)
Separation Flat – All Alternative Routes	Relatively close to Rawlins. Within the “checkerboard” and CD-C oil and gas area, increasing the potential for isolated effects on other land uses and agriculture.
Shell Creek (Alternatives I-A, I-B, I-D)	More distant from communities and temporary housing. Within the “checkerboard” and CD-C oil and gas area. Limited fiscal differences for Sweetwater County. Potential differences in economic effects associated with big game hunting – see Section 3.14, Recreation.
Little Snake East (Alternatives I-A, I-B, I-D)	More distant from communities and temporary housing. Changes in fiscal effects because of location in Colorado rather than Wyoming. Potential differences in economic effects associated with big game hunting – see Section 3.14, Recreation.
Little Snake West (Alternative I-A)	More distant from communities and temporary housing. Changes in fiscal effects because of location in Colorado rather than Wyoming. Potential differences in economic effects associated with big game hunting – see Section 3.14, Recreation.
Eight Mile Basin – All Alternative Routes	Closest location to Rawlins, with easy highway access via State Highway 71. Located within the “checkboard” but outside of the more active oil and gas development areas located further west and also to the south. Located near Rawlins water treatment plant. Chokeycherry-Sierra Madre wind project proposed for development in areas to the east and south of the site.
Separation Creek – All Alternative Routes	The Sweetwater-Carbon county line divides the site, which is relatively close to Rawlins, south of the I-15 corridor and adjacent to the Union Pacific Railroad ROW. Located within the “checkboard” but outside of the more active oil and gas development areas located further west and also to the south.

The Tuttle Easement micro-siting options provide options for realigning a short segment of the transmission line to avoid locating it in an area covered by a conservation easement that precludes utility easements. One of the options would cross approximately 200 feet of NPS-managed lands and the other would require two additional crossings of Highway 40. Either routing would not substantively alter the project costs, construction schedule, or temporary employment requirements. Hence, implementation of either option would not affect the overall assessment regarding temporary or long-term socioeconomic effects.

Differences in social and economic effects between the Alternative transmission line routes and other facilities to be located in Region I would be minor. Differences in short-term jobs creation, sales and use taxes, consumer spending, and demands on local housing and government facilities would generally be anticipated to correlate directly to the length and costs of the segments. Alternatives I-C and I-D are 20 percent and 10 percent longer than Alternative I-A, respectively, and hence more costly to build, while supporting more short-term employment opportunities. However, Alternative I-C would affect more private property and at the same time have more of its length located near established highway corridors and communities, which would facilitate worker commuting to nearby communities with temporary housing opportunities. None of the alternatives would have any substantial long-term effects on social and economic conditions in the region.

3.17.5.5 Region II

This section addresses the temporal and geographic distribution of effects as construction moves along the alternative routes, and the implications of that movement for affected communities. The assessment in Region II also considers differential effects due to differences in the existing environment (energy development, forest lands, and public/private landownership) for Alternative II-A and the I-70 corridor for Alternatives II-B and II-C.

Key Project Parameters Affecting the Assessment

Transmission Lines

- Approximate time to complete transmission line components in Region II: 131 weeks.
- Direct Construction Employment: Range: 15 to 231, Average: 203. The total consists of multiple distinct crews (survey, clearing, foundation construction, stringing, etc.) that would be working at multiple locations along the ROW. At times, the spacing, when combined with limited availability of temporary housing, would result in multiple communities being affected simultaneously.
- Operations Employment: few direct permanent jobs over the operating life of the line.
- Secondary Employment: the equivalent of approximately 89 jobs, based on the average direct employment. Very few during operations. The secondary jobs related to construction would be temporary and would be geographically dispersed in communities located near the route based on the location of construction activities and residency patterns of the temporary construction workers.

Ground Electrode

- No ground electrode would be located in Region II.

Decommissioning Impacts

- Temporary direct and secondary employment impacts and impacts on temporary housing. Sales and use tax based primarily on work force spending, because of limited purchases of materials. Like the construction effects for the transmission line, the effect would shift location over time.

Summary of Impacts

Table 3.17-21 provides a comparison of impacts associated with the alternative routes in Region II.

Table 3.17-22 summarizes impacts and advantages associated with the alternative connectors in Region II.

Four alternative connectors have been defined in Region II; two of the connectors are on the eastern side of the Manti-LaSal National Forest, providing facilities to crossing between Alternatives II-B, II-C, and II-D that access different routes through the Forest. Two other alternative connectors are located in the proximity of Lynndyl just east of the IPP connection. Each is relatively short in length and would result in minimal differences in socioeconomic effects, the differences essentially constituting trade-offs involving shifts in location on public and private lands that may have minimal effects on agriculture or reductions in effects to one group of landowners and uses at the expense of increased effects to another group of owners.

Table 3.17-22 summarizes impacts associated with the alternative connectors in Region II.

Two micro-siting options have been identified in Region II: the Strawberry IRA (Alternative I-A) and the Cedar Knoll IRA (Alternative II-A). Each option provides for the possible realignment of relatively short segments of the transmission line in order to avoid or reduce the length of line located within an IRA. The net effects on project cost, construction schedule or temporary employment associated with either the Strawberry IRA or Cedar Knoll IRA micro-siting options would not be substantively different than the comparable metrics for the corresponding base Alternative, I-A and II-A, respectively. Hence, selection of either option would not affect the overall assessment or conclusions regarding socioeconomic effects.

Alternative Variation in Region II

Emma Park Alternative Variation

A single alternative variation is defined in Region II – the Emma Park Alternative Variation (see **Table 3.17-23**). The variation generally follows an east-west routing, in the vicinity of an existing road that connects U.S. Highways 191 and 6. The area is mostly grassland/rangeland, rural and undeveloped, although there is some existing energy development nearby.

None of the alternatives would have any substantial long-term effects on social and economic conditions in the region. Differences in the type and scale of social and economic effects between the Alternative transmission line routes and other facilities located in Region II would be minor. As in Region I, the differences in short-term job creation, sales and use taxes, and other factors would generally correlate directly to the differences in segment length and cost. However, in Region II an important difference would be in the communities and counties affected and corollary differences in nearby land use, potential conflicts with recreation uses, and amounts of private lands potentially affected. Alternatives II-A, II-D, and II-E would cross through Uintah and Duchesne counties, which have extensive energy resource development. Substantial portions of the Uintah and Ouray Indian Reservation also are located in these counties. These alternatives continue westward, crossing areas that tend to be relatively more populated and then continuing across USFS lands. In contrast, Alternatives II-B and II-C traverse southward through western Colorado, then westward across central Utah, which is primarily rural but also includes areas with a history of coal mining and power generation, before crossing USFS lands to the IPP area.

Table 3.17-21 Summary of Region II Alternative Route Impacts for Socioeconomics

Parameter	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Geographic distribution (differences carry through all parameters)	Some direct effects in Colorado, but primarily in Utah. Effects in Utah would occur across north central Utah, then south to the IPP. Land use and economies characterized by energy development, Uintah and Ouray Reservation, National Forest lands. Western portion of the corridor is more heavily populated.	Additional direct effects in Colorado and in Utah. Effects in Utah mostly along I-70 Corridor and the Green River, then jogs to northwest through central Utah to IPP. Less current energy development than Alternative II-A, trade-offs in potentially affected private lands between Duchesne and Sevier.	Additional direct effects in Colorado and in Utah. Effects in Utah mostly along I-70 Corridor and the Green River, jogs north and then south, with more corridor through USFS and less private land	Some direct effects in Colorado, but primarily in Utah. Effects in Utah would occur across north central and central Utah, jogging south to the IPP. Land use and economies characterized by energy development, Avoids much of Uintah and Ouray Reservation and more of National Forest (compared to Alternative II-A). More of corridor in Carbon County (Utah), less in Duchesne	Some direct effects in Colorado, but primarily in Utah. Effects in Utah would occur across north central Utah, jogging south to the IPP. Land uses and economies characterized by energy development, Uintah and Ouray Reservation, National Forest lands. Less effect on National Forest lands. More effect in Utah County, less in Wasatch County.	Some direct effects in Colorado, but primarily in Utah. Effects in Utah would occur across north central and central Utah, jogging south to the IPP. Land use and economies characterized by energy development, Avoids much of Uintah and Ouray Reservation and more of National Forest (compared to Alternative II-A). More of corridor in Carbon County (Utah), less in Duchesne
Approximate length of corridor (miles)	257	345	364	262	266	270
Approximate duration of construction: 131 weeks						
Direct and secondary jobs	Short-term: 292 average Short-term jobs would be distributed among multiple work sites and communities. Long-term: < 20 (assumed)	+20% to 30% as compared to Alternative II-A	+ 20% to 30% as compared to Alternative II-A	Essentially the same as Alternative II-A	Slightly higher than Alternative II-A	Slightly higher than Alternative II-A
Population influx	Short-term: Less than 250 (peak). Short-term population influx likely would be dispersed among several communities at any time. Primary communities affected include Vernal, Ballard, Roosevelt, Duchesne, Provo, Nephi, Lynndyl, Delta Long-term: little, if any	+20% to 30% compared to Alternative II-A Primary communities affected include Rangely, Fruita, Grand Junction, Moab, Green River, Castle Dale, Mount Pleasant, Nephi, Lynndyl, Delta	+ 20% to 30% as compared to Alternative II-A Primary communities affected include Rangely, Fruita, Grand Junction, Moab, Green River, Castle Dale, Ferron, Emery, Salina, Scipio, Delta	Essentially the same as Alternative II-A. Primary communities affected include Vernal, Ballard, Roosevelt, Price, Castle Dale, Manti, Lynndyl, Delta Long-term: little, if any	Slightly higher than Alternative II-A. Primary communities affected include Vernal, Ballard, Roosevelt, Duchesne, Price, Nephi, Lynndyl, Delta Long-term: little, if any	Essentially the same as Alternative II-A. Primary communities affected include Vernal, Ballard, Roosevelt, Price, Castle Dale, Manti, Lynndyl, Delta Long-term: little, if any

Table 3.17-21 Summary of Region II Alternative Route Impacts for Socioeconomics

Parameter	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Short-term housing demand	Good supply in Uintah County. However, competing demands from sources may limit availability. Other communities in central Utah have more limited availability.	Areas in northwestern Colorado and central Utah with limited temporary housing availability, requiring long commuting distances, e.g., when construction occurring along I-70 and on portions of the Manti-LaSal National Forest. +20% to 30% higher demand than Alternative II-A.	Substantial stretches in western Colorado and central Utah with limited temporary housing availability (Manti-LaSal) + 20% to 30% higher demand than Alternative II-A. Commuting may be easier because of highway access.	Good supply in Uintah and Carbon counties. However, a number of stretches in central Utah with limited housing availability.	Good supply in Uintah and Utah counties. However, a number of stretches in central Utah with limited housing availability.	Good supply in Uintah and Carbon counties. However, a number of stretches in central Utah with limited housing availability.
Short-term effects on public facilities and services	Minor short and long-term effects on road maintenance, law enforcement, and emergency response.	Higher incremental demand than Alternative II-A, but effects still minor. Similar to Alternative II-A, but affect different communities, those communities generally smaller than along Alternative II-A.	Higher incremental demand than Alternative II-A, but effects still minor. Similar to Alternative II – A, affecting different, generally smaller communities, than along Alternative II-A. Access along I-70 provides an advantage	Effects comparable to those under Alternative II-A, More of corridor length crosses remote rural areas. Affects different communities in central Utah, including Price, which is larger and provides expanded service capacity.	Effects comparable to those under Alternative II-A. Corridor cross relatively less private lands and Ashley National Forest, rather than Uinta-Wasatch-Cache National Forest. Affects different communities in central Utah, including Price.	Effects comparable to those under Alternative II-A, More of corridor length crosses remote rural areas. Affects different communities in central Utah, including Price, which is larger and provides expanded service capacity.

Table 3.17-21 Summary of Region II Alternative Route Impacts for Socioeconomics

Parameter	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Effects on public sector revenues	Substantial sales and use taxes, accruing to the Utah and Colorado treasuries and to local counties. Sales and lodging taxes from worker spending, primarily in Uintah, Duchesne, Wasatch, Juab and Millard counties (Utah). Long-term increase in ad valorem taxes that primarily benefit counties, public education, and special districts. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A. Sales and lodging taxes from worker spending would be higher than under Alternative II-A and would accrue primarily to Rio Blanco and Mesa counties in Colorado, and Grand, Emery, Sanpete, Juab and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A. Additional sales, use and lodging taxes from worker spending, accrue primarily to Rio Blanco and Mesa counties in Colorado, and Grand, Emery, Sevier, and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A. Sales and lodging taxes from worker spending would be slightly higher than under Alternative II-A and would accrue primarily to Rio Blanco County in Colorado, and Uintah, Carbon, Sanpete, Juab and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A. Sales and lodging taxes from worker spending would be higher than under Alternative II-A and would accrue primarily to Rio Blanco County in Colorado, and Uintah, Duchesne, Carbon, Sanpete, Juab and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales, use and ad valorem taxes compared to Alternative II-A. Sales and lodging taxes from worker spending would be slightly higher than under Alternative II-A and would accrue primarily to Rio Blanco County in Colorado, and Uintah, Carbon, Sanpete, Juab and Millard counties in Utah. Federal and perhaps state governments would realize ROW rental/ lease revenues.
Potential effects on private agricultural production, including grazing on public lands	Impacts to agriculture primarily associated with grazing and farming. Short-term increases in timber harvest associated with construction within national forest.	Impacts to agriculture primarily to grazing in eastern Utah and farming in western Utah. More public land affected than under Alternative II-A. Short-term increases in timber harvest associated with construction within national forest.	Comparable to Alternative II-B.	Comparable to Alternative II-A, but higher share of BLM land affected and lesser effects on National Forest lands.	Comparable to Alternative II-A.	Comparable to Alternative II-A, but higher share of BLM land affected and lesser effects on National Forest lands.
Potential economic effects due to conflicts with outdoor recreation	Some conflict potential, primarily short-term in the Ashley National Forest and Uinta-Wasatch-Cache National Forest.	Some conflict potential, primarily short-term in Manti LaSal National Forest. The Old Spanish National Historic Trail located in the area.	Some conflict potential, primarily short-term in Fish Lake National Forest.	Some conflict potential. Lowest among the alternatives.	Some conflict potential, primarily short-term in the Ashley National Forest and Uinta-Wasatch-Cache National Forest.	Some conflict potential. Lowest among the alternatives.

Table 3.17-21 Summary of Region II Alternative Route Impacts for Socioeconomics

Parameter	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Effects on social values	General familiarity with such development as much of the corridor is near other linear development or passes through areas affected by other energy development. Potential for higher dissatisfaction in some locations due to proximity to second-home/recreational development. Closest to Provo-Orem metro area.	More of routes in western Colorado – area affected by oil and gas, also crosses area of oil shale resources. Close to Grand Junction metro, and I-70 corridor across Utah. Relative lack of existing linear facilities in eastern Utah may increase perceived impact on quality of life.	More of routes in western Colorado – area affected by oil and gas. Also crosses area of oil shale resources. Close to Grand Junction metro, and I-70 corridor across Utah. Relative lack of existing linear facilities in eastern Utah may increase perceived impact on quality of life.	Comparable to Alternative II-A.	Comparable to Alternative II A.	Comparable to Alternative II-A.
Effects on Property Values	Much of the corridor would be located near other linear development or through areas affected by energy development. Crosses through area of substantial private land and development in central Utah.	Corridor longer and with more public land than in corridor Alternative II-A. Corridor does not pass through any highly developed areas, thus little net difference.	Corridor longer and with more public land than in corridor Alternative II-A. Corridor does not pass through any highly developed areas, thus little net difference.	Corridor longer and with more public land than in corridor Alternative II-A. Corridor does not pass through any highly developed areas, thus little net difference.	Comparable to Alternative II-A, but character of affected lands in Carbon and Utah counties differs from that in Duchesne and Wasatch counties.	Corridor longer and with more public land than in corridor Alternative II-A. Corridor does not pass through any highly developed areas, thus little net difference.
Potential Environmental Justice concerns	Although the corridor crosses part of Uintah and Ouray Reservation, no disproportionate effects to minority or low-income populations identified.	None	None	Comparable to Alternative II-A	None	Comparable to Alternative II-A

Table 3.17-22 Summary of Region II Alternative Connector Impacts for Socioeconomics

Alternative Connector	Analysis	Advantages
Highway 191 Alternative Connector	Area is rural, with energy and transportation use (Highway 191).	Little difference from a socioeconomic perspective, although transmission line would be visible from a stretch along Highway 191.
Castle Dale Alternative Connector (Alternatives II-B and II-C)	Area is rural, with a combination of agriculture, energy, and industrial development evident.	Would avoid more forest and state lands, resulting in potential reduced conflicts with recreation. Creates shorter option compared to Alternative II-C
Price Alternative Connector (Alternatives II-B and II-D)	Area is rural, with a combination of agriculture, energy, and industrial development evident.	If connects Alternative II-B to II-C, would avoid more forest and state lands, resulting in potential reduced conflicts with recreation. None from a socioeconomic perspective if connect II-D to II-B.
Lynndyl Alternative Connector (Alternatives II-B and II-C)	Area is rural, but alternative would be more visible for I-15 travelers.	Would avoid more forest and state lands, resulting in potential reduced conflicts with recreation
IPP East Alternative Connector (Alternatives II-A and II-B)	The differences essentially constitute trade-offs involving shifts in location on public and private lands that may have minimal effects on agriculture	Little or none from a socioeconomic perspective.

Table 3.17-23 Summary of Region II Alternative Variation Impacts for Socioeconomics

Alternative Variation	Analysis
Emma Park Alternative Variation (Alternative II-F)	This alternative variation would likely have both supporters and detractors based on the potential effects on outdoor recreation, including hunting, and the fact that the alternative variation would be through an area that has more existing disturbance, affords easier road access to support construction, and carries motor vehicular traffic. The alternative variation would not substantively affect project costs, schedule, or temporary employment effect. Hence the differences in socioeconomic effects would be negligible.

3.17.5.6 Region III

This section addresses the temporal and geographic distribution of effects as construction moves along the alternative routes, and the implications of that movement for affected communities. The assessment in Region III also considers differential effects due to differences in the existing environment and public/private landownership in western Utah and southern Nevada.

Key Project Parameters Affecting the Assessment

Transmission Lines

- Approximate time to complete transmission line components in Region III: 120 weeks.
- Direct Construction Employment: Range: 15 to 231, Average: 203. The total consists of multiple distinct crews (survey, clearing, foundation construction, stringing, etc.) that would be working at

multiple locations along the ROW. At times, the spacing, when combined with limited availability of temporary housing, would result in multiple communities being affected simultaneously.

- Operations Employment: few direct permanent jobs over the operating life of the line.
- Secondary Employment: the equivalent of approximately 89 jobs, based on the average direct employment. Very few during operations. The secondary jobs associated with construction would be temporary and geographically dispersed across the region based on the location of construction activities and residency patterns of the temporary construction workers.

Ground Electrode

- Approximate time to complete ground electrode in region III – northeast of the Las Vegas urbanized area: about 9 months. Completion of the ground electrode expected to follow the completion of the construction of the transmission line in Region III. Thus, this work force is independent of that for the transmission line, but would be concurrent with construction of the southern terminal, although these two components would be separated by a considerable distance and intervening development.
- Direct Construction Employment: Range – 12 to 18.
- Operations: very few, if any, direct permanent jobs over the operating life of the ground electrode.
- Secondary Employment: Approximately 10 jobs. Temporary effects likely would be concentrated in one or two communities, depending on the final site selection.

Decommissioning Impacts

- Temporary direct and secondary employment impacts, along with impacts on temporary housing. Sales and use tax based primarily on work force spending. Like the construction effects for the transmission line, the effect would shift location over time.

Summary of Impacts

Table 3.17-24 provides a comparison of impacts associated with the alternative routes in Region III.

Three alternative variations are defined in the southern portion of Alternative III-A in Region III. The proposed corridor routing is in the vicinity of an existing highway, in an area with an existing transmission line. However, the Old Spanish Historic Trail passes through the area. There also is a Forest Service Road that provides motorized access into a portion of the Dixie National Forest. Two of the alternative variations would locate a portion of the corridor routing through the Dixie National Forest from east of Route 18 to west side in the vicinity of Enterprise, with the two differentiated by the location at which the corridor routing crosses Route 18. The third alternative variation would locate a portion of the corridor routing further to the east, but still within the Dixie National Forest. **Table 3.17-25** provides a comparison of impacts associated with the alternative variations in Region III.

Two alternative connectors have been identified in Region III. The Avon connector would transit an area of little development other than a Union Pacific rail line and local roads. The Moapa connector would cross to the north of I-15 in the vicinity of Dry Lake, then parallel I-15 to the south before re-crossing I-15 to the west of the I-15/U.S. 93 intersection. **Table 3.17-26** summarizes impacts and advantages associated with the alternative connectors in Region III.

Table 3.17-27 provides a comparison of seven alternative electrode bed locations proposed near the southern terminal. Some locations might serve multiple alternative routes, while others would only be associated with a single alternative route.

Table 3.17-24 Summary of Region III Alternative Route Impacts for Socioeconomics

Parameter	Alternative III-A	Alternative III-B	Alternative III-C
Geographic distribution (differences carry through all parameters)	Direct effects in western Utah (Delta, Milford, Minersville, Cedar City, Enterprise, St. George) and Mesquite, Moapa and the Las Vegas Valley.	Direct effects in western Utah (Delta, Milford, Minersville, Enterprise) and Mesquite, Moapa and the Las Vegas Valley in Nevada.	Direct effects in western Utah (Delta, Milford, Minersville, and Enterprise) and Caliente, Alamo, Moapa and Las Vegas Valley in Nevada.
Approximate length of corridor (miles)	275	282	308
Approximate duration of construction:	120 weeks		
Direct and secondary jobs	Short-term: 292 average Total short-term jobs would be distributed among multiple work sites and communities. Long-term: < 20 (assumed)	Comparable to Alternative III-A	Approximately + 10% higher than Alternative III-A
Population influx	Short-term: Less than 250 (peak) Short-term population influx likely would be dispersed among several communities at any time. Primary communities affected include Delta, Milford, Minersville, Cedar City, St. George, Mesquite, Moapa, and Las Vegas Valley. Long-term: little, if any	Comparable to Alternative III-A Primary communities affected would include Delta, Milford, Minersville, and Cedar City, in Utah and Mesquite, Moapa and Las Vegas Valley, Nevada.	+ 10% to 20% higher than Alternative III-A Primary communities affected are Delta, Milford, Minersville in Utah and Caliente, Alamo, Moapa, and Las Vegas Valley in Nevada.
Short-term housing demands	Temporary housing inventory thought to be adequate for Alternative III-A in much of this Region	Temporary housing availability more constrained and distant from the corridor for Alternative III-B in this Region, especially in Lincoln County, Nevada.	Higher demand than Alternative III-A. Temporary housing inventory is more limited in the western segment of Alternative III-C.
Short-term effects on public facilities and services	Effects on road maintenance, law enforcement, and emergency response.	Comparable to Alternative III-A, but different communities affected.	Less capacity in western segments of Alternative III-C.

Table 3.17-24 Summary of Region III Alternative Route Impacts for Socioeconomics

Parameter	Alternative III-A	Alternative III-B	Alternative III-C
Effects on public sector revenues	Substantial sales and use taxes, likely in the millions, accruing to the states of Utah and Nevada and local counties. Sales and lodging taxes from worker spending, accruing primarily in Millard, Beaver, Iron and Washington counties in Utah and Clark County, Nevada. Long-term increase in ad valorem taxes benefitting primarily counties, public education, and special districts. Federal and perhaps state governments would realize ROW rental/ lease revenues.	Minor differences in sales and use taxes compared to Alternative III-A. Additional sales and lodging from worker spending, to accrue primarily in Millard, Beaver, Iron and Washington counties in Utah and Lincoln and Clark counties, Nevada. Long-term increase in ad valorem taxes benefitting primarily counties, public education, and special districts. Higher Federal ROW rental/ lease revenues than under Alternative III-A.	Minor differences in sales and use taxes compared to Alternative II-A. Additional sales and lodging from worker spending, to accrue primarily in Millard, Beaver, Iron and Washington counties in Utah and Lincoln and Clark counties, Nevada. Long-term increase in ad valorem taxes benefitting primarily counties, public education, and some special districts. Higher Federal ROW rental/ lease revenues than under Alternative III-A.
Potential effects on private agricultural production, including grazing on public lands	Impacts to agriculture primarily associated with grazing, but also farming in Millard, Beaver, Iron, and Washington counties.	Impacts to agriculture primarily associated with grazing, but possibly also farming in Millard, Beaver and Iron counties.	Impacts to agriculture primarily associated with grazing, but also farming in Millard, Beaver, and Iron counties.
Potential economic effects due to conflicts with outdoor recreation	Potential for conflict in portions of the Dixie National Forest and Snow Canyon State Park. Segments of the Old Spanish National Historic Trail also located in the area.	The corridor is more distant from cities, and avoids Dixie National Forest and Old Spanish Trail.	The corridor is more distant from cities, and avoids Dixie National Forest and Old Spanish Trail. But more visual awareness along highways in Lincoln and Clark counties.
Effects on social values	Residents of the area generally familiar with such development. Potential dissatisfaction among some residents, particularly in Washington County, due to proximity to recreational development and visibility.	This corridor has most length in undeveloped areas and in BLM approved utility corridors	This corridor has most length in undeveloped areas and in BLM approved utility corridors
Effects on Property Values	Most of this corridor passes through undeveloped rural areas. However, some potential affect based on proximity to rural and semi-rural development in Washington County.	Virtually the entire corridor is located in undeveloped rural areas of predominately public lands. Therefore, little if any impact.	Virtually the entire corridor is located in undeveloped rural areas and predominately public lands. An exception is in the area of the Coyote Springs Planned Development in Lincoln and Clark Counties. Therefore, slightly higher potential for impacts than III-B, but less than III-A.
Potential Environmental Justice concerns	None	More, although the route passes through the Moapa Reservation, in an area that already has substantial industrial infrastructure in place.	None, although the routing comes close to the Moapa Reservation

Table 3.17-25 Summary of Region III Alternative Variation Impacts for Socioeconomics

Alternative Variation	Analysis
Ox Valley East Alternative Variation (Alternative III-A)	The alternative variation would likely have both supporters and detractors based on potential effects to recreation experience. However, the alternative does not result in substantial differences in socioeconomic effects.
Ox Valley West Alternative Variation (Alternative III-A)	The alternative variation would likely have both supporters and detractors based on potential effects to recreation experience. However, the alternative does not result in substantial differences in socioeconomic effects.
Pinto Alternative Variation	The alternative variation would likely have both supporters and detractors based on potential effects to recreation experience. However, the alternative does not result in substantial differences in socioeconomic effects.

Table 3.17-26 Summary of Region III Alternative Connector Impacts for Socioeconomics

Alternative Connector	Analysis	Advantages
Avon Alternative Connector	The area is very sparsely populated, and with little economic activity in the area. The variation would not remove the transmission line from visibility nor appreciably affect land use.	The connector would not provide any substantial advantage with respect to socioeconomic effects.
Moapa Alternative Connector	The area is unpopulated, with substantial industrial infrastructure already existing in the area. The variation would not remove the transmission line from visibility in the area, nor affect land use.	The connector would not provide any substantial advantage with respect to socioeconomic effects.

Table 3.17-27 Summary of Region III Alternative Ground Electrode System Location Impacts for Socioeconomics

Alternative Ground Electrode System Locations	Analysis
Mormon Mesa- Carp Elgin Rd (Alternative III-A)	Short-term construction effects over a period of up to 9 months. Overall scale of the impacts would be limited.
Halfway Wash- Virgin River (Alternatives III-A and III-B)	Socioeconomic effects essentially the same as for the proposed site.
Mormon Mesa- Carp Elgin Rd (Alternative III-B)	Socioeconomic effects essentially the same as for the proposed site.
Halfway Wash East (Alternatives III-A and III-B)	Socioeconomic effects essentially the same as for the proposed site.
Meadow Valley 2 (Alternatives III-C and III-D)	Socioeconomic effects essentially the same as for the proposed site. Minor differences may result from the fact that this site is north of I-15, further from Mesquite and closer to the small communities of Moapa and Logandale.

None of the alternatives would have any substantial long-term effects on social and economic conditions in the region. The differences in social and economic effects associated with the Alternatives in Region III would manifest themselves primarily in terms of the communities and counties affected in the southern extent of the region. Whereas Alternative III-A is routed through southern Utah in the general vicinity of the St. George area, then into Clark County, Alternatives III-B and III-C shift into Nevada, traversing rural areas of Lincoln County, before the routes converge north of the Las Vegas Valley. As a result, Alternative A is routed closer to communities with established highway access and relatively abundant temporary housing opportunities, while Alternatives III-B and III-C are routed through rural areas. The latter could result in short-term effects on public facilities and services for Lincoln County.

3.17.5.7 Region IV

Construction Impacts

Construction effects similar to those described above. However, the scale and incidence of impacts associated with Region IV would be tempered by the project's location within a major metropolitan area with a substantial inventory of temporary housing, good transportation accessibility, and the existing linear systems already in place. The differences between the Alternatives would arise principally in connection with the corridor locations relative to the Lake Mead NRA, and residential and commercial development in Henderson and Boulder City.

Key Project Parameters Affecting the Assessment

Transmission Line

- Approximate time to complete transmission line components in Region IV: 24 to 32 weeks.
- Direct Construction Employment: 15 to 231 Direct, Average: 203. Total consists of multiple distinct crews (survey, clearing, foundations, stringing, etc.) that would be working at multiple locations along the ROW. At times the spacing, when combined with limited availability of temporary housing, would result in multiple communities being affected simultaneously.
- Operations Employment: few direct permanent jobs over the operating life of the line
- Secondary Employment: the equivalent of approximately 89 jobs, based on the average direct employment. Very few during operations. The secondary jobs would be temporary and geographically dispersed based on the location of construction activities and residency patterns of the temporary construction workers.

Ground Electrode

- There would be no ground electrode located in Region IV.

Decommissioning Impacts

- Temporary employment impacts, along with impacts on temporary housing. Sales and use tax based primarily on work force spending, because of limited purchases of materials. See discussion under terminals above.

Summary of Impacts

Table 3.17-28 provides a comparison of impacts associated with the alternative routes in Region IV.

There is a single Alternative Variation in Region IV – the Marketplace Alternative Variation. The variation is more closely aligned with the boundary between BLM public lands and private lands in the area east of US 95 near Marketplace. As noted in **Table 3.17-29**, there are no substantial differences in socioeconomic effects associated with this variation.

Table 3.17-28 Summary of Region IV Alternative Route Impacts for Socioeconomics

Parameter	Alternative IV-A	Alternative IV-B	Alternative IV-C
Geographic distribution (differences carry through all parameters)	Direct effects in Las Vegas Valley and Boulder City.	Comparable to Alternative IV-A	Comparable to Alternative IV-A
Approximate length of corridor (miles)	39	41	43
Approximate duration of construction: up to 32 weeks			
Direct and secondary jobs	Short-term: 292 average Most workers come from resident labor force. Long-term: < 20 (assumed)	Same as Alternative IV-A	Same as Alternative IV-B
Population influx	Little, if any, due to the availability of local labor. Generally not noticeable.	Same as Alternative IV-A	Same as Alternative IV-A
Short-term housing demands	Temporary housing availability adequate to meet any demands.	Same as Alternative IV-A	Same as Alternative IV-A
Short-term effects on public facilities and services	Little project-related impact. Adequate capacity to meet demand based on current seasonal demand already served.	Same as Alternative IV-A	Same as Alternative IV-A
Effects on public sector revenues	Substantial sales and use taxes, likely in the millions. Will accrue to the state of Nevada and local counties. Minor increase in sales and lodging taxes from worker spending in Clark County, Nevada. Long-term increase in ad valorem taxes benefitting primarily Clark County, public education, and special districts. Federal government would realize ROW rental/ lease revenues.	Same as Alternative IV-A	Same as Alternative IV-A
Potential effects on private agricultural production, including grazing on public lands	Little, if any impacts, as most of area is urbanized.	Same as Alternative IV	Same as Alternative IV-A
Potential economic effects due to conflicts with outdoor recreation	Little if any impact.	Yes, corridor located along highway corridor within Lake Mead NRA.	Yes, corridor located along highway corridor within Lake Mead NRA.
Effects on social values	Potential public dissatisfaction among Henderson residents due to the location near residential development	Potential for considerable public dissatisfaction due to the location within the Lake Mead NRA	Potential for considerable public dissatisfaction due to the location within the Lake Mead NRA
Effects on Property Values	Potential effects because of location in urbanized area	Lower potential effects because of location in less heavily developed area	Lower potential effects because of location in less heavily developed area
Potential Environmental Justice concerns	None	Same as Alternative IV-A	Same as Alternative IV-A

Table 3.17-29 Summary of Region IV Alternative Variation Impacts for Socioeconomics

Alternative Variation	Analysis
Marketplace Alternative Variation (Alternative IV-B)	Due to the concentration of existing industrial development in the area, and lack of residential development and agriculture, differences associated with this variation would be minor with respect to socioeconomic effects.

Five alternative connectors have been identified in Region IV. Four of the five connectors are located adjacent to or at least partially within the Lake Mead NRA and result in routing options that shift the corridors relative to urbanized development and public lands. The fifth alternative connector is located on the west side of Boulder City and would move the corridor further from the Railroad Pass area. **Table 3.17-30** summarizes impacts and advantages associated with the alternative connectors in Region IV.

Table 3.17-30 Summary of Region IV Alternative Connector Impacts for Socioeconomics

Alternative Connector	Analysis	Advantages
Sunrise Mountain Alternative Connector	This connector is located near the northern perimeter of the Lake Mead NRA, and represents an optional connection to enter or bypass the NRA.	Allows for trade-offs between corridor routing through the Lake Mead NRA and those through the more urbanized areas of the Las Vegas Valley, particularly Henderson, and in the vicinity of Boulder City.
Lake Las Vegas Alternative Connector	This connector is located south of Las Vegas Wash and Lake Mead Parkway, allowing for trade-offs between corridor routing through the Lake Mead NRA and those through the more urbanized areas of Henderson, and in the vicinity of Boulder City.	Reduces potential impacts in urbanized portions of the Las Vegas Valley north of Las Vegas Parkway and potential impacts to recreation areas in Lake Mead along Lakeshore Road.
Three Kids Mine Alternative Connector	This connector is located south of Las Vegas Wash and Lake Mead Parkway, allowing for trade-offs between corridor routing through the Lake Mead NRA and those through the more urbanized areas of Henderson, and in the vicinity of Boulder City.	Reduces potential impacts in urbanized portions of the Las Vegas Valley north of Las Vegas Parkway and potential impacts to recreation areas in Lake Mead along Lakeshore Road.
River Mountains Alternative Connector	This connector avoids Railroad Pass and River Mountain, shifting the corridor routing into the Lake Mead NRA in the general vicinity of developed recreation facilities and the visitor center, and also Boulder City.	There are no advantages to this connector from a socioeconomics perspective.
Railroad Pass Alternative Connector (Alternatives IV-A and IV-B)	This connector moves the transmission line corridor out of the National Conservation Area. The area is largely undeveloped and unpopulated.	Any differences associated with this variation would be minor with respect to socioeconomic effects.

None of the alternatives would have any substantial long-term effects on social and economic conditions in the region. There would be relatively few differences in social and economic effects associated with the transmission line project in Region IV because of the short-length, availability of a

large resident work force, and availability of temporary housing to house any workers who find employment on the project. The differences that would arise would primarily affect social conditions related to corridor routing through or around the Lake Mead NRA.

3.17.5.8 Residual Impacts

From a social and economic perspective, any residual effects would primarily be long-term in nature and localized within the affected counties and communities. Residual long-term socioeconomic impacts associated with the Proposed Project or other action alternatives would include effects on fiscal resources (e.g., property tax revenue), local land use affecting community development, and the social setting. The former would likely be viewed as beneficial. The latter two types of effects would be even more localized to areas in proximity to the corridor. Residual social effects would be associated with the change in character of the landscape in and near the project area, which could be viewed as adverse for some local residents and other users of these lands. The transmission line would become a factor influencing future land use development decisions along the corridor. That influence and the resulting land use patterns would be a residual impact with social and economic implications.

3.17.5.9 Impacts to Socioeconomic Conditions from the No Action Alternative

Under the No Action Alternative, the short and long-term social and economic impacts associated with the construction and operation of the transmission line, terminals, and ground electrodes would not occur. Local businesses, including retail stores, motels, and eating and drinking establishments would not realize the benefits of the economic infusions associated with the capital investment and construction labor. State and local governments would not need to respond to demand on public facilities and service, nor realize the incremental sales, use, lodging, and ad valorem taxes associated with the project. Changes in land use, including the indirect effects on agriculture would not occur. Project-related effects on social values, outdoor recreation would not occur. Future short-term effects associated with decommissioning would not occur.

3.17.5.10 Irreversible and Irretrievable Commitment of Resources

Construction and operation of the proposed TWE transmission line would require the commitment of natural, human, engineered, and monetary resources. Once completed, most of the resource investments would be irretrievable and their use/application for this project would preclude or foreclose their use for other purposes. The latter characteristic serves to make these resource commitments largely irreversible from a social and economic perspective, although, some reuse may occur following decommission.

3.17.5.11 Relationship Between Local Short-term Uses and Long-term Productivity

Construction and operation of the proposed TWE transmission line would involve a series of temporary use of land and other resources, as well as long-term influences on land use, economic activity, and social setting along the corridor. Siting the project would result in some reductions in agricultural production and perhaps displacement of some dispersed recreation use. The economic effects would include supporting jobs and incomes for local households. Communities would benefit from additional investments, and public entities, including the federal, state, and local governments, would derive revenues from the economic activities. Once operational, maintenance of the line itself would contribute to local long-term productivity, and the application of the energy transmitted via the line would contribute to substantial long-term productivity gains, albeit primarily outside of the region.

3.18 Public Health and Safety

This section includes information regarding public health and safety and hazardous materials that pertains to the area of the proposed Project. Electric transmission projects may affect public health and safety during construction and operation. Potential health and safety concerns related to power transmission during construction include worker injuries, exposure to hazardous materials, contaminated sites, or excessive noise, and other risks to workers and the surrounding community from accidents that could occur within the proposed analysis area. Health and safety concerns associated with operations include electrical shock, electric and magnetic fields, corona, stray and induced voltage, collision hazards, fire risk, and public access to transmission structures and substation equipment. Worker safety issues are associated with Project construction, operation, and maintenance activities.

Transportation-related safety issues include highway and roadway safety associated with the transport of structures, structure hardware, conductors, and employees, as well as hazards associated with proximity to airports or military operation areas and are addressed in Section 3.16, Transportation.

As with any U.S. energy infrastructure, the proposed transmission line could be the target of terrorist attacks or sabotage. Potential impacts from a sabotage or terrorism event are evaluated by analyzing the outcome of catastrophic events such as major and minor transmission line failures or accidents without determining the motivation behind the incident. Thus, such outcomes could be representative of the impacts from a sabotage or terrorism event. The level of risk is estimated based on the current conceptual design of the transmission line, applicable health, safety, and spill prevention regulations, and expected operating procedures.

3.18.1 Regulatory Background

The Project crosses many jurisdictions including federal lands managed by the USFS, BLM, NPS, DOE, DOD, and Bureau of Reclamation, state land, and county and city lands. Depending on the specific location, a number of public health and safety regulations may be applicable to various portions of the Project. OSHA has jurisdiction over most occupational health and safety issues within each state the Project crosses. Industrial construction and routine workplace operations are governed by the OSHA of 1970, particularly including 29 CFR 1910 (general industry standards) and 29 CFR 1926 (construction industry standards). While there are no federal noise regulations, municipalities and local governments may adopt laws and regulations that impose a maximum noise limit within a community. These ordinances are often enforced by police or an agency.

"Hazardous materials," which are defined in various ways under a number of regulatory programs, can represent potential threats to both human health and the environment when not properly managed. The term hazardous materials include the following materials that may be utilized or disposed of in construction and operation:

- Substances covered under Occupational Health and Safety Administration Hazard Communication Standards (29 CFR 1910.1200 and 30 CFR 42).
- "Hazardous materials" as defined under US DOT regulations at 49 CFR, Parts 170-177: The types of materials that may be used in construction and operational activities and that would be subject to these regulations would include sodium cyanide, explosives, cement, fuels, some paints and coatings, and other chemical products.
- "Hazardous substances" as defined by Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and listed in 40 CFR Table 302.4: The types of materials that may contain hazardous substances that would be subject to these requirements would include solvent-containing materials (e.g., paints, coatings, and degreasers), acids, and other chemical products.

- “Hazardous wastes” as defined in the Resource Conservation and Recovery Act (RCRA): Procedures in 40 CFR 262 are used to determine whether a waste is a hazardous waste. Hazardous wastes are regulated under Subtitle C of RCRA.
- Any “hazardous substances” and “extremely hazardous substances” as well as petroleum products such as gasoline, diesel, or propane, that are subject to reporting requirements if volumes on-hand exceed threshold planning quantities under Sections 311 and 312 of SARA. The types of materials that may be used in construction and operational activities and that could be subject to these requirements would include fuels, coolants, acids, and solvent-containing products such as paints and coatings.
- Petroleum products defined as “oil” in the Oil Pollution Act of 1990: The types of materials that would be subject to these requirements include fuels, lubricants, hydraulic oil, and transmission fluids.

In conjunction with the definitions noted above, the following lists provide information regarding management requirements during transportation, storage, and use of particular hazardous chemicals, substances, or materials:

- The Superfund Amendments and Reauthorization Act Title III List of Lists or the Consolidated List of Chemicals Subject to Emergency Planning and Community Right-to-Know Act and Section 112(r) of the Clean Air Act.
- The USDOT listing of hazardous materials in 49 CFR 172.101.

Certain types of materials, while they may contain potentially hazardous constituents, are specifically exempt from regulation as hazardous wastes. Other wastes that might otherwise be classified as hazardous are managed as “universal wastes” and are exempted from hazardous waste regulations as long as those materials are handled in ways specifically defined by regulation.

3.18.2 Analysis Area

For the purposes of public health and safety, the project analysis area is defined as a 2-mile transmission line corridor area for each of the alternative routes.

3.18.3 Occupational Safety

Worker safety in construction and industrial settings is regulated by OSHA. The proposed Project would be subject to OSHA standards during construction and operations (e.g., OSHA General Industry Standards [29 CFR 1910] and the OSHA Construction Industry Standards [29 CFR 1926]). OSHA standards are designed to protect workers from potential construction and industrial accidents, as well as to minimize exposure to workplace hazards (e.g., noise, chemicals). **Table 3.18-1** summarizes 2010 national safety statistics from the Bureau of Labor Statistics (BLS) for industry categories that are relevant to the proposed project.

Table 3.18-1 2010 National Statistics for Workplace Hazards

Industry	Nonfatal Recordable Incidents (Per 100 Full-Time Equivalent Workers)	Lost Workdays (Per 100 Full-Time Equivalent Workers)	Fatalities (Per 100,000 Full-Time Equivalent Workers)*
Construction	4.0	2.1	9.0
Utilities (electric power generation, transmission, control, and distribution)	3.1	1.7	2.5

Sources: BLS 2010a,b,c.

From 2003 to 2007, the most common causes of fatalities were transportation accidents (36 percent), followed by assaults and violent acts (15 percent) and falls (14 percent). Worker contact with electric current in some shape or form was responsible for 4 percent of fatal workplace accidents. Worker contact with overhead power lines was the cause of on-the-job electrical deaths in 45 percent of all occupational electrical fatalities (ESFI 2010).

The 2010 injury rate for the state of Utah was not statistically different from the national rate. Wyoming and Nevada had injury rates statistically greater than the rest of the country. State injury rates were not available for Colorado (BLS 2010a). Worker safety issues are a concern during all phases of the Project.

3.18.4 Electric and Magnetic Fields, Corona, and Stray Voltage

Electric and magnetic fields (EMF) are produced by voltage, i.e., the electrical pressure that drives an electric current through a circuit. Magnetic fields are produced by current, which is defined as the movement or flow of electricity. The earth has both magnetic fields produced by currents of highly conductive iron contained within the molten core of the planet and an electric field produced by the electric potential differences between the land's surface (negatively charged) and the atmosphere (positively charged). Electric fields occur naturally, radiating from the earth's core to the atmosphere. These electrical fields dissipate with elevation. For example, there is approximately a 200 volts difference between the electric field at your head compared to your feet (Carlson 1999). While electrical fields can be easily shielded or reduced by walls and other objects, magnetic fields are not and they are more likely to penetrate into the body.

EMFs are present wherever electricity is used, such as in household appliances, cell phones, wristwatches, lamps, computers, and transmission lines. The electric-field strength from wiring and appliances located within homes is typically less than 0.01-kV/m, while greater field strength can be found very close to some appliances, such as electric blankets. Typical homes produce background magnetic field levels (away from appliances and wiring) that range from 0.5 milliGaus (mG) to 4 mG, with an average value of 0.9 mG.

High voltage direct current (DC) and alternating current (AC) power lines produce different types of EMF. An AC power line alternates at a rate of 50 to 60 times a second (Hz), while a DC power line produces a static electric field that does not alternate. Static electric fields, such as those produced from DC power lines, are encountered naturally in the everyday environment such as when walking across carpet on a dry day (Bailey 2006). Static electric fields can be blocked by trees, bushes, and any conducting building material. There are no federal standards or standards from affected states limiting occupational or residential exposure to power line EMF; however, the International Committee on Non-ionizing Radiation Protection (ICNIRP) has set a voluntary protection level for electrical fields for the general public of 4.2-kV/m (ICNIRP 1998). The results of the few electric static studies that have been conducted indicate that the only effects are associated with body hair movement and discomfort from spark discharges (WHO 2006). The recommended maximum static magnetic field exposure value from the World Health Organization (WHO) is 200,000 mG during the working day for occupational exposure (WHO 2006). The natural magnetic field varies from 350 to 700 mG. Man-made devices that use DC, such as electric trains and some industrial use equipment, can be up to 1,000 times as strong as what is produced naturally. Medical devices such as MRIs can produce magnetic fields up to 100,000 times stronger than the naturally occurring magnetic field (TWE 2011). Both electric and magnetic fields diminish rapidly between 50 to 100 feet from the source and are insignificant at distances more than 100 feet (TWE 2011).

It has been suggested that a connection may exist between EMFs and various forms of cancer (WHO 2011). However, there have been mixed and often conflicting opinions regarding health effects related to EMF exposure. Human exposure to a 60-Hz magnetic field from alternating current produces a current density that is approximately 1,000 times less than naturally occurring currents (National Research Council [NRC] 1997). Additionally, human exposure to the magnetic field from high capacity

direct current power lines is the same or less than to the naturally occurring magnetic field (TWE 2011). While some studies have linked EMF to increased incidence of childhood leukemia, central nervous disorders, and adult cancers (including leukemia), the results have not been reproducible or conclusive (National Institute of Health [NIH] 1999, NIH 2005). The National Research Council evaluated the published literature on EMF and found a statistical relationship between residential wiring codes and an increased incidence of childhood leukemia, but there was no correlation between measured magnetic fields and incident rates of childhood leukemia (NRC 1997). Further, there is no known mechanism for EMF to cause disease (NRC 1997). Other studies have failed to indicate a correlation between exposure levels or exposure duration. There is no consistent or conclusive evidence linking exposure to EMF from electrical transmission lines to human disease (NRC 1997, NIH 2005).

Corona, a luminous electrical discharge on a transmission line, is caused by electric current arcing across two or more points along transmission line conductors. It can be seen as bluish tufts or streamers surrounding the conductor, and generally a hissing sound can be heard. Transmission line corona varies with atmospheric conditions, being more intense during wet weather. Corona on the surface of high voltage conductors can create signals that may interfere with radio and television reception, but can be minimized with modern transmission line design.

It has been hypothesized that corona creates ions that can be dispersed by winds, inhaled and deposited on the skin and in the lung, and lead to adverse human effects (Fews et al. 1999). The Independent Advisory Group on Non-ionizing Radiation (National Radiological Protection Board 2004) concluded that:

“...it seems unlikely that corona ions would have more than a small effect on the long-term health risks associated with particulate air pollutants, even in the individuals who are most affected. In public health terms, the proportionate impact will be even lower because only a small fraction of the general population live or work close to sources of corona ions.”

Subsequent reviews have reaffirmed the lack of correlation between exposure to EMF or corona ions and adverse health effects (WHO 2007; Energy Network Association 2009).

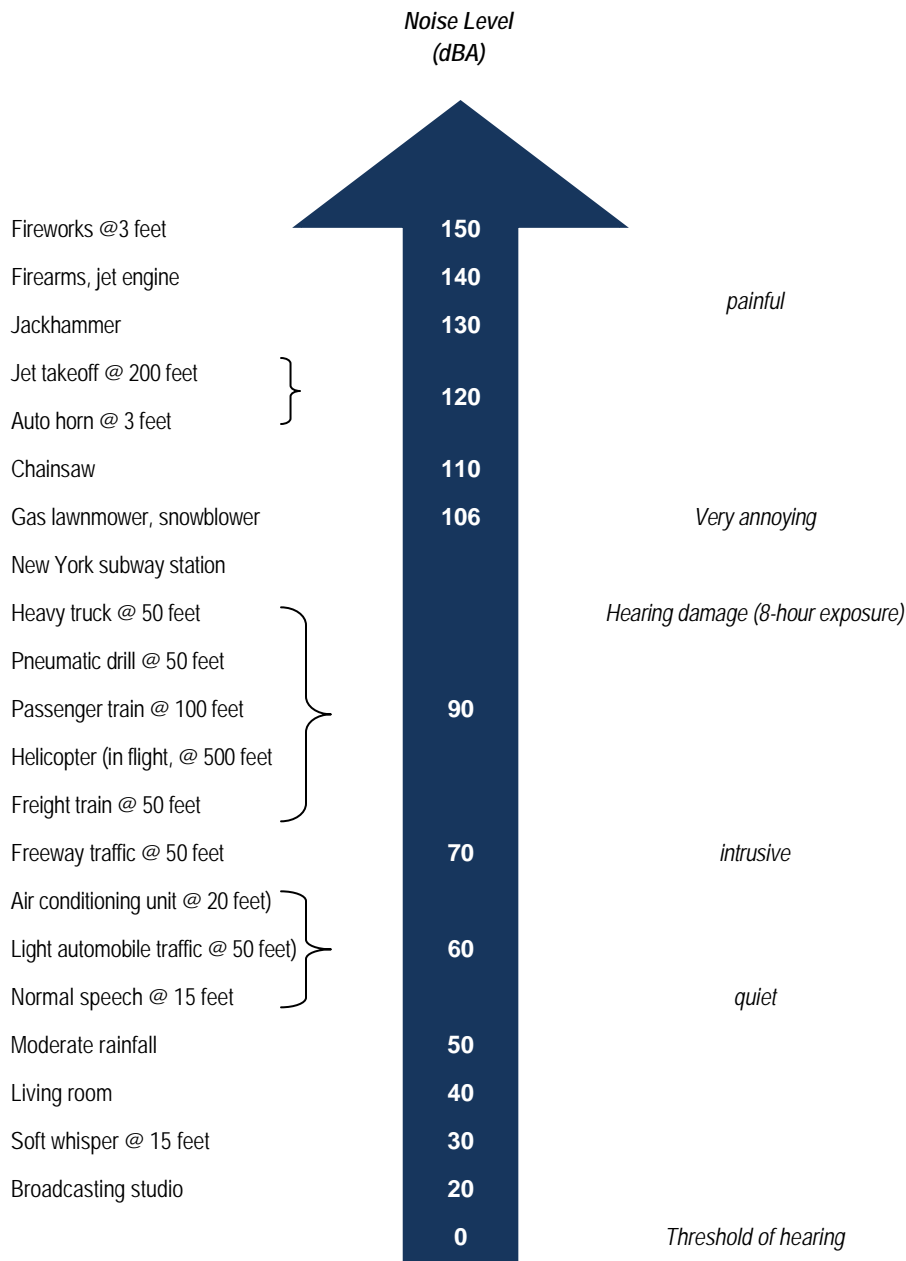
Stray voltage is typically associated with rural end-users, such as farm and ranch complexes where equipment is exposed to dust and other contaminants. Induced current occurs along linear features, such as fences that parallel conductors, and typically can be minimized with adequate grounding. As a result of their static nature, DC lines do not induce currents and voltages. In contrast, as a result of their alternating nature, AC electric fields can induce currents and voltages in nearby conductive objects.

3.18.5 Noise

Noise is defined as any sound that is undesired or interferes with one's hearing. Noise is considered a human health concern as it can interfere with speech communication and hearing or is otherwise considered annoying. The term “unwanted” can be subjective in nature and can vary greatly among individuals. An individual's response to noise is influenced by the type of noise, perceived importance of the noise, appropriateness in the setting, time of day, type of activity during which the noise occurs, and the sensitivity of the individual.

Sound is measured in dBA and is based on a logarithmic scale to account for the wide range of audible sound intensities. Under the logarithmic scale for sound (and noise), a 10-dBA increase would increase sound intensity by 10 times; a 20-dBA increase would increase sound intensity by 100 times. As a result, methods have been developed for weighting the sound frequency spectrum to approximate the response of the human ear. The dBA scale uses a sound range of 0 to 140 dBA and is the most widely used weighted scale for environmental noise assessments because of its relative convenience and

accuracy in correlating with people’s judgments of what constitutes noise. Typical A-weighted sound and noise levels associated with common activities or situations are shown in **Figure 3.18-1**.



Source: CEQ 1970.

Figure 3.18-1 Typical A-weighted Sound Levels

Ambient noise, or background noise, is defined as an assortment of noise from nearby and distant sources, relatively steady and homogeneous, with no particular source identifiable within it (National Wind Coordinating Committee 2002). Ambient noise levels within the Project corridor have not been measured; however, as rural background noise in wilderness and rural areas typically is 40 dBA (USEPA 1978), they are likely to be similar in magnitude. Levels near developed areas and along area roads and highways are likely to be higher due to vehicle movement and other human activities. Wind is frequently a major contributor to ambient noise levels within the area, as well as agricultural machinery

noise when operated near residences and other sensitive receptors. Sensitive receptors within the area are limited to residents in scattered rural locations as well as low population urban areas.

Noise level from a line source such as a power line will decrease by 6 dBA for every doubling of the distance away from the source (Truax 1999). This concept, known as geometric spreading, is based on the inverse square law. This law states that the intensity of the influence at any given radius is the source strength divided by the area of the sphere. The energy twice as far from the source is spread over four times the area, hence the sharp drop off in intensity. Sound intensity follows the inverse square law assuming there are no reflections or reverberations. **Table 3.18-2** displays the human perception of a change in decibel levels.

Table 3.18-2 Human Perception of Noise Level Changes

Change in Decibel Level	Result
1 dBA	Cannot be perceived
3 dBA	Barely discernible
5 dBA	Noticeable community response
10 dBA	Causes an adverse community response

As shown above, when comparing similar sounds (e.g., changes in traffic noise levels) a 3-dBA change in sound-pressure level is considered detectable by the human ear in most situations. A 5-dBA change is readily noticeable by most people, and a 10-dBA change is perceived to be a doubling (or halving) of sound or noise. Impacts to wildlife from noise are addressed in Section 3.7, Wildlife and Section 3.8, Special Status Wildlife Species.

3.18.6 Hazardous Materials and Waste

3.18.6.1 Hazardous Materials

A number of hazardous substances are used in the construction, operation, and maintenance of electrical transmission lines. **Table 3.18-3** lists common types of materials that could be used, but is not a comprehensive list. Generation of hazardous waste is not anticipated.

Table 3.18-3 Hazardous Materials Typically Used for Transmission Line Construction

2-cycle oil (contains distillates and hydrotreated heavy paraffinic)	Gasoline treatment
ABC fire extinguisher	Hot stick cleaner (cloth treated with polydimethylsiloxane)
Acetylene gas	Hydraulic fluid
Air tool oil	Insulating oil (inhibited, non-PCB)
Ammonium hydroxide	Lubricating grease
Antifreeze (ethylene glycol)	Mastic coating
Automatic transmission fluid	Methyl alcohol
Battery acid (in vehicles and in the meter house of the substations)	Motor oils
Bottled oxygen	Paint thinner
Brake fluid	Pesticide
Canned spray paint	Propane

Table 3.18-3 Hazardous Materials Typically Used for Transmission Line Construction

Chain lubricant (contains methylene chloride)	Puncture seal tire inflator
Connector grease (penotox)	Safety fuses
Contact Cleaner 2000	Starter fluid
Diesel deicer	Sulfur hexafluoride (within the circuit breakers in the substations)
Diesel fuel	1,1,1 trichloroethene
Diesel fuel additive	WD-40 (penetrating oil)
Gasoline	

Source: San Diego Gas and Electric (SDGE) 2006.

3.18.6.2 Solid Waste

Solid waste generated from transmission line construction is minimal when compared to other types of industrial and commercial construction projects. Solid waste generated from construction and operation of the proposed transmission line and substations would generally consist of construction rubble (e.g., excess or off-spec concrete, soil, and rock), paper, cardboard, and packing material, brush, other vegetation, and scrap metal (SDGE 2006).

3.18.6.3 Existing Contaminated Sites

Exposure to certain chemicals can adversely affect human health through toxic reactions, carcinogenic effects, or both. Chemical exposure can occur from chemicals present in water or in soil from past industrial activities. Contaminated sites can result from industrial activities (mineral extraction, mineral processing, and manufacturing) or from commercial activities (fuel storage for retail outlets, vehicle maintenance). Active or closed landfills or unauthorized dumps also may present potential for exposure.

There are no known contaminated sites along the proposed route; however, despite the predominantly rural landscapes crossed by the proposed Project, contaminated sites may be encountered or discovered during construction, given that the proposed routes often parallel- or are within- existing utility and transportation corridors or are in areas with current or historic oil and gas production. No Phase I Environmental Site Assessments have been conducted for the proposed route.

3.18.7 Impacts to Public Health and Safety, Hazardous Materials

The impact analysis area for public health and safety is defined as the area within the 2-mile transmission line corridor of any of the alternative routes. Potential impacts associated with public health and safety, such as construction injuries to project personnel, electric and magnetic fields (EMF), corona effects, stray and induced voltage, noise, and hazardous materials are evaluated for the impact analysis area.

The methodology for evaluating impacts on public health and safety involves identifying and assessing design, construction, and operational standards and guidelines for electric transmission lines; determining the proximity of populated areas and structures to the proposed project; and calculating the proximity of communication sites and co-located pipelines to the analysis area. Communication sites were analyzed in order to assess the probability of communication disturbances caused by corona. The potential effects of EMF from AC power lines on co-located pipelines are discussed in Section 3.18.7.2.

The following impact parameters have been used for this analysis:

- Number of communities, sensitive receptors, and recreation areas within the 2-mile transmission line corridor area.
- Number of residences, commercial/industrial buildings, agricultural buildings, and outbuildings within 500 feet and 200 feet of the reference line.
- Number of non-project related communication sites within the 2-mile transmission line corridor analysis area. Communication sites may include, but are not limited to, AM, FM, cellular, television, and microwave sites.
- Potential for accidental release of hazardous materials during construction and operation.

Impact parameters were used in combination with effects information for the purpose of quantifying impacts. The impact parameters also allow comparisons among alternatives or alternative variations. Impact issues and the analysis considerations for public health and safety are listed in **Table 3.18-4**.

Table 3.18-4 Relevant Analysis Considerations for Public Health and Safety, Hazardous Materials

Resource Topic	Analysis Considerations and Relevant Assumptions
Serious injuries to workers and the public at-large.	The analysis evaluates potential construction and operation impacts to the health and safety of workers.
Adverse health impacts from EMF, stray voltage, and induced voltage associated with transmission lines.	The analysis evaluates direct effects on communities and sensitive receptors from potential adverse impacts from electric transmission.
Noise impacts to nearby communities and residences.	The analysis evaluates the potential for noise impacts on nearby communities, residences, and other noise sensitive receptors.
Impacts from accidental release of hazardous materials.	The analysis evaluates potential impacts from the accidental release of hazardous materials.

3.18.7.1 Impacts from Terminal Construction and Operation

The northern and southern terminals would be constructed regardless of alternative route or design option.

Northern Terminal

The Northern Terminal would be sited on private lands near Sinclair, Wyoming and would require an initial disturbance of 504 acres for construction and a permanent disturbance of 234 acres for operation.

There are no residences, communities, parks or developed recreation areas within 1 mile of the proposed terminal site. There is a federal prison located more than 2 miles from the terminal site. There are no other sensitive receptors located within 1 mile of the terminal site. There are no structures within 500 feet of the terminal site. The lack of sensitive receptors and structures near the terminal site would result in no impacts from noise and EMF. The lack of communication sites near the terminal area also would result in no impacts to emergency communications. Further analysis is provided in the subsections below.

Occupational Safety

During construction of the Northern terminal, workers would be at risk of injury from use of heavy equipment, working at heights, working in the vicinity of high voltage equipment, as well as from typical

hazards found on a construction site. Based on BLS data from 2010, there are four construction-related non-fatal recordable incidents per 100 full-time equivalent workers. Based on an average construction workforce of approximately 400 workers, it is estimated there would be 16 non-fatal recordable incidents. In order to minimize hazards to construction workers that may result in injuries that meet or exceed the BLS threshold, workers would follow the National Electrical Safety Code (NESC), U.S. Department of Labor requirements, and Occupational Safety Health Administration (OSHA) safety standards, as well as project-specific safety requirements (TWE-51). A health and safety plan also would be implemented to protect workers and the public during construction (TWE-56).

Through the implementation of TWE-51 and TWE-56, as well as adherence to the NESC, U.S. Department of Labor requirements, and OSHA safety standards, minimal to no impacts to worker safety are anticipated from terminal construction.

During operations, there would be risk for injuries to maintenance and contract workers. To minimize risk, safety measures would be taken that include following the NESC, U.S. Department of Labor requirements, and OSHA safety standards, as well as providing appropriate training to all pertinent personnel. To reduce the risk of fire, fire protection staff would be located at the terminal. Safety and security lighting, as well as security fencing, would be installed as well. Security staff would consist of support operations and maintenance workers located at the terminal.

Through adherence to the NESC, U.S. Department of Labor requirements, and OSHA safety standards, as well as the installation of security lighting and fencing, minimal to no impacts to worker safety are anticipated from terminal operations.

Fire Risk

To minimize the incidence of injuries due to fire during construction and operation, a Fire Protection Plan would be implemented (TWE-64). Components of this plan include, but are not limited to, work vehicles would carry shovels, water, and fire extinguishers, operating all vehicles on designated roads, parking in areas free of vegetation, and operating welding, grinding, or cutting activities in areas cleared of vegetation.

Through the implementation of TWE-64, impacts to public health and safety as a result of fire are not expected.

Noise

Other health effects to construction workers and the public in the vicinity of the terminal area would include increased noise levels from heavy construction machinery and construction activities, as well as light vehicle construction traffic. Average noise levels for typical construction equipment range from 74 dBA for a roller to 88 dBA for a crane (Harris, Miller, Miller, and Hanson, Inc. [HMMH] 2006). In general, the dominant noise source from most construction equipment is the diesel engine, particularly if the engine is poorly muffled. Other sources of continuous noise include field compressors, bulldozers, and backhoes. **Table 3.18-5** portrays the noise levels of various types of construction equipment expected at different distances.

Table 3.18-5 Noise Levels at Various Distances from Typical Construction Equipment

Construction Equipment	Noise Level ¹ at Distances (dBA)					
	50 feet	100 feet	200 feet	400 feet	800 feet	1,600 feet
Bulldozer	85	79	73	67	61	55
Concrete Mixer	85	79	73	67	61	55
Concrete Pump	82	76	70	64	58	52

Table 3.18-5 Noise Levels at Various Distances from Typical Construction Equipment

Construction Equipment	Noise Level ¹ at Distances (dBA)					
	50 feet	100 feet	200 feet	400 feet	800 feet	1,600 feet
Crane, Derrick	88	82	76	70	64	58
Crane, Mobile	83	77	71	65	59	53
Front-end Loader	85	79	73	67	61	55
Generator	81	75	69	63	57	51
Grader	85	79	73	67	61	55
Shovel	82	76	70	64	58	52
Truck	88	82	76	70	64	58

¹ The equivalent steady-state sound level that contains the same varying sound level during a 1-hour period.

Source: HMMH 2006.

For a general assessment of construction impacts, assuming a geometric spreading only (i.e., a decrease of about 6 dBA per doubling of distance from a point source) on the basis of the noise levels presented in **Table 3.18-5**, it is estimated that the noisiest piece of equipment operating at peak load would produce noise levels that would exceed the USEPA guideline for residential noise (55 dBA) at a distance of about 1,600 feet (USEPA 1974). Rural background noise in wilderness and rural areas is typically near 40 dBA (USEPA 1978). The effects of noise generated by construction would be alleviated, to some extent, by air absorption, terrain, and vegetation.

BMPs to reduce the impacts of noise are: NOISE-1 (limit noisy construction activities [including blasting] to the least noise-sensitive times of day [i.e., daytime only between 7 a.m. and 10 p.m.]) and NOISE-2 (ensure that all equipment has sound-control devices no less effective than those provided on the original equipment). Also, a Blasting Plan, which would identify methods and measures to minimize the effects of blasting, would be implemented (TWE-53). While noise levels at 55 dBA would be approximately 15 dBA higher than the ambient rural noise level, this would not be a permanent increase, but an impact that would end once construction ceases (approximately 2.5 years project-wide, but much shorter in localized areas).

Potential power line noise during the operation phase can result from corona discharge, which is the electrical breakdown of air into charged particles. While hardly audible at the edge of the ROW in dry weather, in humid wet conditions, water drops collecting on the lines provide favorable conditions for corona discharges. During a rainfall event, noise from corona discharge emanating from a power line would be at 39 dBA, at approximately 50 feet from the center of the tower. This would equal the noise being generated in a library (BPA 1996). In general, because of the arid climate in the analysis area and existing ambient noise, such as wind and wildlife, the impact of corona noise is expected to be negligible. Noise from traffic during the operations phase would range from light- to medium-duty vehicles, and is expected to be negligible. Overall, the noise levels of operations would be lower than the noise levels associated with short-term construction activities, and in conjunction with the existing ambient noise, would result in a negligible impact to noise sensitive receptors in the analysis area.

As a result of the potential risk of noise exceeding USEPA guidelines during construction, the mitigation measure below is recommended in addition to the proposed design features and BMPs.

PH -1: *Develop, implement, and maintain a noise complaint reporting and review process to deal with potential queries and issues as they arise. This would include a toll-free telephone number for receiving*

question or complaints during Project construction and a public liaison person before and during Project construction to respond to concerns over noise.

By notifying sensitive receptors in advance, an opportunity is given to leave the area during construction activities or to prepare for construction-related noise; however, residences beyond 300 feet of construction activities who would not be notified would still be within the range elevated levels of construction noise, without the benefit of advance notice.

Only minor impacts to noise sensitive receptors due to construction are anticipated as a result of the implementation of the TWE-53, BMPs NOISE-1 and NOISE-2, the proposed mitigation measure **PH-1**, and the remote and rural project location.

EMF, Corona, Stray and Induced Voltage

Impacts from EMF, corona, and stray and induced voltage during operations are expected to be minimal due to the lack of communities, areas of public gathering, and recreation sites within 1 mile of the Northern terminal areas. Regular monitoring required by TWE-54 would minimize EMF and noise effects. Furthermore, necessary mitigation would be applied to eliminate effects related to induced currents and voltages on conductive objects sharing the 250-foot-wide transmission line ROW (TWE-52). Implementation of TWE-49 and TWE-50 would reduce corona effects and noise. Design specifications include the use of materials designed to minimize radio and TV interference due to corona, as well as the use of regular surveillance patrols to identify and quickly repair any damaged insulators that may cause corona. In areas within the terminal where the AC transmission system could cause shock by electrostatic and electromagnetic AC induction, all buildings, fences, and other structures with metal surfaces located within 300 feet of the centerline would be grounded. All metal irrigation systems and fences that parallel the AC transmission line for distances of 500 feet or more and are within 300 feet of the centerline would be grounded. Additionally, all fences that cross under the AC transmission line also would be grounded (**Appendix D**).

Minimal to no impacts to public health are anticipated from EMF, corona, or stray and induced voltage due to the implementation of TWE-49, TWE-50, TWE-52, and TWE-54, which are the measures indicated in the PDTR (**Appendix D**), as well as the remote nature of the terminal area and the lack of sensitive receptors and land uses such as communication sites, residences, and hospitals.

Hazardous Materials

Impacts related to the presence of hazardous materials could result with an accidental release of hazardous materials from transportation and use during construction. These impacts are often the result of improper handling or storage of hazardous materials. The environmental effects of a release would depend on the material released and the location of the release. Potential releases could include a small amount of fuel spilled during a transfer operation at the right-of-way to the loss of several thousand gallons of fuel into a riparian drainage. Impacts from spills would typically be minor because of the low frequency of spill occurrence, relatively low volume of materials being handled, and the small volume of spills. As part of the COM Plan, the applicant would prepare and provide a Spill Prevention Notification and Cleanup Plan (TWE-57). The Plan would include spill prevention measures, notification procedures and employee awareness training to reduce the potential of hazardous materials releases or spills.

Impacts associated with the release or spill of hazardous materials to the environment or people during construction are expected to be minimal with the implementation of TWE-57.

During construction, contaminated soil and/or groundwater (e.g. hydrocarbon contamination) could be encountered. Work would be suspended in the area of suspected contamination until the type and extent of the contamination is determined. The specific procedures for handling the discovery of potentially contaminated soils would be described in the Hazardous Materials Management Plan as part

of the COM Plan (TWE-61). The Applicant and appropriate environmental agencies would be contacted as required by law (TWE-62).

If unanticipated contaminated soil or groundwater is encountered during construction, procedures described in the Hazardous Materials Management Plan would be implemented (TWE-61) and the proper authorities notified (TWE-62).

Southern Terminal

The two options for the southern terminal would be sited near Boulder City, Nevada, and would require an initial disturbance of 412 acres for construction and a permanent disturbance of 203 acres for operation.

There are no communication sites, residences, structures, communities or parks or developed recreation areas within 1 mile of the proposed terminal sites, nor are there sensitive receptors located within 1 mile of the terminal sites. The lack of sensitive receptors near the terminal sites would result in no impacts from noise and EMF.

During construction of the Southern terminal, workers would be at risk of injury from use of heavy equipment, working at heights, working in the vicinity of high voltage equipment, as well as from typical hazards found on a construction site. Based on BLS data from 2010, there are four construction-related non-fatal recordable incidents per 100 full-time equivalent workers. Based on an average construction workforce of approximately 500 workers, it is estimated there would be 20 non-fatal recordable incidents. In order to minimize hazards to construction workers that may result in injuries that meet or exceed the BLS threshold, workers would follow the NESC, U.S. Department of Labor requirements, and OSHA safety standards, as well as project-specific safety requirements (TWE-51). A health and safety plan also would be implemented to protect workers and the public during construction (TWE-56).

The same BMPs and design features used for the Northern Terminal would be implemented for construction and operation of the Southern Terminal, resulting in similar impacts to public health and safety.

The implementation of TWE-51, TWE-56, and TWE-64 and adherence to NESC, U.S. Department of Labor requirements, and OSHA safety standards would reduce or eliminate the risk of serious injuries. Only minor construction related impacts are anticipated due to the implementation of the TWE-53, BMPs NOISE-1 and NOISE-2, and the proposed mitigation measure **PH-1**. Minimal to no impacts to public health are anticipated from EMF, corona, or stray and induced voltage due to the implementation of TWE-49, TWE-50, TWE-52, and TWE-54, the measures indicated in the PDTR (**Appendix D**), and the lack of sensitive receptors, residences, and hospitals. Impacts associated with the release or spill of hazardous materials to the environment or people during construction or discovery of contaminated soil or groundwater are expected to be minimal with the implementation of TWE-57 and TWE-62.

3.18.7.2 Impacts Common to all Alternative Routes and Associated Components

Potential effects of construction, operation, and decommissioning on public health and safety are discussed below for each of the resource issues listed in **Table 3.18-4**. After potential impacts are identified, relevant agency BMPs and design features are discussed in terms of reducing impacts. If impacts remain after application of BMPs and design features, additional mitigation is recommended to reduce impacts.

Construction Impacts

The same BMPs and design features used during terminal construction to reduce risk of occupational injury, impacts from fire, noise or hazardous materials would be implemented for construction and

operation of the alternative routes and associated components, resulting in similar impacts to public health and safety.

The implementation of TWE-51, TWE-56, and TWE-64 would reduce or eliminate the risk of serious injuries. Only minor construction related impacts to noise sensitive receptors are anticipated as a result of the implementation of TWE-53, BMPs NOISE-1 and NOISE-2, and the proposed mitigation measure **PH-1**. Impacts associated with the release or spill of hazardous materials to the environment or people during construction or discovery of contaminated soil or groundwater are expected to be minimal with the implementation of TWE- 57 and TWE-62.

Operation Impacts

The effects of operation of the Project would involve potential EMF impacts on residences, sensitive receptors, nearby communities, recreation areas, lightning, corona effect on communication sites, stray and induced voltage, noise, fire, and the health and safety of maintenance workers. Most of the impacts associated with operation activities would be separate and unique from the types of effects discussed for construction activities.

Electrocution

The transmission lines would be operated according to the NESC and are designed to minimize the risk for shock (TWE-51). Therefore, the risk of electrocution during operation would be negligible. The shock a human or animal would receive by touching a metal object near a transmission line would be similar to that received after walking across carpet. Only maintenance and contract workers would be expected to be near the transmission lines. The public would be directly exposed to transmission lines if the lines were cut or otherwise downed, in which case, the lines are designed to trip out of service (turn off). Transmission lines would be monitored and maintained so the likelihood of this event is minimized.

Lightning

Potential adverse health effects associated with lightning strikes would be minimized by the presence of the overhead ground wire and optical ground wire that shield the conductors. The current from a lightning strike is diverted to the ground at the adjacent structure. When the current is discharged from the structure base to the surrounding ground, a step potential voltage can momentarily exist on the ground near the structure, presenting an electrocution hazard. Therefore, workers and the public should avoid structures during a lightning storm.

Through the implementation of the TWE-51, impacts to public health and safety from electrocution and lightning during operations would not be expected.

EMF, Corona Noise, and Stray Voltage

High voltage DC transmission lines, as opposed to high voltage AC transmission lines, produce a constant static electric and magnetic field that decrease rapidly from the transmission line source. The natural geomagnetic field varies from 350 to 700 mG. Man-made devices that use DC, such as electric trains and some industrial use equipment, can produce a magnetic field up to 1,000 times as strong as what is produced naturally. Medical devices such as MRIs can produce magnetic fields up to 100,000 times stronger than the naturally occurring magnetic field. The estimated magnetic field strength directly beneath a 600 kV DC transmission line when at full capacity is expected to be approximately 875 mG, and 425 mG when at half capacity, averaging about the same as recorded naturally on the earth's surface. The strength of the field decreases rapidly with distance. The average magnetic field drops to 150 mG when 200 feet from the centerline, and 100 mG when 300 feet from the centerline (TWE 2011).

The recommended maximum static magnetic field exposure value from the World Health Organization (WHO) is 200,000 mG during the working day for occupational exposure. Exposure from the proposed Project would be considerably less than the WHO recommendation, equaling the same exposure level

as what occurs naturally. It also is much less than the recommended exposure level (5,000 mG) for cardiac pacemakers and other implanted electronic devices (WHO 2006). The nominal static electric field produced directly underneath a 600 kV line is less than 20 kV/m. This drops to less than 5 kV/m at 100 feet from the centerline (TWE 2011). The results of the few electric static studies that have been conducted indicate that the only effects are associated with body hair movement and discomfort from spark discharges (WHO 2006). The magnetic field of a DC transmission line, unlike an AC transmission line, does not affect paralleling objects such as pipelines (Bailey et al. 1996).

Transmission lines would be designed to minimize electric and magnetic fields. The practice of prudent avoidance is based on limiting exposure to electric and magnetic fields, to the extent practical. Using this approach, transmission lines would not be routed in proximity to residential structures, schools, or other sensitive facilities to the extent practical. TWE-54 would be implemented to minimize EMF and noise effects from operating the transmission lines. As a result of the low level of static electric and magnetic fields that would be produced under and near the proposed transmission line, and the applicant's commitment to route away from sensitive land uses when practical, impacts from EMF would be reduced or non-existent.

Stray voltage and induced current are not produced by the type of EMF from DC transmission lines; however, necessary mitigation would be applied to eliminate effects related to induced currents and voltages on conductive objects sharing the 250-foot-wide transmission line ROW (TWE-52).

Corona on the surface of high voltage conductors can create signals that may interfere with radio and television reception. Modern transmission line design has reduced corona to a minimum and such design is proposed for the proposed Project. Occasionally, more sensitive radio and television sets pick up on "corona noise." Problems would be addressed on a case-by-case basis. Although corona can cause television and radio reception interference, it does not represent a threat to human health or safety. TWE-49 and TWE-50 would be implemented to reduce the effects of corona and noise. These design features include the use of materials designed to minimize audible noise and radio and TV interference due to corona, as well as the use of regular patrols so that damaged insulators, which may cause corona would be quickly repaired. It is anticipated that the implementation of these design features would prevent disruption of emergency communications.

Under Design Option 2, in addition to the proposed TWE Project, a 500-kV AC transmission line would be constructed approximately 350 miles in length, between the new AC/DC converter station in Utah to one of the existing substations in Eldorado Valley, south of Boulder City, Nevada (Marketplace Hub). The 500-kV AC portion of this design option would transect Regions III and IV. Design Option 3 also would utilize AC transmission. Under Design Option 3, Phase I, AC transmission lines would be constructed instead of DC transmission lines. Under Phase 2, AC transmission lines would be converted to DC.

As discussed in Section 3.18.4, EMF from an AC line differs from a DC line in that electric and magnetic fields are oscillating and not static. The electric field measurements at 300 and 125 feet from the centerline of a 500 kV power line during peak usage would both be less than 1.0 kV/M (SDGE 2006). This is well below the voluntary threshold of 4.2-kV/m established by the ICNIRP. The anticipated magnetic field measurements at 300 and 135 feet from the centerline during peak usage would equal approximately 3 mG and 25 mG, respectively, slightly more than a fluorescent light and a can opener at 2 feet (EM Watch 2011). Both electric and magnetic fields drop considerably as distance increases from the centerline. Based on predicted estimates, magnetic and electric fields are expected to diminish rapidly between 50 to 100 feet from the centerline and are insignificant more than 100 feet from the edge of the 250-foot-wide transmission line ROW (TWE 2011).

Unlike DC transmission lines, AC transmission lines can cause induced current in nearby objects. Induced current occurs along linear features, such as fences that parallel conductors, and can typically be minimized with adequate grounding. In order to minimize the potential for electric shock, buildings,

fences, and other structures with metal surfaces located within 300 feet of the centerline would be grounded. All metal irrigation systems and fences that parallel the AC transmission line for distances of 500 feet or more and are within 300 feet of the centerline would be grounded. Additionally, all fences that cross under the AC transmission line also would be grounded (PDTR, **Appendix D**).

Approximately 55 percent of this design option from IPP to Marketplace Hub that would be constructed using AC power lines is co-located with existing utility corridors that may contain pipelines. When a high voltage AC transmission line is located adjacent to a pipeline ROW, the pipeline may be subject to electrical interference from electric and magnetic induction. This form of interference is due to the magnetic field produced by the AC current flowing in the conductors of the transmission line coupling with the metallic pipeline, inducing voltage and associated current on the pipeline. In order to minimize the potential for this interference, measures include reducing the impedance of the transmission structure grounds, grounding the pipeline in conjunction with de-couplers, burying gradient control wires along the pipeline, and using dead fronts at test stations. In locations where the final alignment of an AC section of transmission is in close proximity to a pipeline, computer modeling of AC interference effects would be completed and any required mitigation would be designed and installed prior to energizing the transmission line. Similarly, when a high voltage AC transmission line is located adjacent to a railroad, electric and magnetic induction results from the magnetic field and may result in personal safety hazards, damage to signal and communication equipment, and false signaling of equipment. Specifications from the American Railway Engineering and Maintenance-of-Way Association would be followed to ensure safety of railway operating personnel and the public. In addition, railroad signal and equipment manufacturers provide AC interference voltage tolerances for proper signal operation so that nearby transmission facilities can be designed to ensure AC interference levels do not exceed the acceptable safety criteria (**Appendix D**).

Impacts to public health and safety from construction, operation, and decommissioning would be the same as discussed in Section 3.18.7.1, Impacts from Terminal Construction, Operation, and Decommissioning, and Section 3.18.7.2, Impacts Common to All Alternative Routes and Associated Components. Impacts related to DC effects also would be the same as discussed in Section 3.18.7.2. Impacts would differ from previous analysis at the ground electrode bed system in Region III. The siting of the proposed ground electrode bed system for Design Option 2 Region III is located within an area that has not previously been analyzed in this section. There is a recreation area (Little Sahara Recreation Area) and a wildlife study area (Fish Springs) within 1 mile of the proposed ground electrode bed system. There would be no communities or communication sites within a mile of the proposed location. There are no structures within 500 feet of the reference line. The terminal location for Design Option 2 would be sited near IPP and would require an initial disturbance of 181 acres for construction and a permanent disturbance of 118 acres for operation. There are no communication sites, residences, communities, parks, developed recreation areas, or other sensitive receptors within 1 mile of the proposed terminal site. The lack of sensitive receptors near the terminal site would result in no impacts from noise and EMF. Impacts from construction would be similar to those detailed for the Southern and Northern Terminals.

Impacts to public health and safety would be the same as discussed in Section 3.18.7.1, Impacts from Terminal Construction, Operation, and Decommissioning, and Section 3.18.7.2, Impacts Common to All Alternative Routes and Associated Components. Impacts as a result of the AC portion of the design option would be the same as Design Option 1. The Phase 1 AC portion of this design option would transect Regions I and II, but would be converted to DC under Phase 2.

Through the implementation of TWE-49, TWE-50, TWE-52, and TWE-54, as well as the mostly remote location of the proposed project and the limited number of sensitive receptors adjacent to the reference line, minimal to no impacts to public health are anticipated from EMF, corona, stray voltage, or induced current.

Occupational Safety

During operations, there would be a slight risk for injuries to maintenance workers who travel in the 250-foot-wide transmission line ROW to perform maintenance on the transmission lines. To minimize risk, safety measures would be taken that include enforcing red flag warnings, providing appropriate training to all pertinent personnel, keeping vehicles on or within designated roads or work areas, and adherence to NESC, U.S. Department of Labor requirements, and OSHA safety standards. Additionally, to reduce the risk to maintenance workers and the public from herbicide application, herbicides would be applied according to label instructions and within recommended rates. As noted, in Section 3.5, Vegetation, mitigation measure NX-3 would be implemented to ensure herbicide application would follow all applicable state and federal laws.

Through the implementation of proposed safety measures, such as enforcing red flag warnings, providing appropriate training to personnel, and adherence to national safety standards, negligible to no impacts from routine maintenance activities are anticipated.

Fire

To minimize the occurrence of fire from the power line, safety measures would be taken that include brush-clearing within the corridor prior to work, enforcing red flag warnings, providing appropriate training to all pertinent personnel, and keeping vehicles on or within designated roads or work areas. To minimize the impacts of fire during operations, a Fire Protection Plan would be implemented (TWE-64). Additionally, in the event the lines were cut or otherwise downed, the lines are designed to trip out of service (turn off), reducing the chances of fire.

Through the implementation of proposed safety measures, such as implementation of TWE-64, brush-clearing within the corridor prior to work, enforcing red flag warnings, providing appropriate training to all pertinent personnel, keeping vehicles on or within designated roads or work areas, as well as modern transmission line design, negligible to no impacts from fire are anticipated.

Hazardous Materials

Table 3.18-3 lists the various hazardous materials that would be used in the operation of the transmission line and associated facilities. The procedures for safe handling of these materials would be covered in the Spill Prevention Notification and Cleanup Plan (TWE-57) and is covered by a number of regulatory programs as described in Section 3.18.1, Regulatory Framework.

Impacts associated with the release or spill of hazardous materials to the environment or people during operations are expected to be minimal with the implementation of TWE-57.

Intentional Destructive Acts

The proposed transmission lines, terminals and other associated facilities could be targets of intentional destructive acts, including sabotage or terrorism. More common, intentional acts of destruction would include vandalism or theft. Acts of vandalism and theft are more likely to occur than acts of sabotage and terrorism and are most likely to occur at remote areas and at substations. Theft frequently involves equipment and salvageable metal at substations and switchyards. Vandalism often includes shooting out insulators. Sabotage and terrorism would most likely include destruction of key transmission line components with the intent of interrupting the electrical grid. Impacts from intentional destructive acts could range from no noticeable effect on electrical service to a disruption of service. Cameras, and signs and regular inspections of the 250-foot-wide transmission line ROW and facilities by operations personnel would be used as needed to prevent theft, vandalism, and unauthorized access. Additionally, safety and security lighting, as well as security fencing, would be installed at each terminal, substation, and series compensation station. Security staff would consist of support operations and maintenance workers. Responses to intentional destructive acts would be implemented in accordance with the Proponents' emergency response plan.

Impacts associated with intentional destructive acts are expected to be minimal with the implementation of regular ROW monitoring, cameras, signage, and fencing, as well as the Proponents' emergency response plan.

Decommissioning Impacts

Health and safety impacts for this phase of the Project would be reduced in frequency compared to the construction phase, due to the shorter time period. The same BMPs and design features used in construction would be applied to reduce impacts during decommissioning activities.

3.18.7.3 Region I

Table 3.18-6 provides a tabulation of impacts associated with the alternative routes in Region I.

Table 3.18-6 Summary of Region I Alternative Route Impacts for Public Health and Safety, Hazardous Materials

Parameter		Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Communities		0	0	1	0
Parks or developed/dispersed recreation areas (campgrounds, etc)		0	0	0	0
Other Sensitive Receptors (schools and daycare centers; health care facilities such as hospitals or retirement and nursing homes; cemeteries; churches)		0	0	0	0
Communication Sites		12	13	17	9
Structures Within 500 feet of the Reference Line	Residential	0	0	9	0
	Commercial/Industrial	45	47	24	39
	Agricultural	0	0	0	0
	Outbuilding	3	7	11	3
Structures Within 200 feet of the Reference Line	Residential	0	0	0	0
	Commercial/Industrial	11	9	4	9
	Agricultural	0	0	0	0
	Outbuilding	3	3	4	3

Alternative I-A (Applicant Proposed)

Alternative I-A would cross 12 communication sites within the 2-mile transmission line corridor in Region I. There are 45 commercial/industrial structures and 3 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 11 commercial/industrial structures, but stays the same with 3 outbuildings within 200 feet of the proposed reference line. The majority of the commercial/industrial structures are oil and gas pads. There would be no recreation areas, communities or sensitive receptors within the 2-mile transmission line corridor. Alternative I-A contains the most commercial/industrial buildings within 200 feet of the reference line. Under Design Option 3, Phase 1, AC transmission lines instead of DC transmission lines would be constructed. Under Phase 2, AC transmission lines would be converted to DC. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative I-B

Alternative I-B would cross 13 communication sites within the 2-mile transmission line corridor in Region I. There are 47 commercial/industrial structures and 7 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 9 commercial/industrial structures and 3 outbuildings within 200 feet of the proposed reference line. The majority of the commercial/industrial structures are oil and gas pads. There are no recreation areas, communities, or sensitive receptors within the 2-mile transmission line corridor. Under Design Option 3, Phase 1, AC transmission lines instead of DC transmission lines would be constructed. Under Phase 2, AC transmission lines would be converted to DC. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative I-C

Alternative I-C would cross 17 communication sites and 1 community within the 2-mile transmission line corridor in Region I. The community within the corridor is Craig, located 0.3 mile from the reference line. The portion of Craig located near the reference line is the Craig South Highlands subdivision. Juniper Hot Springs in Colorado, is located 1 mile from the reference line, but is a resort, not a community. The 2010 census population for Craig was 9,964. There are 9 residential structures, 24 commercial/industrial structures, and 11 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 4 commercial/industrial structures and 4 outbuildings within 200 feet of the proposed reference line. The majority of the commercial/industrial structures are oil and gas pads. There are no dispersed camping recreation areas within the 2-mile transmission line corridor. Alternative I-C contains the most communication sites and communities within the 2-mile transmission line corridor, but also the fewest structures within 200 feet of the reference line. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to significantly affect public health and safety.

Alternative I-D (Agency Preferred)

Alternative I-D would cross 9 communication sites within the 2-mile transmission line corridor in Region I. There are 39 commercial/industrial structures and 3 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 9 commercial/industrial structures and 3 outbuildings within 200 feet of the proposed reference line. The majority of the commercial/industrial structures are oil and gas pads. There would be no recreation areas, communities or sensitive receptors within the 2-mile transmission line corridor. Under Design Option 3, Phase 1, AC transmission lines would be constructed. The Tuttle Easement micro-siting options would not substantially affect the impact analysis for public health and safety. Under Phase 2, AC transmission lines would be converted to DC. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative Connectors in Region I

Table 3.18-7 summarizes impacts associated with the alternative connectors in Region I.

Alternative Ground Electrode Systems in Region I

Table 3.18-8 provides a comparison of alternative electrode facility locations proposed within 10 to 100 miles of the Northern Terminal. Some locations might serve multiple alternative routes, while others could only be associated with a certain alternative route.

Table 3.18-7 Summary of Region I Alternative Connector Impacts for Public Health and Safety, Hazardous Materials

Alternative Connector	Analysis
Mexican Flats Alternative Connector	There are no communities, sensitive receptors, recreation areas, or communication sites within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line.
Baggs Alternative Connector	There are no communities, sensitive receptors, recreation areas, or communication sites within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line.
Fivemile Point North Alternative Connector	There are no communities, sensitive receptors, recreation areas, or communication sites within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line.
Fivemile Point South Alternative Connector	There are no communities, sensitive receptors, recreation areas, or communication sites within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line.

Table 3.18-8 Summary of Region I Alternative Ground Electrode System Location Impacts for Public Health and Safety, Hazardous Materials

Alternative Ground Electrode System Locations	Analysis
Separation Flat (All Alternatives)	There are no communities, sensitive receptors, recreation sites, or communication sites within 1 mile of the proposed ground electrode system location or its associated transmission line. There are no structures within 500 feet of the reference line.
Shell Creek (Alternatives I-A, I-B, and I-D)	There are no communities, sensitive receptors, recreation sites, or communication sites located within 1 mile of the proposed ground electrode system location or its associated transmission line. There are no structures within 500 feet of the reference line.
Little Snake East (Alternatives I-A, I-B, and I-D)	There are no communities, recreation sites, or communication sites located within 1 mile of the proposed ground electrode system location or its associated transmission line. There is one residential structure 350 feet from the edge of the siting area and slightly over 1 mile from the edge of the site. There are no structures within 500 feet of the reference line.
Little Snake West (Alternatives I-A, I-B, and I-D)	There are no communities, sensitive receptors, recreation sites, or communication sites located within 1 mile of the proposed ground electrode system location or its associated transmission line. There are no structures within 500 feet of the reference line.
Shell Creek (Alternatives I-A, I-B, and I-D)	There are no communities, recreation sites, or communication sites located within 1 mile of the proposed ground electrode system location or its associated transmission line. There is one residential structure within the site area, but over 4 miles from the site location. There are no structures within 500 feet of the reference line.
Little Snake West (Alternatives I-A, I-B, and I-D)	There are no communities, sensitive receptors, recreation sites, or communication sites located within 1 mile of the proposed ground electrode system location or its associated transmission line. There are no structures within 500 feet of the reference line.
Eight Mile Basin (All Alternatives)	There are no communities, sensitive receptors, recreation sites, or communication sites located within 1 mile of the proposed ground electrode system location or its associated transmission line. There are no structures within 500 feet of the reference line.

Region I Conclusion

Alternative I-A, Alternative I-B, Alternative I-C, and Alternative I-D (Agency Preferred) would have similar impacts on public health and safety, with the exception that, as detailed in **Table 3.18-6**, Alternative I-C would affect a greater number of communities and residential structures than the remaining alternatives. This would increase the potential project construction and operation health and safety risk to residential

occupants. However, the successful implementation of design features, BMPs, and mitigation **PH-1**, would result in all of the alternatives having a relatively low impact on public health and safety.

3.18.7.4 Region II

Table 3.18-9 provides a tabulation of impacts associated with the alternative routes in Region II.

Table 3.18-9 Summary of Region II Alternative Route Impacts for Public Health and Safety, Hazardous Materials

Parameter		Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Communities		9	11	11	11	16	10
Parks or developed and dispersed recreation areas (campgrounds, etc)		18	4	3	6	15	6
Other Sensitive Receptors (schools and daycare centers; health care facilities such as hospitals or retirement and nursing homes; cemeteries; churches)		3	2	2	5	6	3
Communication Sites		38	91	138	84	77	99
Structures Within 500 feet of the Reference Line	Residential	53	5	4	6	35	13
	Commercial/Industrial	31	17	12	1	20	0
	Agricultural	0	0	3	0	0	0
	Outbuilding	11	9	11	0	6	6
Structures Within 200 feet of the Reference Line	Residential	4	3	1	0	5	0
	Commercial/Industrial	4	5	4	0	0	0
	Agricultural	0	0	1	0	0	0
	Outbuilding	1	1	3	0	1	4

Alternative II-A (Applicant Proposed)

Alternative II-A would cross 38 communication sites, 18 parks (includes 14 wildlife management areas), 9 communities, 1 cemetery, 1 school, and 1 church within the 2-mile transmission line corridor in Region II. The community of Nephi is transected by the reference line. The only communities within the 2-mile transmission line corridor that have census data are Nephi and Roosevelt City, with 2010 populations of 5,389 and 6,046, respectively. A full list of communities, parks and developed recreation areas, and other sensitive receptors can be found in **Table 3.18-10**. There are 53 residential structures, 31 commercial/industrial structures, and 11 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 4 residential structures, 4 commercial/industrial structures, and 1 outbuilding within 200 feet of the proposed reference line. The majority of the commercial/industrial structures are oil and gas pads. There are 3 dispersed recreation areas within the 2-mile transmission line corridor, the nearest being approximately 1,215 feet from the reference line. Alternative II-A contains the least number of communities within the 2-mile transmission line corridor. The Strawberry IRA and Cedar Knoll IRA micro-siting adjustments would not substantially affect the impact analysis for public health and safety. Sand dunes within Alternative II-A also may affect the safety of workers and the public during construction and operation (see Section 3.3 for further details). Under Design Option 3, Phase 1, AC transmission lines instead of DC transmission lines would be constructed. Under Phase 2,

Table 3.18-10 Human Resources by Alternative within Region II

	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Communities*	(Utah) Ioka, Upalco, Pines, Rio, Thistle, Gypsum Mill, Champlin, Nephi, Roosevelt City	(Colorado) Carbonera (Utah) Thompson Springs, Desert, Elba, Floy, Sagers, Vista, Cedar, Woodside, Nephi, Mount Pleasant	(Colorado) Carbonera (Utah) Thompson Springs, Desert, Elba, Floy Sagers, Vista, Emery, Moore, Harding, McCornick	(Utah) Red Wash, Squaw Crossing, Martin, Heiner, Wildcat, Coal City Clear Creek, Milburn, Champlin, Nephi, Helper	(Utah) Red Wash, Colton, Gilluly, Kyune, Mill Fork, Sky View, Soldier Summit, Tucker, Ioka, Pines, Rio, Thistle, Bridgeland, Champlin, Nephi, Roosevelt City	(Utah) Red Wash, Squaw Crossing, Gilluly, Mill Fork, Sky View, Soldier Summit, Tucker, Pines, Rio, Thistle
Parks or Developed Recreation Areas	(Utah) Currant Creek Wildlife Management Area (WMA), North Nebo WMA, Northwest Manti WMA (Birdseye), Northwest Manti WMA (Dairy Fork), Northwest Manti WMA (Hilltop), Northwest Manti WMA (Starvation), Strawberry River WMA, South Nebo WMA, Tabby Mountain WMA (Rabbit Gulch), Tabby Mountain WMA, Rabbit Gulch WMA, Wildcat WMA, Jackson WMA, Spencer Fork WMA, Strawberry River Day Use Area, Starvation State Park	(Utah) Triangle Ranch WMA, North Nebo WMA (Found Green), South Nebo WMA, Green River State Park	(Utah) Emery Farm Castle Dale Wildlife Management Area (WMA), Fillmore WMA, Green River State Park	(Utah) Triangle Ranch WMA, Hilltop WMA, Gordon Creek WMA, Northwest Manti WMA (Hilltop), South Nebo WMA (Triangle Ranch), Castle Gate Park	(Utah) Dairy Fork WMA, Jackson WMA, Spencer Fork WMA, Triangle Ranch WMA, Indian Canyon WMA, North Nebo WMA (Spencer Fork), Northwest Manti WMA (Birdseye), Northwest Manti WMA (Dairy Fork), Northwest Manti WMA (Lasson Draw), Northwest Manti WMA (Starvation), South Nebo WMA, and Bamberger Monument	(Utah) Dairy Fork WMA, Jackson WMA, Spencer Fork WMA, Triangle Ranch WMA
Other Sensitive Receptors	(Utah) Fruitland Cemetery, Church of Jesus Christ of Latter Day Saints, Church of Jesus Christ of Latter Day Saints	(Utah) Thompson Cemetery, Woodside Cemetery, Church of Jesus Christ of Latter Day Saints	(Utah) Thompson Cemetery, Church of Jesus Christ of Latter Day Saints	(Utah) Deadmans Grave Cemetery, Castle Gate Cemetery, Saint Anthony School, Sally Mauro School, Saint Anthony Catholic Church	(Utah) Deadmans Grave, Mill Fork Cemetery, Old Lake Cemetery, Church of Jesus Christ of Latter Day Saints, Church of Jesus Christ of Latter Day Saints	(Utah) Deadmans Grave, Mill Fork Cemetery, Church of Jesus Christ Latter Day Saints

* Some communities do not have census population data, are rural in nature, and may no longer be inhabited.

AC transmission lines would be converted to DC. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative II-B

Alternative II-B would cross 91 communication sites, 11 communities, 4 parks (includes 3 wildlife management areas and a state park), and 2 cemeteries within the 2-mile transmission line corridor in Region II. The nearest community within the corridor to the reference line is Nephi, Utah, which is transected by the reference line. Thompson Springs and Nephi, both in Utah, are the only communities within the 2-mile transmission line corridor that have census population data. The 2010 populations of Thompson Springs and Nephi were 39 and 5,389, respectively. A full list of communities, parks and developed recreation areas, and other sensitive receptors can be found in **Table 3.18-10**. There are 5 residential structures, 17 commercial/industrial, and 9 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 3 residential structures, 5 commercial/industrial structures, and 1 outbuilding within 200 feet of the proposed reference line. The majority of the commercial/industrial structures are oil and gas pads. Of the 145 recreation areas within the 2-mile wide corridor, all except four are dispersed recreation campsites. Alternative II-B contains the most recreation areas among the project alternatives. Under Design Option 3, Phase 1, AC transmission lines instead of DC transmission lines would be constructed. Under Phase 2, AC transmission lines would be converted to DC. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative II-C

Alternative II-C would cross 138 communication sites, 11 communities, 3 parks (includes 1 state park and 2 wildlife management areas), 1 church, and 1 cemetery that are within the 2-mile transmission line corridor in Region II. The nearest community within the corridor to the reference line is Carbonera, Colorado, located approximately 155 feet from the reference line. There is no census population data for Carbonera. Thompson Springs and Emery, both in Utah, are the only communities within the 2-mile transmission line corridor that have census population data. The populations of Thompson Springs and Emery in 2010 were 39 and 208, respectively. A full list of communities, parks and developed recreation areas, and other sensitive receptors can be found in **Table 3.18-10**. There are 4 residential structures, 12 commercial/industrial structures, 3 agricultural structures, and 11 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 1 residential structure, 1 agricultural structure, 4 commercial/industrial structures, and 3 outbuildings within 200 feet of the proposed reference line. The majority of the commercial/industrial structures are oil and gas pads. There are no dispersed recreation areas within the 2-mile transmission line corridor. Alternative II-C contains the most communication sites among the project alternatives. Under Design Option 3, Phase 1, AC transmission lines instead of DC transmission lines would be constructed. Under Phase 2, AC transmission lines would be converted to DC. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative II-D

Alternative II-D would cross 84 communication sites, 11 communities, 6 parks (includes 5 wildlife management areas), 2 cemeteries, 1 church, and 2 schools that are within the 2-mile transmission line corridor in Region II. The nearest community within the corridor to the reference line is Nephi, Utah, which is transected by the reference line. Clear Creek, Nephi, and Helper are the only communities within the 2-mile transmission line corridor that have census population data. The 2010 populations were: Clear Creek – 4; Nephi – 5,389; and Helper – 2,201. A full list of communities, parks and developed recreation areas, and other sensitive receptors can be found in **Table 3.18-10**. There are

6 residential structures and 1 commercial/industrial structure within 500 feet of the proposed reference line. There are no structures within 200 feet of the proposed reference line. Of the 30 recreation areas within the 2-mile wide corridors, all except six are dispersed recreation campsites. This alternative has the least amount of structures within 200 feet of the reference line. Sand Dunes within Alternative II-D also may affect the safety of workers and the public during construction and operation (see Section 3.3 for further details). Under Design Option 3, Phase 1, AC transmission lines instead of DC transmission lines would be constructed. Under Phase 2, AC transmission lines would be converted to DC. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative II-E

Alternative II-E would cross 77 communication sites, 16 communities, 15 parks (includes 12 wildlife management areas), 3 cemeteries, 1 school, and 2 churches that are within the 2-mile transmission line corridor in Region II. The nearest community within the corridor to the reference line is Nephi, Utah, which is transected by the reference line. The 2010 populations of Nephi and Roosevelt City were 5,389 and 6,046, respectively. A full list of communities, parks and developed recreation areas, and other sensitive receptors can be found in **Table 3.18-10**. There are 35 residential structures, 20 commercial/industrial structures, and 6 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 5 residential structures and 1 outbuilding within 200 feet of the proposed reference line. The majority of the commercial/industrial structures are oil and gas pads. Of the 15 recreation areas within the 2-mile wide transmission corridor, three are dispersed recreation campsites. Alternative II-E contains the greatest number of communities. Cedar Knoll IRA micro-siting adjustments would not substantially affect the impact analysis for public health and safety. Sand Dunes within Alternative II-A also may affect the safety of workers and the public during construction and operation (see Section 3.3 for further details). Under Design Option 3, Phase 1, AC transmission lines instead of DC transmission lines would be constructed. Under Phase 2, AC transmission lines would be converted to DC. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative II-F (Agency Preferred)

Alternative II-F would cross 99 communication sites, 10 communities, 6 parks (includes 4 wildlife management areas), 2 cemeteries, and 1 church that are within the 2-mile transmission corridor in Region II. The nearest community within the corridor to the reference line is Sky View, Utah, located approximately 685 feet from the reference line. There is no census population data for Sky View, and the community is rural in nature. A full list of communities, parks and developed recreation areas, and other sensitive receptors can be found in **Table 3.18-10**. There are 7 residential structures and 1 commercial/industrial structure within 500 feet of the proposed centerline. There are no structures within 200 feet of the proposed centerline. There are two dispersed recreation areas within the 2-mile transmission line corridor. Cedar Knoll IRA micro-siting adjustments would not substantially affect the impact analysis for public health and safety. Under Design Option 3, Phase 1, AC transmission lines instead of DC transmission lines would be constructed. Under Phase 2, AC transmission lines would be converted to DC transmission lines. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative Variation in Region II

Emma Park Alternative Variation

There are no communities, public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line.

Alternative Connectors in Region II

Table 3.18-11 summarizes impacts associated with the alternative connectors in Region II.

Table 3.18-11 Summary of Region II Alternative Connector Impacts for Public Health and Safety, Hazardous Materials

Alternative Connector	Analysis
Highway 191 Alternative Connector	There are no communities, public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor. There is one outbuilding within 500 feet of the reference line.
Castle Dale Alternative Connector	There are no communities, public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor. There no structures within 500 feet of the reference line.
Price Alternative Connector	There are 2 communities (Wattis and Wattis Junction) and 1 park (Gordon Creek Wildlife Management Area) within the 2-mile transmission line corridor. There is no census data for either community. There are no public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line.
Lynndyl Alternative Connector	There are no communities, public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor. There is one commercial/industrial structure within 500 feet of the reference line.
IPP East Alternative Connector	There are no communities, public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line.

Region II Conclusion

Alternative II-A, Alternative II-B, Alternative II-C, Alternative II-D, Alternative II-E, and Alternative II-F (Agency Preferred) would have similar impacts on public health and safety, with the exception that, as detailed in **Table 3.18-9**, Alternative II-E would affect more communities, residential structures, and other sensitive receptors than the remaining alternatives. This would increase the potential project construction and operation health and safety risk to residential occupants and visitors to sensitive receptors. However, the successful implementation of design features, BMPs, and mitigation **PH-1**, would result in all of the alternatives having a relatively low impact on public health and safety.

3.18.7.5 Region III

Table 3.18-12 provides a tabulation of impacts associated with the alternative routes in Region III.

Alternative III-A (Applicant Proposed)

Alternative III-A would entail crossing 16 communication sites, 1 park (the Jefferson Hunt Monument), 2 communities, the Mountain Meadows NHL and Site, and 1 cemetery that are within the 2-mile transmission line corridor in Region III. The community of Central, Utah, is transected by the reference line. The 2010 population of Central was 613. The community of Jackman, Nevada, is located 420 feet from the reference line. There is no census population data for Jackman. A list of communities, parks

Table 3.18-12 Summary of Region III Alternative Route Impacts for Public Health and Safety, Hazardous Materials

Parameter		Alternative III-A	Alternative III-B	Alternative III-C
Communities		2	8	9
Parks or developed/dispersed recreation areas (campgrounds, etc.)		1	1	1
Other Sensitive Receptors (schools and daycare centers; health care facilities such as hospitals or retirement and nursing homes; cemeteries; churches)		1	1	0
Communication Sites		16	111	117
Structures Within 500 feet of the Reference Line	Residential	7	2	2
	Commercial/Industrial	7	6	7
	Agricultural	1	0	1
	Outbuilding	10	9	10
Structures Within 200 feet of the Reference Line	Residential	2	1	1
	Commercial/Industrial	3	3	4
	Agricultural	0	0	0
	Outbuilding	4	4	4

and developed recreation areas, and other sensitive receptors can be found in **Table 3.18-13**. There are 7 residential structures, 7 commercial/industrial structures, 1 agricultural structure, and 10 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 2 residential structures, 3 commercial/industrial structures, and 4 outbuildings within 200 feet of the proposed reference line. There are 16 dispersed recreation areas within the 2-mile transmission line corridor, the nearest being approximately 315 feet from the reference line. Alternative III-A contains the least communication sites and communities, but the most parks and recreation areas within the 2-mile transmission line corridor. Alternatives III-A and III-C contain the most structures within 200 feet of the reference line. Under Design Option 2, AC transmission lines instead of DC lines would be constructed. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Table 3.18-13 Human Resources by Alternative within Region III

	Alternative III-A	Alternative III-B	Alternative III-C
Communities*	(Utah) Central (Nevada) Jackman	(Utah) Modena, Bery, Heist, Yale Crossing, Zane (Nevada) Acoma, Brown, Moapa	(Utah) Modena, Bery, Heist, Yale Crossing, Zane (Nevada) Yoacham, Horseshoe Bend, Beaverdam, North Las Vegas
Parks or Developed Recreation Areas	(Utah) Jefferson Hunt Monument	(Nevada) Moapa Recreation Center Park	Old State Boundary Historical Marker
Other Sensitive Receptors	Mountain Meadows NHL and Site	Claude G Perkins Elementary School	N/A

* Some communities do not have census population data, are rural in nature, and may no longer be inhabited.

Alternative III-B (Agency Preferred)

Alternative III-B would cross 111 communication sites, 8 communities, 1 park (Moapa Recreation Center Park), and 1 school that are within the 2-mile transmission line corridor in Region III. The community within the corridor nearest to the reference line is Zane, Utah, located approximately 370 feet from the reference line. Moapa Town is the only community within the 2-mile transmission line corridor that has census population data. The 2010 population of Moapa Town was 1,025. A full list of communities, parts and developed recreation areas, and other sensitive receptors can be found in **Table 3.18-13**. There are 2 residential structures, 6 commercial/industrial structures, and 9 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 1 residential structure, 3 commercial/industrial buildings, and 4 outbuildings within 200 feet of the proposed reference line. There are no dispersed camping or other recreation areas within the 2-mile transmission line corridor. This alternative contains the least structures within the 200 feet of the reference line. Under Design Option 2, AC transmission lines instead of DC lines would be constructed. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative III-C

Alternative III-C would cross 117 communication sites, 9 communities, and 1 park (state boundary historical marker) that are within the 2-mile transmission line corridor in Region III. The community nearest to the reference line is North Las Vegas, Nevada, which intersects the reference line. Beryl, Utah, and North Las Vegas, Nevada, are the only communities within the 2-mile transmission line corridor that have census population data. The 2010 populations of Beryl and North Las Vegas were 197 and 216,961, respectively. A full list of communities, parks and developed recreation areas, and other sensitive receptors can be found in **Table 3.18-13**. There are 2 residential structures, 7 commercial/industrial structures, 1 agricultural structure, and 10 outbuildings within 500 feet of the proposed reference line. The number of structures decreases to 1 residential structure, 4 commercial/industrial structures, and 4 outbuildings within 200 feet of the proposed reference line. There are no dispersed camping areas within the 2-mile transmission line corridor. Alternative III-C contains the most communication sites within the 2-mile transmission line corridor. Both Alternatives III-A and III-C contain the most structures within 200 feet of the reference line. Under Design Option 2, AC transmission lines instead of DC lines would be constructed. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative Variations in Region III

Table 3.18-14 summarizes potential impacts associated with the alternative variations in Region III.

Table 3.18-14 Summary of Region III Alternative Variation Impacts for Public Health and Safety, Hazardous Materials

Alternative Variation	Analysis
Ox Valley East Alternative Variation (Alternative III-A)	There would be three dispersed camping areas within the 2-mile transmission line corridor of this alternative variation. There also would be 1 residential structure and 1 outbuilding within 500 feet of the reference line. There is one outbuilding within 200 feet of the proposed reference line. This variation would bypass one segment of Alternative III-A. Within this segment is one park (the Mountain Meadows NHL and Site) and a cemetery. There are no structures within 500 feet of the reference line. Bypassing the Mountain Meadows NHL and Site would be the advantage to this alternative variation.
Ox Valley West Alternative Variation (Alternative III-A)	There would be 1 community and 4 dispersed camping areas within the 2-mile transmission line corridor of this alternative variation. There also would be one residential structure within 500 feet

Table 3.18-14 Summary of Region III Alternative Variation Impacts for Public Health and Safety, Hazardous Materials

Alternative Variation	Analysis
	of the reference line. There are no structures within 200 feet of the proposed reference line. This variation would bypass one segment of Alternative III-A. Within this segment is one park (the Mountain Meadows NHL and Site) and a cemetery. There are no structures within 500 feet of the bypassed segment of this reference line. Bypassing the Mountain Meadows NHL and Site would be the advantage to this alternative variation.
Pinto Alternative Variation	There would be 1 community, 1 cemetery, 14 dispersed camping areas, and 7 communication sites within the 2-mile transmission line corridor. The community of Central, Utah, is located 1,800 feet from reference line and had a 2010 population of 613. There are no structures within 500 feet of the reference line. This variation would bypass two segments of Alternative III-A. Within these segments are two parks (including the Mountain Meadows NHL and Site) and a cemetery. There are no structures within 500 feet of the reference line. Bypassing the Mountain Meadows NHL and Site would be the advantage to this alternative variation.

Alternative Connectors in Region III

Table 3.18-15 summarizes potential impacts associated with the alternative connectors in Region III.

Table 3.18-15 Summary of Region III Alternative Connector Impacts for Public Health and Safety, Hazardous Materials

Alternative Connector	Analysis
Avon Alternative Connector	There are no public gathering areas or recreation areas within the 2-mile transmission line corridor; however, there is one community, Avon, Utah. There is no census population data for Avon, which is representative of its rural nature. Avon is located approximately 740 feet from the reference line. There are no structures within 500 feet of the reference line. There are five communication sites within the 2-mile transmission line corridor.
Moapa Alternative Connector	There are no communities, public gathering areas, or recreation areas within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line. There are five communication sites within the 2-mile transmission line corridor.

Alternative Ground Electrode Systems in Region III

Table 3.18-16 provides a comparison of alternative electrode facility locations proposed near the Southern Terminal. Some locations might serve multiple alternative routes, while others could only be associated with a certain alternative route.

Region III Conclusion

Alternative III-A, Alternative III-B (Agency Preferred), and Alternative III-C, as detailed in **Table 3.18-12**, would have similar impacts on public health and safety. The successful implementation of design features, BMPs, and mitigation **PH-1**, would result in all of the alternatives having a relatively low impact on public health and safety.

Table 3.18-16 Summary of Region III Alternative Ground Electrode System Location Impacts for Public Health and Safety, Hazardous Materials

Alternative Ground Electrode System Locations	Analysis
Mormon Mesa- Carp Elgin Rd (Alternatives III-A and III-B)	There would be no communities, public gathering areas, recreation sites, or communication sites located within 1 mile of the proposed ground electrode system location. One communication site is located within a mile of the associated overhead electrical line. There are no structures within 500 feet of the proposed ground electrode system location or overhead electrical line.
Halfway Wash- Virgin River (Alternatives III-A and III-B)	There would be no communities, public gathering areas, recreation sites, or communication sites located within 1 mile of the proposed ground electrode system location or its associated overhead electrical line. There are no structures within 500 feet of the proposed ground electrode system location or overhead electrical line.
Halfway Wash East (Alternatives III-A and III-B)	There would be no communities, public gathering areas, or recreation sites located within 1 mile of the proposed ground electrode system location or overhead electrical line. Ten communication sites are located within a mile of the proposed location. There are no structures within 500 feet of the proposed ground electrode system location or overhead electrical line.
Meadow Valley 2 (Alternative III-C)	There would be no communities, public gathering areas, or recreation sites located within 1 mile of the proposed ground electrode system location. Four communication sites are located with 1 mile of the associated transmission line. There are no structures within 500 feet of the proposed ground electrode system location or its associated transmission line.

3.18.7.6 Region IV

Table 3.18-17 provides a tabulation of impacts associated with the alternative routes in Region IV.

Table 3.18-17 Summary of Region IV Alternative Route Impacts for Public Health and Safety, Hazardous Materials

Parameter	Alternative IV-A	Alternative IV-B	Alternative IV-C	
Communities	2	1	1	
Parks or developed recreation areas (campgrounds, etc)	0	1	1	
Other Sensitive Receptors (schools and daycare centers; health care facilities such as hospitals or retirement and nursing homes; cemeteries; churches)	0	1	0	
Communication Sites	20	77	23	
Structures Within 500 feet of the Reference Line	Residential	11	9	9
	Commercial/Industrial	3	3	3
	Agricultural	0	0	0
	Outbuilding	0	0	0
Structures Within 200 feet of the Reference Line	Residential	0	0	0
	Commercial/Industrial	2	0	0
	Agricultural	0	0	0
	Outbuilding	0	0	0

Alternative IV-A (Applicant Proposed and Agency Preferred)

Alternative IV-A would cross 2 communities and 20 communication sites within the 2-mile transmission line corridor in Region IV. The communities of Henderson and Boulder City, both in Nevada, are transected by the reference line and had 2010 populations of 257,729 and 15,023, respectively. There are 11 residential structures and 3 commercial/industrial structures within 500 feet of the proposed reference line. The number of structures decreases to two commercial/industrial structures within 200 feet of the proposed reference line. No dispersed camping or other recreation areas are within the 2-mile transmission line corridor. This alternative contains the most structures within 200 feet of the reference line. Under Design Option 2, AC transmission lines instead of DC lines would be constructed. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative IV-B

Alternative IV-B would entail crossing 1 community, 77 communication sites, 1 beach area, and the Nevada State Veterans Home within the 2-mile transmission line corridor in Region IV. The Nevada State Veterans Home is located 1,690 feet from the reference line. The City of Boulder City, Nevada, is transected by the reference line and had a 2010 population of 15,023. There are 9 residential structures and 3 commercial/industrial structures within 500 feet of the proposed reference line. There are no structures within 200 feet of the proposed reference line. There are no dispersed camping areas within the 2-mile transmission line corridor. Alternative IV-B contains the most communication sites among the alternatives within the 2-mile transmission line corridor. Under Design Option 2, AC transmission lines instead of DC lines would be constructed. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative IV-C

Alternative IV-C would entail crossing 1 community, 23 communication sites, and 1 beach area within the 2-mile transmission line corridor in Region IV. The City of Boulder City, Nevada, is transected by the reference line and had a 2010 population of 15,023. There are 9 residential structures and 3 commercial/industrial structures within 500 feet of the proposed reference line. There are no structures within 200 feet of the proposed reference line. There is no dispersed camping or other recreation areas within the 2-mile transmission line corridor. Under Design Option 2, AC transmission lines instead of DC lines would be constructed. Impacts associated with AC transmission lines are detailed in Sections 3.18.7.1 and 3.18.7.2. After considering design features, BMPs and mitigation measure **PH-1**, Project construction and operation would not be expected to affect public health and safety significantly.

Alternative Variations in Region IV

Table 3.18-18 summarizes potential impacts associated with the alternative variations in Region IV.

Table 3.18-18 Summary of Region IV Alternative Variation Impacts for Public Health and Safety, Hazardous Materials

Alternative Variation	Analysis
Marketplace Alternative Variation (Alternative IV-B)	There are no sensitive receptors, recreation areas, or communication sites within the 2-mile transmission line corridor. The city of Boulder City, Nevada, is transected by the alternative variation reference line. There are no structures within 500 feet of the reference line. This variation would bypass one segment of Alternative IV-B. Within this segment in the 2-mile transmission line corridor is one communication site. There is no commercial/ industrial structure within 500 feet of the reference line. There would be no advantage to this alternative variation as a result of the presence of Boulder City within the 2-mile transmission line corridor.

Alternative Connectors in Region IV

Table 3.18-19 summarizes impacts and advantages associated with the alternative connectors in Region IV.

Table 3.18-19 Summary of Region IV Alternative Connector Impacts for Public Health and Safety, Hazardous Materials

Alternative Connector	Analysis
Sunrise Mountain Alternative Connector	There are no communities, public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line.
Lake Las Vegas Alternative Connector	There are no public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor; however, there are 2 communication sites and 1 community (Henderson, Nevada). One industrial structure and 1 outbuilding would be within 500 feet of the reference line.
Three Kids Mine Alternative Connector	There are no public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor; however, there is one community (Henderson, Nevada). There are no structures within 500 feet of the reference line.
River Mountains Alternative Connector	There are no public gathering areas, recreation areas, or communication sites within the 2-mile transmission line corridor; however, there is one community (Henderson, Nevada). One industrial structure would be within 500 feet of the reference line.
Railroad Pass Alternative Connector (Alternatives IV-A and IV-B)	Impacts from this alternative would be limited to 3 communities and 6 communication sites. The communities of Texas Acres, Henderson, and Boulder City, Nevada, are located within the 2-mile transmission line corridor. There are no structures within 500 feet of the reference line.

Region IV Conclusion

Alternative IV-A (Agency Preferred), Alternative IV-B, and Alternative IV-C would have similar impacts on public health and safety, with the exception that, as detailed in **Table 3.18-17**, Alternative IV-A would affect a greater number of communities and residential structures than the remaining alternatives. This would increase the potential project construction and operation health and safety risk to residential occupants. However, the successful implementation of design features, BMPs, and mitigation **PH-1**, would result in all of the alternatives having a relatively low impact on public health and safety.

3.18.7.7 Impacts to Public Health and Safety from the No Action Alternative

Under the No Action Alternative, the proposed Project would not be constructed or operated. Human exposures to noise associated with the proposed project would not occur. There would be no safety concerns from construction of the proposed Project. Existing EMF levels and health and safety considerations from transmission lines and substations in the area would continue. No hazardous materials would be used, released, or uncovered.

3.18.7.8 Residual Impacts

Residual impacts are impacts to a resource remaining after implementation of mitigation measures. For the proposed Project, these residual impacts include the increase in noise levels in excess of USEPA guidelines to residences near construction activities. These residual impacts would be short-term, ending once construction activities were completed in a given area.

3.18.7.9 Irreversible and Irretrievable Commitment of Resources

There would be no irreversible commitment of resources associated with public health and safety. Impacts related to residences from construction noise would be irretrievable, ending however, once construction activities were completed in a given area.

3.18.7.10 Relationship Between Local Short-term Uses and Long-term Productivity

There would be relationship between local short-term uses and long-term productivity associated with public health and safety.

3.19 Wild Horse Management Areas

This section describes existing wild horse HMAs and HAs in the analysis area and discloses potential Project impacts on those HMAs and HAs.

3.19.1 Regulatory Background

Passage of the Wild Free-Roaming Horses and Burro Act (P.L. 92-195) in 1971 requires the BLM to protect, manage, and control wild free-roaming horses and burros on public lands. The act requires the BLM to manage wild horses and burros in a manner designed to achieve and maintain a thriving natural ecological balance on the public lands.

HMAs are areas designated within RMPs for wild horse management. HAs are those places where wild horses were counted but are not designated for wild horse management within an RMP. Appropriate management levels (AMLs) for wild horses and burros are established in accordance with objectives and management actions through Multiple Use Decisions. Multiple Use Decisions establish the appropriate minimum and maximum number of wild horses to be managed within each grazing allotment contained within an HMA. The BLM staff studies natural resources such as vegetation and wildlife habitat to help determine the AML, taking into consideration uses such as livestock grazing, wildlife use, recreation, and the BLM's multiple-use mission under FLPMA. Annual monitoring data are collected to evaluate progress toward meeting management objectives. When herd sizes exceed the AML or resource damages occur, animals are gathered and offered for adoption. Other factors such as drought, lack of forage, public nuisance or wildfire also may require the BLM to remove some animals from the range.

3.19.2 Data Sources

Information regarding wild horse resources within the analysis area was obtained from a review of existing published sources, RMPs, and applicable county land use plans. Current information regarding conditions in the HMAs/HAs was obtained from available GIS data, topographic maps, and internet-based tools including GoogleEarth™. A list of RMPs used in the development of this section is presented in **Table 1-3**. Vegetation species nomenclature is consistent with the NRCS Plants Database (NRCS 2010), unless otherwise specified.

Data sources include published maps and reports and internet websites of the USGS and UGS. Other data sources included academic and professional journals and publications. Livestock grazing allotment information was provided by the BLM FOs crossed by the various routes. There are no HMAs or HAs within NFS lands.

3.19.3 Analysis Area

The analysis area is defined as the 250-foot-wide transmission line ROW occurring within HMAs or HAs.

3.19.4 Baseline Description

The 10 wild horse HMAs/HAs shown in **Table 3.19-1** are located within the analysis area. These designated HMAs/HAs are located on BLM land. During periodic wild horse roundups, BLM uses helicopters within the HMAs/HAs to assist in directing the horses into the designated collection areas. Due to the necessary use of helicopters, BLM prefers that transmission lines located within HMAs/HAs be located parallel to existing transmission lines to the extent feasible.

Table 3.19-1 Wild Horse Herd Management Areas and Herd Areas within the Analysis Area

Location/Mgt Entity ¹	HMA/HA	Acreage	Description
Region I			
Wyoming/Rawlins FO	Adobe Town HMA	472,812	AML is 700 horses.
Wyoming/Rock Springs FO	Salt Wells Creek HMA	1,193,283	AML is 365 horses.
Colorado/Little Snake FO	Sand Wash Basin HMA	157,730	AML is 163 to 363 horses; population is about 411. The boundary of the HMA is fenced, except along State Highway 318, generally preventing wild horses from entering or leaving the HMA.
Region II			
Colorado/White River FO	Piceance-East Douglas Creek HMA	190,130	AML is 135 to 235 horses; 2010 population was about 265 within the HMA and 115 outside the HMA.
Colorado/White River FO	North Piceance HA	76,959	Managed for 0 to 10 years to provide forage for a herd of 0 to 50 horses in each HA. The objective for anything greater than 10 years would be to remove all wild horses from these areas; however, this decision currently is being challenged in court.
Colorado/White River FO	West Douglas Creek HA	123,387	Managed for 0 to 10 years to provide forage for a herd of 0 to 50 horses in each HA. The objective for anything greater than 10 years would be to remove all wild horses from these areas; however, this decision currently is being challenged in court.
Utah/Vernal FO	Hill Creek HMA	88,173	AML of 195.
Region III			
Utah/Cedar City District	Chloride Canyon HMA	211,585	2008 AML of 390, estimated horses population of 531.
Utah/Cedar City District	North Hills HMA	49,900	Managed in cooperation with the Dixie NF Pine Valley Ranger District's North Hills Wild Horse Territory (24,029 acres). Together, the combined area is referred to as the North Hills Wild Horse Management Plan Area (WHMPA) and comprises 74,000 acres. 250 wild horses within the HMA and Wild Horse Territory. AML of 40-60.
Nevada/Ely District	Eagle HMA	670,000	AML of 100 to 210 horses; 595 horses as of 2009.

¹ There are no wild horse HMAs/HAs in Region IV.

Sources: BLM 2012a,b,c,d; 2011; 2010; 2008a,b,c; 1997a,b.

3.19.5 Impacts to Wild Horse HMAs and HAs

3.19.5.1 Impacts from Terminal Construction and Operation

There are no HMAs/HAs within or near the northern or southern terminal areas.

Under Design Option 2, the Southern Terminal would be located near the IPP in Utah instead of at the Marketplace Hub in Nevada, and the ground electrode system would be within 50 miles of the IPP in Mallard County, Utah. Design Option 2 would have no effects to HMAs/HAs because there are no HMAs/HAs within the relocated Southern Terminal or electrode bed facilities.

Under Design Option 3, a substation would be located near the existing IPP substation in Utah for AC operation until phase two of the Project is completed. This substation would not affect any HMAs/HAs.

3.19.5.2 Impacts Common to All Alternative Routes and Associated Facilities

In general, impacts to wild horses and HMAs/HAs would result from noise and increased human activity during installation of the transmission line towers, clearing and grading existing and new access roads, vehicle operation in areas where overland vehicle travel would occur, and use of temporary laydown areas. Construction activities and operation of the transmission line could impact the ability of the BLM to conduct future wild horse gathers in and near the transmission line area. Each HMA/HA is discussed separately by region below.

Design Option 2 would involve modifications of proposed transmission facilities that would apply to all alternatives. Under Design Option 2, the transmission line would be AC from Southern Terminal near the IPP to the Marketplace Hub in Nevada. Unlike DC power lines, AC transmission lines can cause induced current in nearby objects, such as fences or other equipment in very close proximity to the transmission line. In order to minimize the potential for electric shock, fences and other structures with metal surfaces located within 300 feet of the centerline would be grounded. All metal irrigation systems and fences that parallel the AC transmission line for distances of 500 feet or more within 300 feet of the centerline would be grounded. Additionally, all fences that cross under the AC transmission line also would be grounded (**Appendix D**). Section 3.18, Public Health and Safety, provides more information regarding impacts from AC lines.

Design Option 3 also would involve modifications of proposed transmission facilities that would apply to all alternatives. The difference between this design option and the Proposed Action include development of a substation on BLM lands directly adjacent to the IPP within Millard County, Utah. Design Option 3 would have no new or additional effects to HMAs/HAs because there are no HMAs/HAs within the proposed location for the substation. Timing of impacts to HMAs/HAs as described under the Proposed Project would vary due to construction schedule differences.

3.19.5.3 Region I

Within Region I, two HMAs would be impacted by the alternative routes. **Table 3.19-2** provides a summary of acreage impacts. The Salt Wells Creek HMA would not be affected by the proposed Project route or its alternatives.

Table 3.19-2 Impacts to Region I HMAs/HAs by Alternative

HMA	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Adobe Town HMA				
250-foot-wide transmission line ROW miles/acres (% HMA)	13/407 (0.1%)	17/499 (0.1%)	N/A	1/36 (<0.1%)

Table 3.19-2 Impacts to Region I HMAs/HAs by Alternative

HMA	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Surface disturbance: construction/operations (acres)	174/47	219/48	N/A	26/5
2-mile transmission line corridor (% HMA)	17,248 (3.6%)	20,948 (4.4%)	N/A	4,038 (0.9%)
Sand Wash Basin HMA				
250 foot-wide transmission line ROW miles/acres (% HMA)	8/244 (0.2%)	N/A	N/A	N/A
Surface disturbance: construction/operations (% HMA)	110/30	2/1	N/A	2/1
2-mile transmission line corridor acres (% HMA)	8,163 (5.2%)	695 (0.4%)	N/A	695 (0.4%)

Alternative I-A (Applicant Proposed)

Under Alternative I-A, two HMAs would be affected by construction and operation of the transmission line.

Approximately 13 miles of the 250-foot-wide transmission line ROW would cross the 472,812-acre Adobe Town HMA. During construction, up to 407 acres (less than 0.1 percent of the HMA) would be within the 250-foot-wide transmission line ROW. This area would be subject to surface disturbance and/or vegetation removal and maintenance that could affect forage for wild horses. Approximately 174 acres (less than 0.05 percent of the HMA) would be disturbed for tower placement and road development during the construction phase; a third of that disturbance (about 47 acres) would be permanent. Approximately 8 miles of the 250-foot-wide transmission line ROW would cross the 157,730-acre Sand Wash Basin HMA. During construction, up to 244 acres (less than 0.2 percent of the HMA) would be within the 250-foot-wide transmission line ROW. Approximately 110 acres (less than 0.1 percent of the HMA) would be disturbed for tower placement and road development during construction phase; a quarter of that disturbance (approximately 30 acres) would be permanent. The land area within each HMA that would not be affected by tower placement or road development would remain available for wild horse forage and shelter. All water sources would be completely avoided (i.e., spanned by aerial crossing). Any areas of temporary disturbance would be restored to pre-construction contours and restored with BLM-approved seed mixtures (see **Appendix C; Table C-1, VEG-2**).

Wild horses within the HMAs also would be subject to noise and increased human activity during installation of the transmission line towers, clearing and grading of existing and new access roads, vehicle operation in areas where overland vehicle travel would occur, and use of temporary laydown areas and tensioning sites. Depending on topography, noise could travel the width of the 2-mile transmission line corridor. This would impact up to 17,248 acres within the Adobe Town HMA (3.6 percent of the HMA), and 8,163 acres within the Sand Wash Basin HMA (5.2 percent of the HMA). This disturbance would likely last 3 to 12 weeks, depending on the length of time it takes for the line to be constructed across the HMA.

Construction activities and operation of the transmission line could impact the ability of the BLM to conduct future wild horse gathers in and near the transmission line area. However, no gathers currently are planned within either HMA.

Alternative I-B

Under Alternative I-B, impacts to the Adobe Town HMA would be similar to those described under Alternative I-A, but would affect slightly more acreage (up to 4.4 percent of the HMA would be within the 2-mile transmission line corridor).

The transmission reference line would not cross Sand Wash Basin HMA and there would be less than 2 acres of construction disturbance within the HMA. Approximately 0.4 percent of the HMA would be within the 2-mile transmission line corridor, with impacts similar to those described under Alternative I-A.

Alternative I-C

Alternative I-C would not cross any designated HMAs.

Alternative I-D (Agency Preferred)

Alternative I-D would cross less than 1 mile of the Adobe Town HMA. Impacts would be similar to those described under Alternative I-A, except much less acreage would be impacted (approximately 10 percent of the Alternative I-A acreage within the 250-foot-wide transmission line ROW and 25 percent of that within the 2-mile transmission line corridor).

Impacts to the Sand Wash Basin HMA would be the same as those described under Alternative I-B.

The three Tuttle easement micro-siting options would not change impacts to wild horses as described above.

Alternative I-D would affect approximately 0.8 percent of 2 HMAs.

Alternative Connectors in Region I

There are no HMAs/HAs affected by the Mexican Flats, Baggs, Fivemile Point North, or Fivemile Point South connectors.

Alternative Ground Electrode Systems in Region I

A ground electrode system of approximately 600 acres in size within 50 to 100 miles of the Northern Terminal in Region I would be required. The ground electrode system alternative approximate locations in Region I are depicted in Chapter 2.0 on **Figure 2-21**. Approximately 25,283 acres of the conceptual Shell Creek Ground Electrode System siting area would be located within the 1,193,283 acre-Salt Wells Creek HMA and 23 acres would be located within the 472,812-acre Adobe Town HMA. Approximately 19 miles of the accompanying 34.5-kV AC overhead line transmission line would be located within the Salt Wells Creek HMA. During construction, there would be 223 acres of construction disturbance within the Salt Wells Creek HMA (less than 0.01 percent of the HMA), of which about 89 acres would be permanent. There would be no construction disturbance within the Adobe Town HMA. Impacts from construction would be similar to those described under the Region I alternatives. There would be no impacts to Sand Wash Basin HMA.

Region I Conclusions

Alternative I-A would have the most impact on wild horses, affecting between 4 and 5 percent of two HMAs.

3.19.5.4 Region II

Within Region II, four HMAs/HAs would be impacted by alternative routes. The HMAs/HAs crossed by the alternatives in Region II are summarized in **Table 3.19-3**.

Table 3.19-3 Impacts to Region II HMAs/HAs by Alternative

HMA	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
Piceance-East Douglas Creek HMA						
250 foot-wide transmission line ROW miles/acres (% HMA)	N/A	1/31 (<0.02%)	1/31 (<0.02%)	N/A	N/A	N/A
Surface disturbance: construction/operations (acres)	N/A	< 1/<1	<1/<1	N/A	N/A	N/A
2-mile transmission line corridor acres (% HMA)	N/A	1,049 (0.6%)	1,049 (0.6%)	N/A	N/A	N/A
North Piceance HA						
250-foot-wide transmission line ROW miles/acres (% HA)	N/A	7/218 (0.3%)	7/218 (0.3%)	N/A	N/A	N/A
Surface disturbance: construction/operations (acres)	N/A	91/23	91/23	N/A	N/A	N/A
2-mile transmission line corridor acres (% HA)	N/A	5,902 (7.7%)	5,902 (7.7%)	N/A	N/A	N/A
West Douglas Creek HA						
250-foot-wide transmission line ROW miles/acres (% HA)	N/A	13/390 (<0.3%)	13/390 (<0.3%)	N/A	N/A	N/A
Surface disturbance: construction/operations (acres)	N/A	192/49	192/49	N/A	N/A	N/A
2-mile transmission line corridor acres (% HA)	N/A	13,966 (11%)	13,966 (11%)	N/A	N/A	N/A
Hill Creek HMA						
250-foot-wide transmission line ROW miles/acres (% HMA)	N/A	N/A	N/A	N/A	N/A	N/A
Surface disturbance: construction/operations (acres)	N/A	N/A	N/A	1/0	N/A	1/0
2-mile transmission line corridor acres (% HMA)	N/A	N/A	N/A	123 (<0.1%)	N/A	123 (<0.1%)

Alternative II-A (Applicant Proposed)

Alternative II-A would not cross any designated HMAs/HAs. The Strawberry IRA micro-siting options would not affect wild horses, as there are no HMAs or HAs within the micro-siting locations.

Alternative II-B

Under Alternative II-B, approximately 1 mile of the 250-foot-wide transmission line ROW would cross the 190,130-acre Piceance-East Douglas Creek HMA. During construction, up to 31 acres (less than 0.02 percent of the HMA) would be within the 250-foot-wide transmission line ROW. This area would be subject to surface disturbance and/or vegetation removal and maintenance that could affect forage for wild horses. Less than one acre would be disturbed for tower placement and road development during construction and operation phases. The land area in the HMA that would not be affected by tower placement or road development would remain available for wild horse forage and shelter and all intermittent streams, waterholes, or reservoirs used by wild horses would be completely avoided (i.e., spanned by aerial crossing). Any areas of temporary disturbance would be restored to pre-construction contours and restored with BLM approved seed mixtures (see **Appendix C; Table C-1, VEG-2**).

Wild horses within the Piceance-East Douglass Creek HMA would also be subject to noise and increased human activity during installation of the transmission line towers, clearing and grading existing and new access roads, vehicle operation in areas where overland vehicle travel would occur, and use of temporary laydown areas and tensioning sites. Depending on topography, noise could travel the width of the 2-mile transmission line corridor. This would impact up to 1,049 acres (0.6 percent of the HMA). This disturbance would likely last 3 to 12 weeks, depending on the length of time it takes for the line to be constructed across the HMA.

Under Alternative II-B, the 250-foot-wide transmission line ROW would cross 7 miles of the 76,959-acre North Piceance HA and 13 miles of the 123,387-acre West Douglas HA. Impacts to these HAs would be similar to those identified for the Piceance-East Douglas Creek HMA but would affect a greater portion of both of these HAs. The 250-foot-wide transmission line ROW would encompass 218 acres of the North Piceance HA (0.3 percent of the HA). Approximately 91 acres (0.1 percent of the HA) would be disturbed for tower placement and road development during the construction phase; a quarter of that disturbance (approximately 23 acres) would be permanent. The 2-mile transmission line corridor would encompass 7.7 percent of the HA. The 250-foot-wide transmission line ROW would encompass 390 acres of the West Douglas HA (less than 0.3 percent of the HA). Approximately 192 acres (0.2 percent of the HA) would be disturbed for tower placement and road development during the construction phase; a quarter of that disturbance (about 49 acres) would be permanent. The 2-mile transmission line corridor would encompass 11 percent of the HA.

Construction activities and operation of the transmission line could impact the ability of the BLM to conduct future wild horse gathers in and near the transmission line area. As of September 2011, the BLM White River FO proposed to gather approximately 382 wild horses from the Piceance-East Douglas Creek HMA. Additionally, as of 2012, there were approximately 185 wild horses within the West Douglas Creek HA, and BLM was awaiting the Decision Record for a proposed emergency gather of excess horses due to ongoing drought conditions. The BLM also has indicated that it may be necessary to conduct multiple gathers (pursuant to NEPA analysis) in the West Douglas Creek HA over the duration of drought conditions (BLM 2012). The following mitigation is proposed to reduce impacts to planned gathers:

***WH-1:** Construction activities would be suspended as needed during wild horse gathers, as determined through consultation with the BLM.*

Application of **WH-1** would reduce impacts to wild horse management during construction but would not mitigate for the impacts to gathers during operations of the line.

The 250-foot-wide transmission line ROW would cross the Piceance-East Douglas Creek HMA and North Piceance HA near their western borders, leaving the majority of the HMA and HA unaffected. The 250-foot-wide transmission line ROW would bisect the western portion of the West Douglas HA. Presence of a transmission line in this area would affect the use of helicopters for the gather of wild horses.

Alternative II-B would not cross the Hill Creek HMA.

Alternative II-C

Impacts to HAs and HMAs under Alternative II-C would be the same as described under Alternative II-B because the routes and mileages are the same.

Alternative II-D

The 250-foot-wide transmission line ROW for Alternative II-D would not cross any designated HMAs. Approximately 123 acres of the 88,173-acre Hill Creek HMA would be within the 2-mile transmission line corridor. This is 0.1 percent of the HMA. Impacts would be similar to those described for the 2-mile

transmission line impacts discussed under Alternative II-B, and primarily would be limited to noise disturbance.

Alternative II-E

Alternative II-E would not cross any designated HMAs or HAs.

Alternative II-F (Agency Preferred)

Impacts to HMAs and HAs would be the same as under Alternative II-D.

The two Cedar Knoll IRA micro-siting options would not affect wild horses, as there are no HMAs or HAs within the micro-siting locations.

Alternative Variation in Region II

Emma Park

The Emma Park Alternative Variation would not cross any designated HMAs or HAs.

Alternative Connectors in Region II

The Lynndyl, IPP East, Castle Dale, Price, or Highway 191 alternative connectors would not cross any designated HMAs or HAs.

Region II Conclusions

Alternatives II-B and II-C would have the most impact on wild horses, affecting between 0.6 and 11 percent of three HMAs/HAs. Alternatives II-A and II-E would not affect any HMAs/HAs.

Alternative II-D and Alternative II-F would each affect less than 1 percent of one HMA.

3.19.5.5 Region III

Within Region III, three HMAs would be impacted by the alternative routes. **Table 3.19-4** provides a summary of acreage impacts to the HMAs within Region III.

Alternative III-A (Applicant Proposed)

Under Alternative III-A, approximately 2 miles of the 250-foot-wide transmission line ROW would cross the 211,585-acre Chloride Canyon HMA. During construction, up to 69 acres (less than 0.03 percent of the HMA) would be within the 250-foot-wide transmission line ROW. This area would be subject to surface disturbance and/or vegetation removal and maintenance that could affect forage for wild horses. Approximately 100 acres (0.05 percent of the HMA) would be disturbed for tower placement and road development during the construction phase; a quarter of that disturbance (approximately 24 acres) would be permanent. The land area in the HMA that would not be affected by tower placement or road development would remain available for wild horse forage and shelter. All water sources would be completely avoided (i.e., spanned by aerial crossing). Any areas of temporary disturbance would be restored to pre-construction contours and restored with BLM approved seed mixtures (see **Appendix C; Table C-1, VEG-2**).

Wild horses within the Chloride Canyon HMA also would be subject to noise and increased human activity during installation of the transmission line towers, clearing and grading existing and new access roads, vehicle operation in areas where overland vehicle travel would occur, and use of temporary laydown areas and tensioning sites. Depending on topography, noise could travel the width of the 2-mile transmission line corridor. This would impact up to 2,909 acres (1.4 percent of the HMA). However, it is important to note that transmission line construction is sequential in nature; therefore, it is not likely that all 10 miles of line would be undergoing construction at any one time.

Table 3.19-4 Impacts to Region III HMAs/HAs by Alternative

HMA	Alternative III-A	Alternative III-B	Alternative III-C
Chloride Canyon HMA			
250-foot-wide transmission line ROW miles/acres (% HMA)	2/69 (<0.03%)	N/A	N/A
Surface disturbance: construction/operations (acres)	100/24	N/A	N/A
2-mile transmission line corridor acres (% HMA)	2,909 (1.4%)	N/A	N/A
North Hills HMA			
250-foot-wide transmission line ROW miles/acres (% HMA)	N/A	N/A	N/A
Surface disturbance: construction/operations (acres)	N/A	11/3	10/2
2-mile transmission line corridor acres (% HMA)	N/A	2,795 (5.6%)	2,721 (5.5%)
Eagle HMA			
250-foot-wide transmission line ROW miles/acres (% HMA)	N/A	N/A	N/A
Surface disturbance: construction/operations (acres)	N/A	<1/<1	<1/<1
2-mile transmission line corridor acres (% HMA)	N/A	56 (<0.01%)	56 (<0.01%)

Construction activities and operation of the transmission line could impact the ability of the BLM to conduct future wild horse gathers in and near the transmission line area. Application of **WH-1** would reduce impacts to wild horse management during construction, but would not mitigate for the impacts to gathers during operations of the line.

Alternative III-B would not cross the North Hills or Eagle HMAs.

Alternative III-B (Agency Preferred)

The 250-foot-wide transmission line ROW for Alternative III-B would not cross any designated HMAs. Approximately 2,795 acres of the 49,900-acre North Hills HMA and 5.6 acres of the 670,000-acre Eagle HMA would be within the 2-mile transmission line corridor. These acreages comprise 5.6 percent of the North Hills HMA and less than 0.01 percent of the Eagle HMA. Impacts would be similar to those described under Alternative II-A, and would primary be limited noise disturbance. The area of disturbance represents maximum disturbance and would vary by topography.

Application of **WH-1** would reduce impacts to wild horse management during construction, but would not mitigate for the impacts to gathers during operations of the line.

Alternative III-C

Impacts under Alternative III-C would be the same as under Alternative III-B except that slightly less acreage (5.5 percent) of the North Hills HMA would be within the 2-mile transmission line corridor.

Application of **WH-1** would reduce impacts to wild horse management during construction, but would not mitigate for the impacts to gathers during operations of the line.

Alternative Variations in Region III

Under the Pinto Alternative Variation, the 250-foot-wide transmission line HMA would cross 0.4 mile of the Chloride Canyon HMA. These impacts would be the same as the comparable portion of Alternative III-A. The Ox Valley East and West Alternative Variations would not cross any HMAs.

Alternative Connector in Region III

The Moapa Alternative Connector and the Avon Alternative Connector would not cross any HMAs.

Alternative Ground Electrode Systems in Region III

A ground electrode system of approximately 600 acres in size would be necessary in Region III within 50 to 100 miles of the southern terminal as discussed in Chapter 2. The ground electrode system alternative locations in Region III are depicted in Chapter 2.0 on **Figure 2-23**. The locations are not within or near HMAs.

Region III Conclusions

Alternatives III-B and III-C would have very similar impacts on wild horses, affecting approximately 6 percent of one HMA (with a minimal acreage within a second HMA). Alternative III-A would have the least impact on HMAs, affecting approximately 1 percent of one HMA.

3.19.5.6 Region IV

There are no wild horse HMAs/HAs within Region IV.

3.19.5.7 Residual Impacts

Residual effects to HMAs/HAs from the transmission line would be the same as those described under each action alternative and would consist primarily of loss of vegetation and forage as well as potential impacts to wild horse gathers due to the presence of a transmission line that could impinge upon helicopter use in portions of the HMA/HA.

3.19.5.8 Impacts to Wild Horses from the No Action Alternative

Under the No Action Alternative, the Project would not be developed. There would be no impacts to HMAs/HAs beyond existing conditions and trends.

3.19.5.9 Irreversible and Irrecoverable Commitments of Resources

All operation impacts to the values of HMAs/HAs described above would be irretrievable until transmission line decommissioning, after which time the full value of impacted HMAs/HAs would be reclaimed. However, it should be noted, that reclamation activities may have limited success in areas with poor soils, some vegetation communities would take years to reestablish, and some areas may never return to their former vegetation cover and composition. As such, these impacts may represent an irreversible commitment of vegetation resources.

3.19.5.10 Relationship Between Local Short-term Uses and Long-term Productivity

Implementation of the Project would result in the use of portions of some HMAs/HAs as ROW corridors. Long-term productivity of the HMAs/HAs would be largely unaffected except for areas where reclamation may have limited success.

3.20 Lands with Wilderness Characteristics

3.20.1 Regulatory Background

This section describes LWCs in the analysis area and discloses potential Project impacts to LWCs.

Managing the wilderness resource is part of the BLM's multiple use mission. LWCs provide a range of uses and benefits in addition to their value as settings for solitude or primitive and unconfined recreation. Section 201 of the FLPMA requires the BLM to maintain, on a continuing basis, an inventory of all public lands and their resources and other values, which includes wilderness characteristics. Section 201 also provides that the preparation and maintenance of the inventory shall not, itself, change or prevent change of the management or use of public lands. Regardless of past inventory, the BLM must maintain and update as necessary, its inventory of wilderness resources on public lands.

BLM Manuals 6310 and 6320 issued on March 15, 2012, clarify that the requirements of Section 201 of FLPMA remain in effect. The manuals identify specific circumstances where the BLM will update or initiate a wilderness characteristics inventory, including the following:

1. The public or the BLM identifies wilderness characteristics as an issue during the NEPA process.
2. The BLM has new information concerning resource conditions, including wilderness characteristics information submitted by the public that meets the BLM's minimum standard (as described in BLM Manual 6310).
3. A project that may impact wilderness characteristics is undergoing NEPA analysis.

The primary function of an inventory is to determine the presence or absence of wilderness characteristics. The inventory for wilderness characteristics is based on criteria, defined in Section 2(c) of the Wilderness Act and incorporated in Section 603 of the FLPMA, for sufficient size, naturalness, outstanding opportunities for either solitude or primitive and unconfined recreation, and supplemental values (ecological, geological, or other features of scientific, educational, scenic, or historical values). Inventory areas that meet the size, naturalness, and outstanding solitude and/or the outstanding primitive and unconfined recreation criteria are LWCs. The BLM may conduct the inventory of lands, including LWCs, using available information (e.g., existing maps, photos, records related to range projects, monitoring data) and field verification.

3.20.2 Data Sources

Updated LWC inventory files were obtained from affected BLM FOs. Information was provided by the following: Rawlins FO, Little Snake FO, White River FO, Utah SO, Moab FO, Cedar City FO, and Caliente FO.

3.20.3 Analysis Area

The analysis area consists of the 2-mile proposed and alternative transmission line corridor areas as well as the siting areas for the terminals and electrode beds.

3.20.4 Baseline Description

Many BLM field offices have retained, and in some cases maintained, the wilderness inventory units developed in their jurisdiction during the late 1970s or early 1980s. However, when no inventory units have been established or no land use plan decisions have been made regarding LWCs, proposed projects may be required to inventory and identify LWCs and analyze impacts to LWCs in the associated NEPA document. A desktop analysis was conducted to determine whether any of the proposed or alternative corridors would directly affect any LWCs. Available information regarding existing wilderness inventories

was obtained from each BLM field office. Field verification of previously unsurveyed inventory units was completed in the summer and fall of 2012.

Figures 3.20-1 through **3.20-3** show existing LWC units that are within the analysis area. Previously unsurveyed units actively undergoing field verification are being considered as LWC for the purposes of this evaluation. There are 51 LWC units within the analysis area.

3.20.5 Regional Summary

Table 3.20-1 shows LWC units within the analysis area. These units are depicted in **Figures 3.20-1** through **3.20-3**.

While all units shown in **Table 3.20-1** meet the criteria for LWC, only one LWC unit (Mexican Mountain, Price FO) has an approved RMP decision that intends to manage the unit as a natural area to protect, preserve, and maintain wilderness characteristics.

Some units shown in **Table 3.20-1** have been evaluated in an RMP process, but the BLM determined to not manage these areas for their wilderness character, including affected LWC units in the following FOs: Vernal, Moab, and Price. The remaining units shown in **Table 3.20-1** have not been formally evaluated in an RMP process for appropriate management decisions for wilderness character.

3.20.6 Impacts to LWC

The analysis consists of determining whether LWC units are intersected and whether remaining portions would continue to meet LWC criteria. The analysis considers:

- Any loss of wilderness characteristics in areas that the BLM has administratively made a decision to protect; and
- Any impact to existing wilderness characteristics that would negate the eligibility of the whole inventoried area for consideration in a future planning effort for wilderness character protection.

3.20.6.1 Impacts from Terminal Construction, Operation, and Decommissioning

This section discloses impacts to land uses that would occur from construction and operation of the Northern and Southern terminals, which are common to all action alternatives.

Northern Terminal

No LWCs were identified within the Northern Terminal Siting Area.

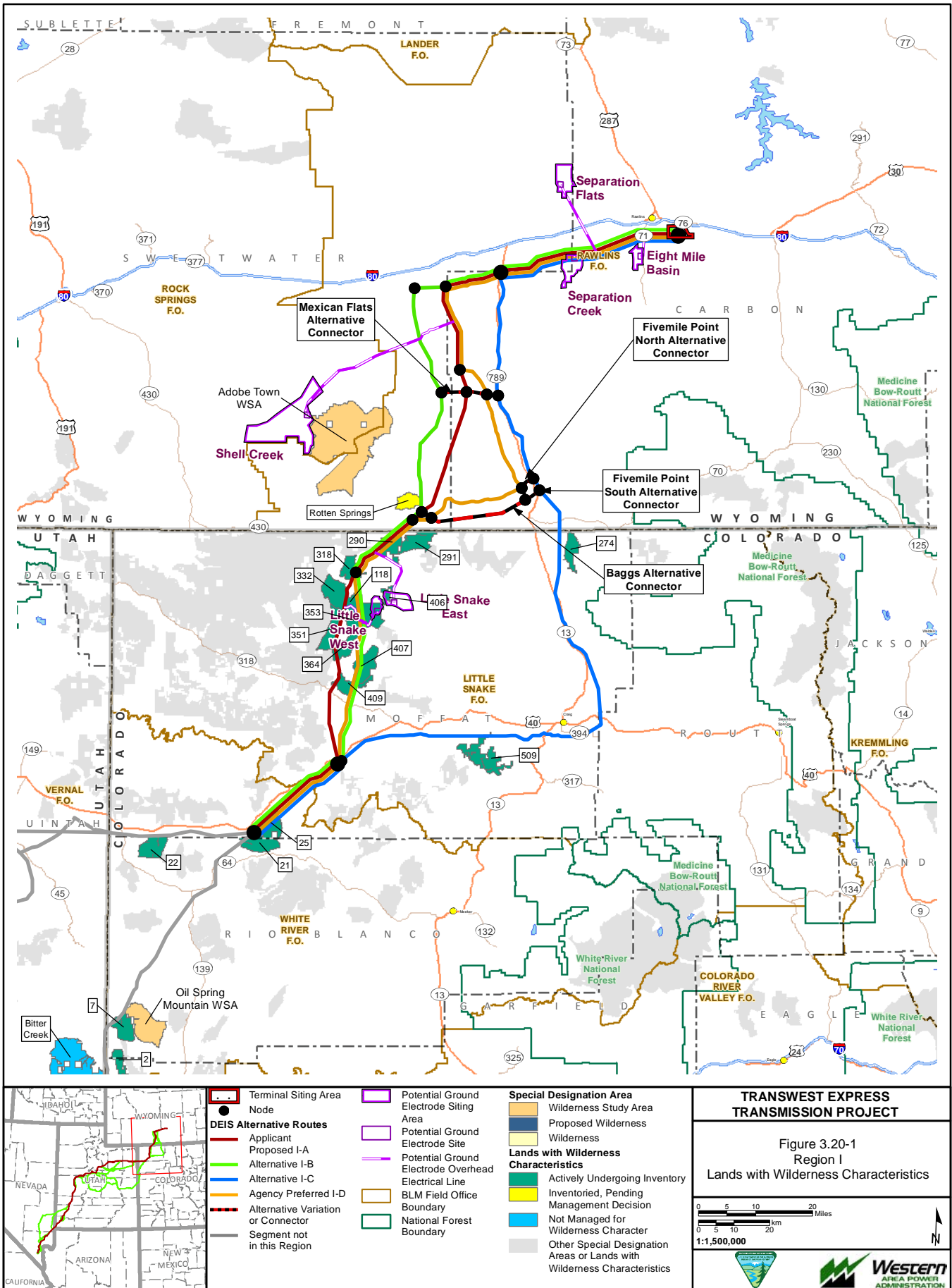
Southern Terminal

No LWCs were identified within the Southern Terminal Siting Area.

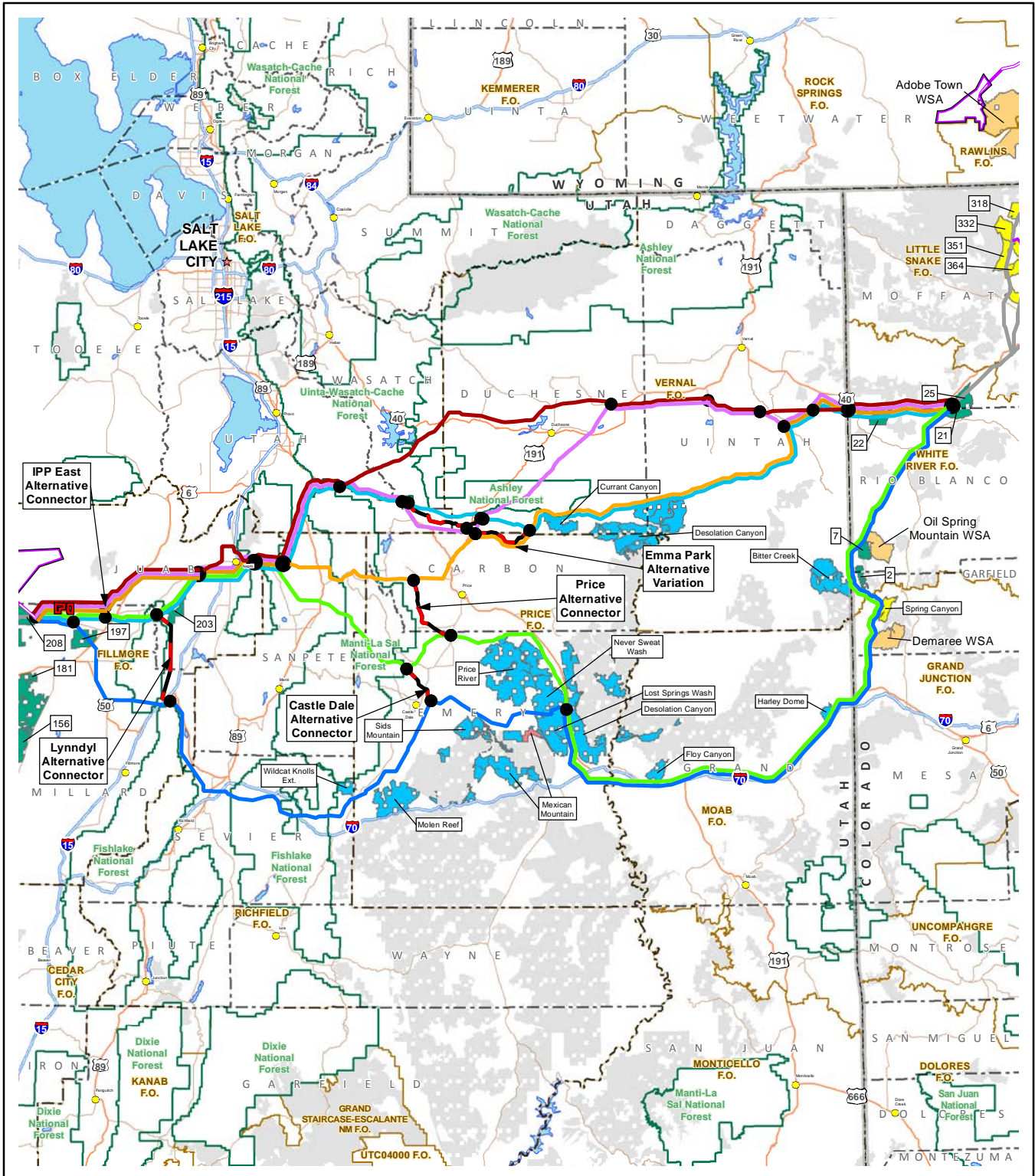
Design Option 2 – DC from Wyoming to IPP; AC from IPP to Marketplace Hub

The design option involves modifications of proposed transmission facilities that would apply to all alternatives. Differences between this design option and the Proposed Project include the locations of the southern converter station and ground electrode system, as well as the addition of a series compensation station midway between the IPP and Marketplace. The southern converter station would be located near the IPP in Utah instead of at the Marketplace in Nevada and the ground electrode system would be within 50 miles of the IPP. Under Design Option 2, the transmission line would be AC from Southern Terminal Siting Area near the IPP to the Marketplace Hub in Nevada.

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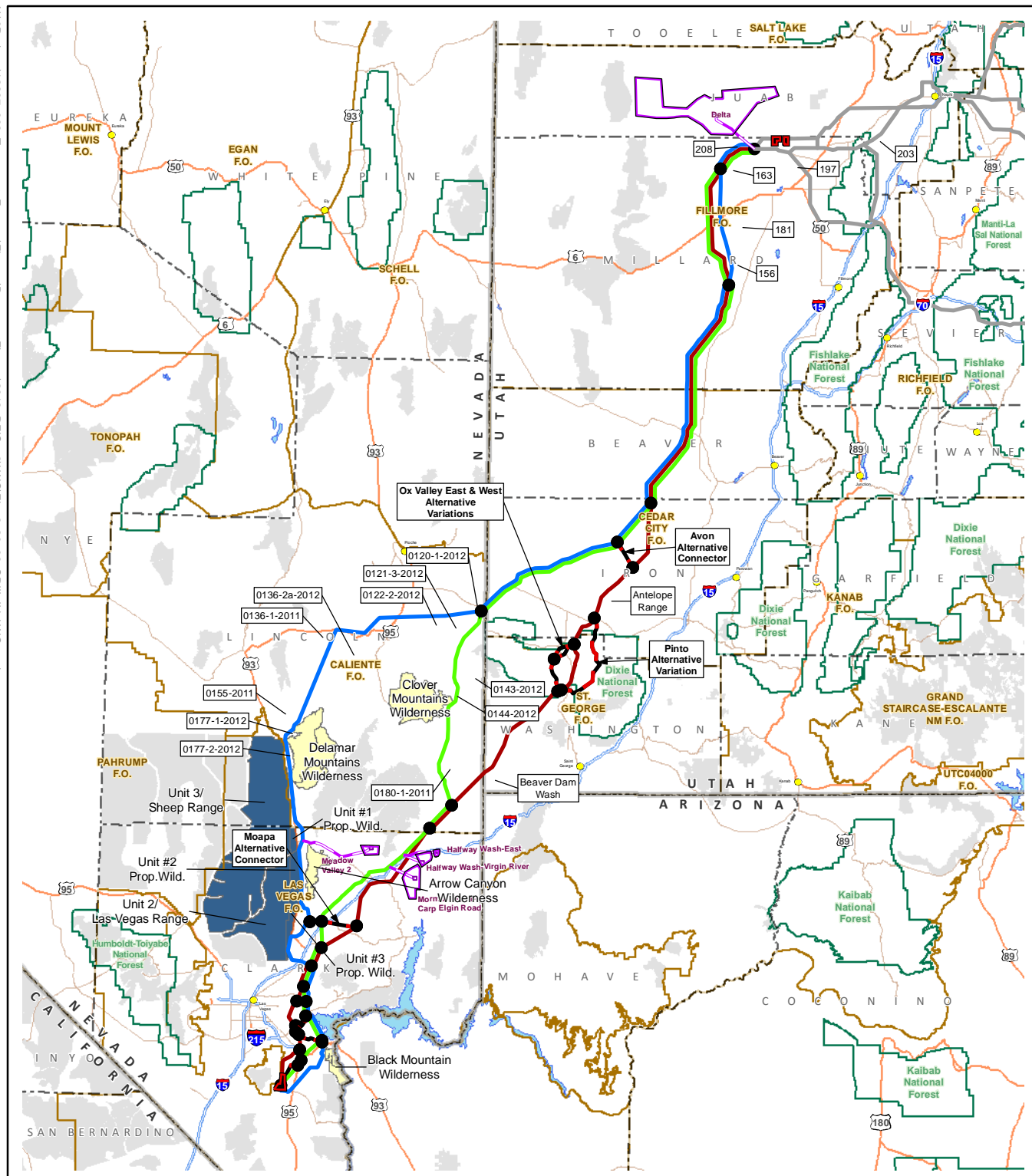


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<p>Terminal Siting Area</p> <p>Node</p> <p>DEIS Alternative Routes</p> <ul style="list-style-type: none"> Applicant Proposed II-A Alternative II-B Alternative II-C Alternative II-D Alternative II-E Agency Preferred II-F Alternative Variation or Connector Segment not in this Region 		<p>Potential Ground Electrode Siting Area</p> <p>Potential Ground Electrode Site</p> <p>Potential Ground Electrode Overhead Electrical Line</p> <p>BLM Field Office Boundary</p> <p>Special Designation Area</p> <ul style="list-style-type: none"> Wilderness Study Area Proposed Wilderness Wilderness 		<p>National Forest Boundary</p> <p>Lands with Wilderness Characteristics</p> <ul style="list-style-type: none"> Actively Undergoing Inventory Inventoried, Pending Management Decision Managed as Natural Area Not Managed for Wilderness Character Other Special Designation Areas or Lands with Wilderness Characteristics 	
		<p>TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p>Figure 3.20-2 Region II Lands with Wilderness Characteristics</p> <p>0 10 20 40 Miles 0 10 20 40 km</p> <p>1:2,250,000</p>			

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		<p>Terminal Siting Area</p> <p>Node</p> <p>DEIS Alternative Routes</p> <ul style="list-style-type: none"> Applicant Proposed III/IV-A** Alternative III/IV-B* Alternative III/IV-C Alternative Variation or Connector Segment not in this Region <p>* Agency Preferred Region III ** Agency Preferred Region IV</p>	<p>Potential Ground Electrode Siting Area</p> <p>Potential Ground Electrode Site</p> <p>Potential Ground Electrode Overhead</p> <p>Electrical Line</p> <p>BLM Field Office Boundary</p> <p>National Forest Boundary</p>	<p>Special Designation Area</p> <ul style="list-style-type: none"> Wilderness Study Area Proposed Wilderness Wilderness <p>Lands with Wilderness Characteristics</p> <ul style="list-style-type: none"> Actively Undergoing Inventory Inventoried, Pending Management Decision Not Managed for Wilderness Character Other Special Designation Areas or Lands with Wilderness Characteristics 	<p>TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p>Figure 3.20-3 Regions III and IV Lands with Wilderness Characteristics</p> <p>0 10 20 40 Miles 0 10 20 40 km</p> <p>1:2,500,000</p>
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Table 3.20-1 Lands with Wilderness Characteristics Inventory Units in the Analysis Area

Region	Field Office	Unit ID/Name	Unit Size (Acres)	Sufficient Size	Naturalness	Solitude	Primitive and Unconfined Recreation	Supplemental Values	Approved RMP Decisions
I	Rawlins	WY-030-13N95W24-2012 - Rotten Springs	6,105	Y	Y	N	Y	N	N
I	Little Snake	332	10,984	Y	Y	Y	Y	Y	N*
I	Little Snake	118	5,356	Y	Y	Y	Y	Y	N*
I	Little Snake	353	6,323	Y	Y	Y	Y	Y	N*
I	Little Snake	351	9,762	Y	Y	Y	Y	Y	N*
I	Little Snake	364	6,923	Y	Y	Y	Y	Y	N*
I	Little Snake	406	11,485	Y	Y	Y	Y	Y	N*
I	Little Snake	407	10,970	Y	Y	Y	Y	Y	N*
I	Little Snake	409	6,343	Y	Y	Y	Y	Y	N*
I	Little Snake	291	9,607	Y	Y	Y	Y	N	N*
I	Little Snake	290	7,591	Y	Y	Y	Y	N	N*
I	Little Snake	318	6,373	Y	Y	N	Y	Y	N*
I	Little Snake	274	6,932	Y	Y	Y	Y	Y	N*
I	Little Snake	509	14,521	Y	Y	Y	Y	Y	N*
I	White River	25	9,567	Y	Y	Y	Y	N	N*
II	White River	2	5,205	Y	Y	Y	Y	Y	N*
II	White River	21	9,021	Y	Y	Y	Y	Y	N*
II	White River	22	9,376	Y	Y	Y	Y	Y	N*
II	White River	7	8,370	Y	Y	Y	Y	Y	N*
II	Grand Junction	Spring Canyon	8,831	Y	Y	Y	Y	N	N
II	Vernal	Bitter Creek	33,488	Y	Y	Y	Y	N	Y – not managed for LWC
II	Vernal	Currant Canyon	14,434	Y	Y	Y	Y	N	Y – not managed for LWC
II	Vernal/Price	Desolation Canyon	170,606	Y	Y	Y	Y	N	Y – not managed for LWC
II	Moab	Floy Canyon	9,983	Y	Y	Y	Y	N	Y – not managed for LWC
II	Moab	Harley Dome	5,304	Y	Y	Y	Y	N	Y – not managed for LWC
II	Price	Lost Springs Wash	32,104	Y	Y	N	Y	N	Y – not managed for LWC

Table 3.20-1 Lands with Wilderness Characteristics Inventory Units in the Analysis Area

Region	Field Office	Unit ID/Name	Unit Size (Acres)	Sufficient Size	Naturalness	Solitude	Primitive and Unconfined Recreation	Supplemental Values	Approved RMP Decisions
II	Price	Mexican Mountain	40,955	Y	Y	Y	Y	N	Y – manage only 4,200 acres as natural area; remainder not managed for LWC
II	Price	Molen Reef	33,281	Y	Y	Y	Y	N	Y – not managed for LWC
II	Price	Never Sweat Wash	29,162	Y	Y	N	Y	N	Y – not managed for LWC
II	Price	Price River	89,059	Y	Y	Y	Y	N	Y – not managed for LWC
II	Price	Sids Mountain	34,592	Y	Y	Y	Y	N	Y – not managed for LWC
II	Price	Wildcat Knolls Ext.	7,003	Y	Y	Y	Y	N	Y – not managed for LWC
II	Fillmore	197	13,517	Y	Y	Y	Y	N	N*
II	Fillmore	203	10,219	Y	Y	Y	Y	N	N*
III	Fillmore	156	27,421	Y	Y	Y	Y	N	N*
III	Fillmore	163	8,597	Y	Y	Y	Y	N	N*
III	Fillmore	181	58,282	Y	Y	Y	Y	N	N*
III	Fillmore	208	27,236	Y	Y	Y	Y	N	N*
III	St. George	Beaver Dam Wash	22,277	Y	Y	Y	Y	N	N
III	Cedar City	UT-040-037A - Antelope Range	5,928	Y	Y	Y	Y	N	N
III	Caliente	NV-040-0120-1-2012	9,106	Y	Y	Y	Y	Y	N
III	Caliente	NV-040-0121-3-2012	41,962	Y	Y	Y	Y	Y	N
III	Caliente	NV-040-0122-2-2012	19,870	Y	Y	Y	Y	N	N
III	Caliente	NV-040-0136-1-2011	12,921	Y	Y	Y	N	Y	N
III	Caliente	NV-040-0136-2a-2012	79,032	Y	Y	Y	Y	Y	N
III	Caliente	NV-040-0143-2012	25,778	Y	Y	Y	Y	Y	N
III	Caliente	NV-040-0144-2012	57,999	Y	Y	Y	Y	Y	N
III	Caliente	NV-040-0155-2011	45,786	Y	Y	Y	N	Y	N
III	Caliente	NV-040-0177-1-2012	2,522	Y	Y	Y	Y	N	N
III	Caliente	NV-040-0177-2-2012	6,058	Y	Y	Y	Y	N	N
III	Caliente	NV-040-0180-1-2011	35,519	Y	Y	Y	N	Y	N

* LWC units in the Little Snake, White River, and Fillmore FOs are actively undergoing inventory; however, preliminary inventory information has been used in this analysis.

The relocated Southern Terminal Siting Area would comprise 113 acres and would be located on BLM lands directly adjacent to the IPP in Millard County, Utah. Development of a ground electrode siting area would comprise 40 acres and would be located on BLM and State lands in Juab County. The ground electrode siting area and transmission connection associated with Design Option 2 includes 2,685 acres of LWC Unit 208 in the BLM Fillmore FO if development were to occur within the LWC unit boundaries. Portions of Unit 208 would be eliminated from the unit; however, the remaining portions of the unit would continue to meet the wilderness criteria. Other effects to LWCs from Design Option 2 would be the same as described under the transmission line alternatives since the additional components would be located with the transmission line footprint analyzed.

Design Option 3 – Phased Build Out

The design option involves modifications of proposed transmission facilities that would apply to all alternatives. Development of a substation would comprise 75 acres and would be located completely on BLM lands directly adjacent to the IPP within Millard County. The land that would be used for the substation is the same as that would be used for the Southern Terminal Siting Area under Design Option 2. Effects to LWCs from Design Option 3 would be the same as described under the transmission line alternatives since the additional components would be located with the transmission line footprint analyzed. Timing of impacts to LWCs as described under the proposed Project would vary due to construction schedule differences.

3.20.6.2 Impacts Common to All Alternative Routes and Associated Facilities

Inventory units that are determined to meet criteria for LWC could be intersected or include built portions of the proposed Project and, as a result, some remaining portions may no longer meet the criteria for size requirements (greater than 5,000 acres), naturalness, or solitude.

Since Section 201 of FLPMA indicates that the preparation and maintenance of the inventory shall not, itself, change or prevent change of the management or use of public lands, impacts are documented where they would occur to update the inventory and inform decision-making.

3.20.6.3 Region I

Affected LWC units within Region I crossed by proposed transmission route reference lines are listed in **Table 3.20-2**. As additional access roads and facilities are sited within the 2-mile transmission line corridor, additional impacts to LWC units could occur and eliminate portions or the entirety of the unit from meeting LWC criteria.

Table 3.20-2 Impacts to Lands with Wilderness Characteristics in Region I

Alternative	Field Office	Unit ID/Name	Unit Size (Acres)	Units Resulting From Intersection					Remaining Units Meeting LWC Criteria
				Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	
I-A	Little Snake	353	6,323	6,283	40	--	--	--	1
I-A	Little Snake	351	9,762	9,753	9	--	--	--	1
I-A	Little Snake	364	6,923	5,986	936	--	--	--	1
I-A	Little Snake	409	6,343	5,845	498	--	--	--	1
I-A	Little Snake	290	7,591	6,287	1,304	--	--	--	1
I-A	Little Snake	118	5,356	4,912	444	--	--	--	0
I-A	Little Snake	318	6,373	5,790	583	--	--	--	1
I-A	White River	25	9,567	6,244	3,323	--	--	--	1
I-B	Little Snake	353	6,323	5,882	441	--	--	--	1
I-B	Little Snake	406	11,485	10,885	600	--	--	--	1
I-B	Little Snake	407	10,970	8,883	2,067	19	--	--	1

Table 3.20-2 Impacts to Lands with Wilderness Characteristics in Region I

Alternative	Field Office	Unit ID/Name	Unit Size (Acres)	Units Resulting From Intersection					Remaining Units Meeting LWC Criteria
				Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	
I-B	Little Snake	409	6,343	4,891	1,452	--	--	--	0
I-B	Little Snake	290	7,591	6,287	1,304	--	--	--	1
I-B	Little Snake	318	6,373	5,927	446	--	--	--	1
I-B	Little Snake	118	5,356	4,751	605	--	--	--	0
I-B	Rawlins	Rotten Springs	6,105	6,094	11	--	--	--	1
I-B	White River	25	9,567	6,244	3,323	--	--	--	1
I-C	Little Snake	509	14,521	14,168	353	--	--	--	1
I-C	White River	25	9,567	6,244	3,323	--	--	--	1
I-D	Little Snake	353	6,323	5,882	441	--	--	--	1
I-D	Little Snake	406	11,485	10,885	600	--	--	--	1
I-D	Little Snake	407	10,970	8,883	2,067	19	--	--	1
I-D	Little Snake	409	6,343	4,891	1,452	--	--	--	0
I-D	Little Snake	290	7,591	6,287	1,304	--	--	--	1
I-D	Little Snake	318	6,373	5,927	446	--	--	--	1
I-D	Little Snake	118	5,356	4,751	605	--	--	--	0
I-D	White River	25	9,567	6,244	3,323	--	--	--	1
LS-West Electrode Bed, I-A	Little Snake	353	6,323	6,223	40	32	28	--	1
LS-West Electrode Bed, I-A	Little Snake	406	11,485	8,666	2,224	595	--	--	1
LS-West Electrode Bed, I-A	Little Snake	118	5,356	4,490	444	326	90	7	0
LS-West Electrode Bed, I-B and I-D	Little Snake	118	5,356	4,751	597	8	--	--	0
LS-West Electrode Bed, I-B and I-D	Little Snake	353	6,323	5,882	409	32	--	--	1
LS-West Electrode Bed, I-B and I-D	Little Snake	406	11,485	8,066	2,224	600	595	--	1

Alternative I-A (Applicant Proposed)

Alternative I-A would affect 8 LWC units and would eliminate one unit (Little Snake Unit 118 totaling 5,356 acres) from meeting the LWC criteria. Of the affected units, there would be 7 units remaining totaling 46,188 acres that would continue to meet the LWC criteria, but 7 portions totaling 6,693 acres would be eliminated. Since the 7 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative I-B

Alternative I-B would affect 9 LWC units and would eliminate 2 units (Little Snake Unit 409 totaling 6,343 acres and Little Snake Unit 118 totaling 5,356 acres) from meeting the LWC criteria. Of the affected units, there would be 7 areas remaining totaling 50,202 acres that would continue to meet the LWC criteria and 8 portions of the units totaling 8,211 acres that would be eliminated. Since the 7 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative I-C

Alternative I-C would affect 2 LWC units and would not eliminate any units from meeting the LWC criteria. Of the affected units, there would be 2 areas remaining totaling 20,412 acres that would continue to meet the LWC criteria and 2 portions of the units totaling 3,676 acres that would be eliminated. Since the

2 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative I-D (Agency Preferred)

Alternative I-D would affect 8 LWC units and eliminate 2 units (Little Snake Unit 409 totaling 6,343 acres and Little Snake Unit 118 totaling 5,356 acres) from meeting LWC criteria. Of the affected units, there would be 6 areas remaining totaling 44,108 acres that would continue to meet the LWC criteria and 7 portions of the units totaling 8,200 acres that would be eliminated. Since the 6 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

There are no LWC units near the Tuttle Easement micro-siting options; therefore, impacts would be the same as described for Alternative I-D.

Alternative Ground Electrode Systems in Region I

The conceptual location for the Little Snake West electrode bed and associated transmission connection would affect three LWC units (118, 353, and 406). The electrode bed siting area is located within Unit 406 and all affected units would be crossed by the associated transmission connection.

With connection of the Little Snake West electrode bed to Alternative I-A, all of Unit 118 (totaling 5,356 acres) as well as portions of Units 353 and 406 (totaling 2,919 acres) would be eliminated. Since the remaining portions of Unit 353 (6,323 acres) and Unit 406 (8,666 acres) would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

With connection of the Little Snake West electrode bed to Alternatives I-B and I-D, all of Unit 118 (totaling 5,356 acres) as well as portions of Units 353 and 406 (totaling 3,860 acres) would be eliminated. Since the remaining portions of Unit 353 (5,882 acres) and Unit 406 (8,066 acres) would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Region I Conclusion

Alternative I-B would affect the most LWC units (8) while Alternative I-C would affect the least (2). Alternatives I-A, I-B, and I-D would eliminate Little Snake Unit 118, while Alternatives I-B and I-D also would eliminate Little Snake Unit 409.

3.20.6.4 Region II

Affected LWC units within Region II crossed by proposed transmission route reference lines are listed in **Table 3.20-3**. As additional access roads and facilities are sited within the 2-mile transmission line corridor, additional impacts to LWC units could occur and eliminate portions or the entirety of the unit from meeting LWC criteria.

Table 3.20-3 Impacts to Lands with Wilderness Characteristics in Region II

Alternative	Field Office	Unit ID/Name	Unit Size (Acres)	Units Resulting From Intersection							Remaining Units Meeting LWC Criteria
				Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	
II-A	Fillmore	208	27,236	16,555	10,682	--	--	--	--	--	2
II-A	White River	22	13,049	12,726	321	2	--	--	--	--	1

Table 3.20-3 Impacts to Lands with Wilderness Characteristics in Region II

Alternative	Field Office	Unit ID/Name	Unit Size (Acres)	Units Resulting From Intersection							Remaining Units Meeting LWC Criteria
				Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	
II-B	Fillmore	203	10,219	9,832	364	23	--	--	--	--	1
II-B	Fillmore	208	27,236	16,674	10,520	42	--	--	--	--	2
II-B	Moab	Floy Canyon	9,983	8,994	786	203	--	--	--	--	1
II-B	Moab	Harley Dome	5,304	4,941	207	156	--	--	--	--	0
II-B	Price	Never Sweat Wash	29,162	29,113	49	--	--	--	--	--	1
II-B	Price	Price River	89,059	88,798	148	113	--	--	--	--	1
II-B	White River	21	9,021	8,579	356	87	--	--	--	--	1
II-B	White River	7	8,370	7,699	548	123	--	--	--	--	1
II-C	Fillmore	197	13,517	9,140	4,377	--	--	--	--	--	1
II-C	Fillmore	208	27,236	16,674	10,520	42	--	--	--	--	2
II-C	Moab	Floy Canyon	9,983	8,994	786	203	--	--	--	--	1
II-C	Moab	Harley Dome	5,304	4,941	207	156	--	--	--	--	0
II-C	Price	Lost Springs Wash	32,104	31,992	112	--	--	--	--	--	1
II-C	Price	Never Sweat Wash	29,162	28,245	736	181	--	--	--	--	1
II-C	White River	21	9,021	8,579	356	87	--	--	--	--	1
II-C	White River	7	8,370	7,699	584	123	--	--	--	--	1
II-D	Fillmore	208	27,236	16,555	10,682	--	--	--	--	--	2
II-D	Vernal	Currant Canyon	14,434	14,262	173	--	--	--	--	--	1
II-D	Vernal	Desolation Canyon-2	170,606	170,224	328	13	9	7	2	2	1
II-D	White River	22	13,049	12,726	321	2	--	--	--	--	1
II-E	Fillmore	208	27,236	16,555	10,682	--	--	--	--	--	2
II-E	White River	22	13,049	12,726	321	2	--	--	--	--	1
II-F	Fillmore	203	10,219	9,832	364	23	--	--	--	--	1
II-F	Fillmore	208	27,236	16,674	10,520	42	--	--	--	--	2
II-F	Vernal	Currant Canyon	14,434	14,262	173	--	--	--	--	--	1
II-F	Vernal	Desolation Canyon	170,606	170,244	328	13	9	7	2	2	1
II-F	White River	22	13,049	12,726	321	2	--	--	--	--	1
Lynndyl Alt Con	Fillmore	203	10,219	10,157	62	--	--	--	--	--	1

Alternative II-A (Applicant Proposed)

Alternative II-A would affect 2 LWC units and would not eliminate any units from meeting the LWC criteria. Of the affected units, there would be 3 areas remaining totaling 39,962 acres that would continue to meet the LWC criteria and 2 portions of the units totaling 323 acres that would be eliminated. Since the 3 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

There are no LWC units near the Strawberry IRA micro-siting options; therefore, impacts would be same as described for Alternative II-A.

Alternative II-B

Alternative II-B would affect 8 LWC units and would eliminate 1 unit (Harley Dome in Moab totaling 5,304 acres) from meeting the LWC criteria. Of the affected units, there would be 8 areas remaining totaling 180,209 acres that would continue to meet the LWC criteria and 12 portions of the units totaling 2,841 acres that would be eliminated. Since the 8 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative II-C

Alternative II-C would affect 8 LWC units and would eliminate 1 unit (Harley Dome in Moab totaling 5,304 acres) from meeting the LWC criteria. Of the affected units, there would be 8 areas remaining totaling 121,843 acres that would continue to meet the LWC criteria and 11 portions of the units totaling 7,550 acres that would be eliminated. Since the 8 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative II-D

Alternative II-D would affect 4 LWC units and would not eliminate any units from meeting the LWC criteria. Of the affected units, there would be 5 areas remaining totaling 224,448 acres that would continue to meet the LWC criteria and 9 portions of the units totaling 857 acres that would be eliminated. Since the 5 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative II-E

Alternative II-E would affect 2 LWC units and would not eliminate any units from meeting the LWC criteria. Of the affected units, there would be 3 areas remaining totaling 39,962 acres that would continue to meet the LWC criteria and 2 portions of the units totaling 323 acres that would be eliminated. Since the 3 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative II-F (Agency Preferred)

Alternative II-F would affect 5 LWC units and would not eliminate any units from meeting the LWC criteria. Of the affected units, there would be 6 areas remaining totaling 234,258 acres that would continue to meet the LWC criteria and 12 portions of units totaling 1,286 acres that would be eliminated. Since the 6 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

There are no LWC units near the Cedar Knoll IRA micro-siting options; therefore, impacts would be the same as described for Alternative II-F.

Alternative Variation in Region II

Emma Park Alternative Variation

There are no LWC units in the vicinity of this alternative variation; therefore, no impacts to LWCs would be anticipated with this alternative variation.

Alternative Connectors in Region II

The Lynndyl Alternative Connector would affect one LWC unit (Fillmore Unit 203). Approximately 62 acres would be eliminated from the unit, but the remaining 10,157 acres would continue to meet the LWC criteria.

Since the remaining unit would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

There are no LWC units in the vicinity of the Highway 191 Alternative Connector; therefore, no impacts to LWCs would be anticipated with this alternative connector.

Region II Conclusion

Alternatives II-B and II-C would affect the most LWC units (8) and Alternatives II-A and II-E would affect the least (2). Alternatives II-B and II-C would both eliminate one LWC unit (Harley Dome in Moab).

3.20.6.5 Region III

Affected LWC units within Region III crossed by proposed transmission route reference lines are listed in **Table 3.20-4**. As additional access roads and facilities are sited within the 2-mile transmission line corridor, additional impacts to LWC units could occur and eliminate portions or the entirety of the unit from meeting LWC criteria.

Table 3.20-4 Impacts to Lands with Wilderness Characteristics in Region III

Alternative	Field Office	Unit ID/Name	Unit Size (Acres)	Units Resulting From Intersection						Remaining Units Meeting LWC Criteria
				Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	
III-A	Fillmore	156	27,421	26,953	468	--	--	--	--	1
III-A	Fillmore	208	27,236	16,674	10,520	42	--	--	--	2
III-B	Caliente	0120-1-2012	9,108	4,878	4,229	--	--	--	--	0
III-B	Caliente	0121-3-2012	44,231	42,174	1,796	261	--	--	--	1
III-B	Caliente	0144-2012	58,024	39,547	18,254	206	8	7	3	2
III-B	Caliente	0180-1-2011	35,536	33,808	1,395	215	59	58	1	1
III-B	Fillmore	156	27,421	26,953	468	--	--	--	--	1
III-B	Fillmore	208	27,236	16,674	10,520	42	--	--	--	2
III-C	Caliente	0120-1-2012	9,108	8,994	114	--	--	--	--	1
III-C	Caliente	0121-3-2012	44,231	36,346	7,886	--	--	--	--	2
III-C	Caliente	0122-2-2012	19,883	18,376	1,387	121	--	--	--	1
III-C	Caliente	0155-2011	45,894	45,875	13	6	--	--	--	1
III-C	Caliente	0177-1-2012	2,528	2,337	185	6	--	--	--	1
III-C	Caliente	0177-2-2012	6,072	5,555	462	54	--	--	--	1
III-C	Fillmore	156	27,421	22,196	5,158	67	--	--	--	2
III-C	Fillmore	181	58,282	57,375	908	--	--	--	--	1
III-C	Fillmore	208	27,236	16,674	10,520	42	--	--	--	2

Alternative III-A (Applicant Proposed)

Alternative III-A would affect 2 LWC units and would not eliminate any units from meeting the LWC criteria. Of the affected units, there would be 3 areas remaining totaling 54,147 acres that would continue to meet the LWC criteria and 2 portions of units totaling 510 acres that would be eliminated. Since the 3 remaining

units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative III-B (Agency Preferred)

Alternative III-B would affect 6 LWC units and eliminate 1 unit (Caliente Unit 0120-1-2012) totaling 9,108 acres from meeting the LWC criteria. Of the affected units, there would be 7 areas remaining totaling 187,931 acres that would continue to meet the LWC criteria and 13 portions of the units totaling 4,518 acres that would be eliminated. Since the 7 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative III-C

Alternative III-C would affect 9 LWC units and would not eliminate any units from meeting the LWC criteria. Of the affected units, there would be 12 areas remaining totaling 237,291 acres that would continue to meet the LWC criteria and 12 portions of the units totaling 3,364 acres that would be eliminated. Since the 12 remaining units would be larger than 5,000 acres, it is possible that the LWC criteria for solitude and naturalness would continue to be met in the remaining portions.

Alternative Variations in Region III

There are no LWC units affected by alternative variations in this region.

Alternative Connector in Region III

There are no LWC units affected by alternative connectors in this region.

Alternative Ground Electrode Systems in Region III

There are no LWC units affected by ground electrode beds in this region.

Region III Conclusion

Alternative III-C would affect the most LWC units (9) and Alternative III-A would affect the least. Alternative III-B would eliminate one LWC unit (Caliente Unit 0120-1-2012).

3.20.6.6 Region IV

There are no inventory units that potentially meet LWC criteria within Region IV crossed by proposed or alternative transmission route reference lines.

Alternative Connectors in Region IV

There are no LWC units affected by the alternative connectors in this region.

3.20.6.7 Impacts to LWC from the No Action Alternative

Under the No Action Alternative, the Proposed Project would not be developed. There would be no impacts to LWC units beyond existing conditions and trends.

3.20.6.8 Residual Effects

Since there is no mitigation proposed for impacts to LWC units, residual effects would be the same as the impacts discussed under the action alternatives. Inventory units that are determined to meet criteria for LWC could be intersected or include built portions of the proposed Project and, as a result, some remaining portions may no longer meet the criteria for size requirements (greater than 5,000 acres), naturalness, or solitude.

3.20.6.9 Irreversible and Irretrievable Commitments of Resources

All operation impacts to the wilderness characteristics of LWC units would be irretrievable until transmission line decommissioning, after which time the wilderness characteristics of LWC units would be reclaimed. However, reclamation activities may have limited success in areas with poor soils, some vegetation communities would take years to reestablish, and some areas may never return to their former vegetation cover and composition. As such, these impacts may represent an irreversible commitment of naturalness in LWC units.

3.20.6.10 Relationship Between Local Short-term Uses and Long-term Productivity

Implementation of the Project would result in the use of some LWC units as ROW corridors. Long-term productivity of the LWC units would be largely unaffected except for areas where reclamation may have limited success.

4.0 Federal Agency Land Use Plan Amendments

This chapter discusses federal agency land use plan amendments associated with the TWE project alternatives proposed in Chapter 2.0 and residual impacts from the project-specific impact analysis in Chapter 3.0.

The approximately 725-mile TWE transmission line between Rawlins, Wyoming, and Las Vegas, Nevada, crosses four states, including public lands administered by 14 BLM FOs and 5 national forests. In areas where mitigation or avoidance could not be applied as determined through the project-specific impact analysis discussed in Chapter 3.0, some aspects of the TWE project would not conform to portions of the administering federal agency's land use plan. In addition, because of the large-scale nature of the TWE project and other RFFAs for transmission projects proposed in similar areas, administering agencies have determined that plan amendments to establish new utility corridors should be evaluated to inform lead agency decision-making.

Both the BLM and USFS land use planning regulations (43 CFR 1610.5 and 36 CFR 219.10) require that site-specific decisions, including authorized uses of land, be consistent with the applicable plan. If a proposed site-specific decision is not consistent with the applicable plan, the responsible official may modify the proposed decision to make it consistent with the plan, reject the proposal, or amend the plan to authorize the action. As a result, amendments of multiple USFS LRMPs and BLM RMPs may be necessary before the project could proceed, if approved. Plan amendments also may be needed for proposed or alternative routes that cross the Dinosaur National Monument or Lake Mead NRA and associated NPS decisions may involve a separate NEPA review.

The BLM and USFS plan amendments are subject to public review and procedures outlined in federal regulations (43 CFR 1610.2-4 and 36 CFR 219.9). Pursuant to these regulations, outreach activities (see Chapter 6.0) were conducted to gather public input on the project and proposed amendments, planning criteria were developed and circulated for use in evaluating the amendments, and an analysis of the plan amendments was incorporated into this EIS. The BLM plan amendment procedures also call for an extended 90-day public review period/objection period of plan amendments issued concurrently with project-specific EISs. The BLM's regulations in 43 CFR 1610 require a concurrent 30-day public protest period and 60-day Governor's Consistency Review of the plan amendments.

For the TWE Project, each potential situation of non-conformance by proposed and alternative routes is identified through a comparison to the respective land use plan. A plan amendment that would allow authorization of the proposed or alternative route is presented as the preferred plan amendment for that situation. Land use planning regulations require that the Draft EIS identify the "preferred alternative," or those plan amendments that best meet multiple use and sustained yield mandates of FLPMA and the NFMA. Plan amendments would only be implemented for any project routes that are finally authorized. The plan amendments are identified in the Draft EIS because proposed BLM land use plan decisions (i.e., plan amendments) are subject to a 90-day Draft EIS public comment period and may be protested or subject to an objection process during the Final EIS phase of the NEPA process, as opposed to implementation decisions (i.e., approving a ROW grant), which may have a 45-day Draft EIS public comment period and may be subject to appeal at the ROD phase of the NEPA process.

The following sections describe the proposed BLM and USFS plan amendments required under each alternative, followed by an analysis of the environmental impacts and planning implications associated with adoption of these amendments. A discussion of the federal agencies affected is provided in Section 1.4.2 in Chapter 1.0 and associated BLM and USFS plans are listed in **Table 1-3** (BLM plans) and **Table 1-4** (USFS plans). The project purpose and need, alternatives, affected environment, and

TWE project-specific impact analysis are discussed in the previous EIS chapters (1.0 through 3.0). Cumulative impacts are addressed in Chapter 5.0.

4.1 Land Use Plan Amendment Process

4.1.1 Bureau of Land Management Planning

The BLM prepares RMPs for public lands and federal minerals in accordance with FLPMA and the regulations in 43 CFR 1600. The BLM Handbook H-1601-1 *Land Use Planning Handbook* provides specific guidance for preparing, amending, revising, maintaining, implementing, monitoring, and evaluating BLM land use plans. According to the BLM Land Use Planning Handbook (H-1601-1), “plan amendments (see 43 CFR 1610.5-5) change one or more of the terms, conditions, or decisions of an approved land use plan” and “are most often prompted by the need to: (1) Consider a proposal or action that does not conform to the plan.” The BLM’s land use planning regulations at 43 CFR 1610.5-5 state, “an amendment shall be initiated by the need to consider a Proposed Action that may result in a change in the scope of resources uses or a change in the terms, conditions, and decisions of the approved plan.” Plans needing amendment may be grouped geographically or by type of decision in the same amendment process. Similarly, one amendment process may amend the same or related decisions in more than one land use plan. The amendment process also may be used to update plans adopted from another agency (H-1601-1).

4.1.2 U.S. Forest Service Planning

The USFS prepares LRMPs in accordance with NFMA and the regulations in 36 CFR 219. The USFS direction for plan development, plan amendment, or plan revision is provided in the Forest Service Manual (FSM) 1920 *Land Management Planning* Section or Forest Service Handbook (FSH) 1909.12 *Land Management Planning Handbook* Chapter. The USFS land use planning regulations at 36 CFR 219.8 state, “a plan amendment may add, modify, or rescind one or more of the decisions of a plan (§219.7). An amendment decision must be based on the identification and consideration of issues (§219.4), applicable information (§219.5), and an analysis of the effects of the proposed amendment (§219.6). In developing an amendment, the responsible official must provide opportunities for collaboration consistent with §219.12 through §219.18.” The USFS recently revised their planning rule, which was published in the *Federal Register* on April 9, 2012, and includes a 60-day objection process (detailed in Subpart B of the final planning rule).

4.2 Planning Area Boundaries

Since the plan amendments needed to bring the proposed or alternative routes into conformance would be limited to the 2-mile transmission line corridor, the planning area boundaries are limited to this area (shown in **Figures 2-1** through **2-4** in Chapter 2.0).

4.3 Planning Issues and Criteria

The NOI to prepare an EIS and associated plan amendments for the TWE Project was published in the *Federal Register* on January 4, 2011, and initiated a 90-day public scoping period. The BLM and Western held 23 public scoping meetings at various locations in Wyoming, Colorado, Utah, and Nevada (see Section 1.7 and **Table 1-5** in Chapter 1.0 for a list of meetings). The planning issues identified in the NOI and through scoping are discussed in Section 4.3.1. General planning criteria were developed based on these issues in relation to areas of non-conformance and are included in Section 4.3.2.

4.3.1 Planning Issues

According to 43 CFR 1610.4-1, at the outset of the planning process, the public, other federal agencies, state and local governments, and Indian tribes shall be given an opportunity to suggest concerns, needs, and resource use, development, and protection opportunities for consideration in analyzing

project impacts and identifying potential plan amendments. The federal land manager, in collaboration with any cooperating agencies, analyzed those suggestions and other available data, such as records of resource conditions, trends, needs, problems, and select topics to determine the issues to be addressed during the planning process. Issues were modified during the planning process to incorporate new information. The identification of issues also complies with the scoping process required by regulations implementing NEPA (40 CFR 1501.7).

The following issues were identified by the BLM and USFS, other agencies, cooperators, and individuals in the January 2011 NOI:

- Socioeconomic impacts;
- Public health and safety;
- Plant and animal species (including special and sensitive status species, desert tortoise and sage-grouse);
- Cultural resources and historic sites;
- Visual intrusions;
- Lands with wilderness characteristics;
- National scenic and historic trails;
- Wild and scenic rivers; and,
- IRAs on national forests.

BLM and USFS invited the public, other federal agencies, and state, local, and Tribal governments to identify additional concerns or issues during scoping meetings and the public comment period that followed. The following nine key topics were identified through public scoping as discussed in Section 1.8:

- Corridor locations;
- Potential private and public land use conflicts;
- Impacts to fish, wildlife, vegetation, special status species, and habitat;
- Public health and safety;
- Impacts to areas with special management designations;
- Cumulative impacts;
- Socioeconomic impacts (property values and tax base);
- Concerns about wildlife mitigation; and
- Noxious weed control and reclamation.

4.3.2 Planning Criteria

Planning criteria guide development of the plan amendment by helping define the decision space (or the “sideboards” that define the scope of the planning effort); they are based upon applicable laws, Director and State Director guidance, and the results of public and governmental participation (43 CFR 1610.4-2). The planning criteria serve the following purposes:

- To ensure that the planning effort is focused on the issues, follows and incorporates legal requirements, addresses management of all land resources and land uses in the planning area, and that preparation is accomplished efficiently;
- To identify the scope and parameters of the planning effort for the decision-maker, the interdisciplinary team and the public; and
- Inform the public of what should and should not be expected from the plan amendment effort. This includes identification of any planning issues that are not ready for decision-making and that will be addressed only through subsequent activity or implementation planning efforts or in approving public land and resource use authorizations (e.g., processing applications for ROWs).

The following general planning criteria were developed for the proposed plan amendments to help focus the preparation of planning and management alternatives and the analysis of impacts and to guide selection of the preferred alternative.

- This planning effort will recognize valid existing rights.
- Actions must comply with laws, executive orders, regulations, and policy.
- Lands covered by the planning effort include any/all lands that may affect, or be affected by, the management occurring on lands in the planning area. However, the plan amendment will apply only to the BLM and USFS-administered lands in the planning area. Within the planning area, management decisions will not apply to non-public land surface or mineral estate, on public lands administered by other federal agencies, or the federal mineral estate underlying public lands administered by other federal agencies.
- A collaborative and multi-jurisdictional approach will be used, where possible, to jointly determine the desired future condition and management direction for the public lands.
- To the extent possible, and within legal and regulatory parameters, management and plan amendment decisions will be consistent with officially approved or adopted resource related plans, and the policies and programs contained therein, of other federal agencies, state and local governments and Indian tribes, so long as the guidance and resource management plans also are consistent with the purposes, policies and programs of federal laws and regulations applicable to federal lands, including federal and state pollution control laws as implemented by applicable federal and state air, water, noise, and other pollution standards or implementation plans.
- Planning and management direction will be focused on the relative values of resources and not the combination of uses that will give the greatest economic return or economic output.
- Where practicable and timely for the plan amendment, current scientific information, research, and new technologies will be considered.

- Existing endangered species recovery plans, including plans for reintroduction of endangered species and other species, will be considered. Consultation, coordination and cooperation with the USFWS will be in accordance with Interagency MOUs regarding Section 7 Consultation. Applicable biological opinions regarding areas within the planning area will be considered.
- Standard Mitigation Guidelines for surface disturbing and disruptive activities will be applied to the analysis and approval of subsequent activities.

The following planning criteria will be used to guide the selection of the plan amendment:

- Levels of land use restrictions or mitigation needed to protect resources and keep lands and resources available for public use;
- Manageability of plan amendment decisions with consideration of jurisdiction, management goals for other resources present, and resource uses in the planning area;
- The potential for the occurrence of mineral and energy resources;
- Consistency with the land use plans, programs, and policies of other federal agencies, state and local governments, and Indian tribes;
- The potential for sustaining the productivity and diversity of ecosystems while providing for human values, products, and services;
- Social and economic values;
- Existing law, regulations, and policy;
- Public welfare and safety; and
- Environmental impacts.

4.4 Proposed Land Use Plan Amendments

Affected federal land managers were contacted in May and June 2011 with follow-up discussions in March 2012 to gather data on whether plan amendments were needed when crossing their jurisdiction. Based on those discussions and conformance considerations resulting from the TWE project impact analysis in Chapter 3.0, areas of potential non-conformance were identified as follows:

- Areas with utility-corridor-only placement restrictions, corridors with underground only restrictions, ROW exclusion areas, or ROW avoidance areas with unavoidable resource conflicts;
- Areas crossing Special Designations or Management Areas (SD/MAs), such as NHTs, ACECs, natural areas, or WSRs, that have ROW corridor restrictions or unavoidable resource conflicts;
- Lack of compliance with resource objectives, stipulations, standards, and guidelines that cannot be avoided or mitigated, which could include areas that encroach on buffers to protect raptors, cultural resources, special status species, water sources, and areas that conflict with recreation or visual quality objectives; and,
- Agency-identified need to amend a plan to expand an existing utility corridor or create a new utility corridor because of the large-scale nature of the TWE project and other RFFA transmission projects proposed in similar areas.

Table 4-1 describes the type of non-conformance issue in each affected jurisdiction per alternative that necessitates a plan amendment for the various BLM FOs and national forests. **Table 4-1** also lists routing issues that were considered, but did not require a plan amendment. Maps depicting with the required plan amendments are included in **Figures 4-1** through **4-19**.

In general, the federal land managers designate utility corridors with the objectives of providing space for infrastructure projects, while minimizing the proliferation of dispersed ROWs across federal lands and the associated environmental impacts. Designation of utility corridors in a land use plan indicates the preferred location for linear ROWs (such as those needed for transmission lines, pipelines and other infrastructure projects) in a particular resource area. Most utility corridors are designated based on the best information available from utilities and government agencies at the time of the plan revision. Many utility corridors have been designated based on the location and type of existing facilities present. However, some of the corridors were never used due to changes in the economy or a variety of other reasons. Other projects were approved outside of designated corridors. Thus, while utility corridors reflect the agency's best efforts to predict future needs, they do occasionally need to be re-evaluated and updated.

Designation of a utility corridor does not mean that future ROWs are necessarily restricted to corridors, nor is it a commitment by the federal land manager to approve all ROW applications within corridors. If the TWE Project and plan amendments are approved, subsequent projects seeking to locate in existing or newly created utility corridors would still be required to undergo additional environmental review pursuant to NEPA. The average number of transmission lines that are placed together in the same corridor is usually two to four lines. However, the corridor could contain other linear facilities, such as pipelines or fiber-optic cables. The ultimate capacity of the corridor for additional facilities would be determined by the federal land manager through review of future NEPA documents, as well as ongoing land use monitoring and management activities.

While the amendments for new utility corridors designate a corridor centered on the TWE reference lines, the width of the corridor may be narrowed or widened in places at the federal land manager's discretion in the future. This may be necessary and appropriate, for example, as a way to avoid disturbing sensitive resources in a particular area. The designated width is considered a general guideline; however, the federal land manager can require proposed utilities to reduce spacing to the extent feasible or avoid sensitive resources within a corridor. This flexibility is desirable as it allows the federal land manager to locate future ROWs and facilities to avoid sensitive resources or other developments.

A description of the non-conformance issues and whether a plan amendment would be needed are described in the following sections.

Table 4-1 Federal Agency Land Use Plan Amendment Considerations and Recommendations¹

Agency	Office	State	Affected Management Plans	Alternatives Requiring Amendment	Non-conformance Issue	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative Connector	Alternative Variation
BLM	Rawlins FO	Wyoming	ROD and Approved Rawlins RMP (Dec 2008)	A, B, C, D, and Connectors (Mexican Flats, Baggs, Fivemile Point N & S)	Utility Corridor Restriction ² / ROW Exclusion Area	--	X	--	--	N/A	N/A	--	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-raptors, cultural, visual ⁵	X-raptors, cultural, visual ⁵	X-raptors, cultural, water, visual ⁵	X-raptors, cultural, visual ⁵	N/A	N/A	X-raptors, cultural, water, visual ⁵	N/A
					Amendments to Accommodate RFFA Projects	X	X	X	X	N/A	N/A	X	N/A
BLM	Little Snake FO	Colorado	Little Snake ROD and Approved RMP (Oct 2011)	A, B, D	Utility Corridor Restriction ² / ROW Exclusion Area	--	--	--	--	N/A	N/A	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-raptors, SSS wildlife, water, visual ⁵	X-raptors, SSS wildlife, visual ⁵	X-raptors, SSS wildlife, water, visual ⁵	X-raptors, SSS wildlife, visual ⁵	N/A	N/A	N/A	N/A
					Amendments to Accommodate RFFA Projects	X	X	--	X	N/A	N/A	N/A	N/A
BLM	White River FO	Colorado	White River ROD and Approved RMP (Jul 1997)	B, C	Utility Corridor Restriction ² / ROW Exclusion Area	--	X	X	--	--	--	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-raptors	X-visual ^{4,5} , SSS wildlife, raptors	X-visual ^{4,5} , SSS wildlife, raptors	X-raptors	X-raptors	X-raptors	N/A	N/A
					Amendments to Accommodate RFFA Projects	--	X	X	--	--	--	N/A	N/A

Table 4-1 Federal Agency Land Use Plan Amendment Considerations and Recommendations¹

Agency	Office	State	Affected Management Plans	Alternatives Requiring Amendment	Non-conformance Issue	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative Connector	Alternative Variation
BLM	Grand Junction FO	Colorado	Grand Junction Resource Area RMP and ROD (Jan 1987)	None ⁶	Utility Corridor Restriction ² / ROW Exclusion Area	N/A	--	--	N/A	N/A	N/A	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	N/A	X-SMAs, wildlife, visual ⁵	X-SMAs, wildlife, visual ⁵	N/A	N/A	N/A	N/A	N/A
					Amendments to Accommodate RFFA Projects	N/A	--	--	N/A	N/A	N/A	N/A	N/A
BLM	Vernal FO	Utah	Vernal FO ROD and Approved RMP (Oct 2008)	A, B, C, D, E, F	Utility Corridor Restriction ² / ROW Exclusion Area	X	X	X	X	X	X	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-SSS wildlife, water, visual ⁵	X-SSS wildlife, water	X-SSS wildlife, water	X-SSS wildlife, water, SMAs, visual ⁵	X-SSS wildlife, water, visual ⁵	X-SSS wildlife, water, SMAs, visual ⁵	N/A	N/A
					Amendments to Accommodate RFFA Projects	--	--	--	--	--	--	N/A	N/A
BLM	Moab FO	Utah	Moab FO ROD and Approved RMP (Oct 2008)	None	Utility Corridor Restriction ² / ROW Exclusion Area	N/A	--	--	N/A	N/A	N/A	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	N/A	X-cultural, minerals, SSS wildlife, water, visual ⁵	X-cultural, minerals, SSS wildlife, water, visual ⁵	N/A	N/A	N/A	N/A	N/A
					Amendments to Accommodate RFFA Projects	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 4-1 Federal Agency Land Use Plan Amendment Considerations and Recommendations¹

Agency	Office	State	Affected Management Plans	Alternatives Requiring Amendment	Non-conformance Issue	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative Connector	Alternative Variation
BLM	Price FO	Utah	Price FO ROD and Approved RMP (Oct 2008)	B, C	Utility Corridor Restriction ² / ROW Exclusion Area	N/A	X	X	--	N/A	N/A	--	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	N/A	X-cultural, water, SSS wildlife	X-SMAs, cultural, water, SSS wildlife, visual ⁵	X-water	N/A	N/A	X-water	X-water
					Amendments to Accommodate RFFA Projects	N/A	X	X	--	N/A	N/A	--	--
BLM	Salt Lake FO	Utah	ROD for the Pony Express RMP and Rangeland Program Summary for Utah County (Jan 1990)	F, Emma Park Alternative Variation	Utility Corridor Restriction ² / ROW Exclusion Area	--	N/A	N/A	N/A	--	X	N/A	X
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	--	N/A	N/A	N/A	--	--	N/A	--
					Amendments to Accommodate RFFA Projects	--	N/A	N/A	N/A	--	X	N/A	X
BLM	Richfield FO	Utah	Richfield ROD and Approved RMP (Oct 2008)	None ⁶	Utility Corridor Restriction ² / ROW Exclusion Area	--	--	--	--	--	--	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	--	X-water	X-water	X-water	--	--	N/A	N/A
					Amendments to Accommodate RFFA Projects	--	--	--	--	--	--	N/A	N/A

Table 4-1 Federal Agency Land Use Plan Amendment Considerations and Recommendations¹

Agency	Office	State	Affected Management Plans	Alternatives Requiring Amendment	Non-conformance Issue	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative Connector	Alternative Variation
BLM	Fillmore FO	Utah	Warm Springs Resource Area RMP and ROD (Apr 1987) House Range Resource Area RMP and ROD (Oct 1987)	None ⁶	Utility Corridor Restriction ² / ROW Exclusion Area	--	--	--	--	--	--	--	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-visual ⁵	--	--	X-visual ⁵	X-visual ⁵	X-visual ⁵	--	N/A
					Amendments to Accommodate RFFA Projects	--	--	--	--	--	--	--	N/A
BLM	Cedar City FO	Utah	Pinyon Management Framework Plan (Jun 1983) Cedar Beaver Garfield Antimony ROD / RMP (Oct 1986)	None ⁶	Utility Corridor Restriction ² / ROW Exclusion Area	--	--	--	N/A	N/A	N/A	--	--
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	--	X-visual ⁵	X-visual ⁵	N/A	N/A	N/A	--	--
					Amendments to Accommodate RFFA Projects	--	--	--	N/A	N/A	N/A	--	--
BLM	St. George FO	Utah	Saint George FO ROD and RMP (Mar 1999)	None ⁶	Utility Corridor Restriction ² / ROW Exclusion Area	--	N/A	N/A	N/A	N/A	N/A	N/A	--
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-SSS wildlife	N/A	N/A	N/A	N/A	N/A	N/A	--
					Amendments to Accommodate RFFA Projects	--	N/A	N/A	N/A	N/A	N/A	N/A	--

Table 4-1 Federal Agency Land Use Plan Amendment Considerations and Recommendations¹

Agency	Office	State	Affected Management Plans	Alternatives Requiring Amendment	Non-conformance Issue	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative Connector	Alternative Variation
BLM	Caliente FO	Nevada	Ely District Approved RMP (Aug 2008)	C	Utility Corridor Restriction ² / ROW Exclusion Area	--	--	X	N/A	N/A	N/A	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-visual ⁵	X-visual ⁵	X-visual ⁵	N/A	N/A	N/A	N/A	N/A
					Amendments to Accommodate RFFA Projects	--	--	--	N/A	N/A	N/A	N/A	N/A
BLM	Las Vegas FO	Nevada	ROD for the Approved Las Vegas RMP and FEIS (Oct 1998)	A, Sunrise Connector	Utility Corridor Restriction ² / ROW Exclusion Area	X	--	--	N/A	N/A	N/A	--	X
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-SMAs, Water, visual ⁵	X-SMAs, Water, visual ⁵	X-visual ⁵	N/A	N/A	N/A	--	X-SMAs, visual ⁵
					Amendments to Accommodate RFFA Projects	--	--	--	N/A	N/A	N/A	--	--
USFS	Ashley National Forest	Utah	Ashley National Forest LRMP (Nov 1986)	None	Utility Corridor Restriction ² / ROW Exclusion Area	N/A	N/A	N/A	N/A	--	--	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	N/A	N/A	N/A	N/A	--	--	N/A	N/A
					Amendments to Accommodate RFFA Projects	N/A	N/A	N/A	N/A	--	--	N/A	N/A

Table 4-1 Federal Agency Land Use Plan Amendment Considerations and Recommendations¹

Agency	Office	State	Affected Management Plans	Alternatives Requiring Amendment	Non-conformance Issue	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative Connector	Alternative Variation
USFS	Uinta National Forest	Utah	LRMP Uinta National Forest (May 2003)	None ⁶	Utility Corridor Restriction ² / ROW Exclusion Area	--	N/A	N/A	N/A	--	--	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-riparian, visual ⁵	N/A	N/A	N/A	X-riparian, visual ⁵	X-riparian, visual ⁵	N/A	N/A
					Amendments to Accommodate RFFA Projects	--	N/A	N/A	N/A	--	--	N/A	N/A
USFS	Manti-La Sal National Forest	Utah	LRMP Manti-La Sal National Forest (Nov 1986)	None ⁶	Utility Corridor Restriction ² / ROW Exclusion Area	--	--	N/A	--	--	--	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X-visual ⁵	X-visual ⁵	N/A	X-visual ⁵	X-visual ⁵	X-visual ⁵	N/A	N/A
					Amendments to Accommodate RFFA Projects	--	--	N/A	--	--	--	N/A	N/A
USFS	Fishlake National Forest	Utah	Fishlake National Forest LRMP (Jun 1986)	C	Utility Corridor Restriction ² / ROW Exclusion Area	N/A	--	--	N/A	N/A	N/A	N/A	N/A
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	N/A	X-visual ⁵	X-visual ^{4,5}	N/A	N/A	X-visual	N/A	N/A
					Amendments to Accommodate RFFA Projects	N/A	--	X	N/A	N/A	N/A	N/A	N/A

Table 4-1 Federal Agency Land Use Plan Amendment Considerations and Recommendations¹

Agency	Office	State	Affected Management Plans	Alternatives Requiring Amendment	Non-conformance Issue	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative Connector	Alternative Variation
USFS	Dixie National Forest	Utah	LRMP for the Dixie National Forest (Sept 1986)	None ⁶	Utility Corridor Restriction ² / ROW Exclusion Area	--	N/A	N/A	N/A	N/A	N/A	N/A	--
					Lack of Compliance with Resource Objectives, Stipulations, Standards, Guidelines ³	X- recreation, visual ⁵	N/A	N/A	N/A	N/A	N/A	N/A	X- recreation, visual ⁵
					Amendments to Accommodate RFFA Projects	--	N/A	N/A	N/A	N/A	N/A	N/A	--

¹ Non-conformance issues identified require a plan amendment before the project could proceed, if approved.

² Non-conformance issues related to utility corridors was only identified for agency plans that have restrictions to locating ROWs within corridors or the designated corridor was identified for underground only utilities.

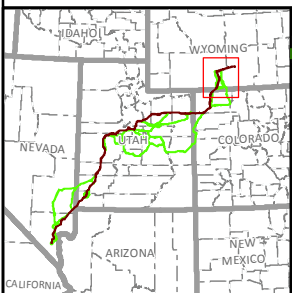
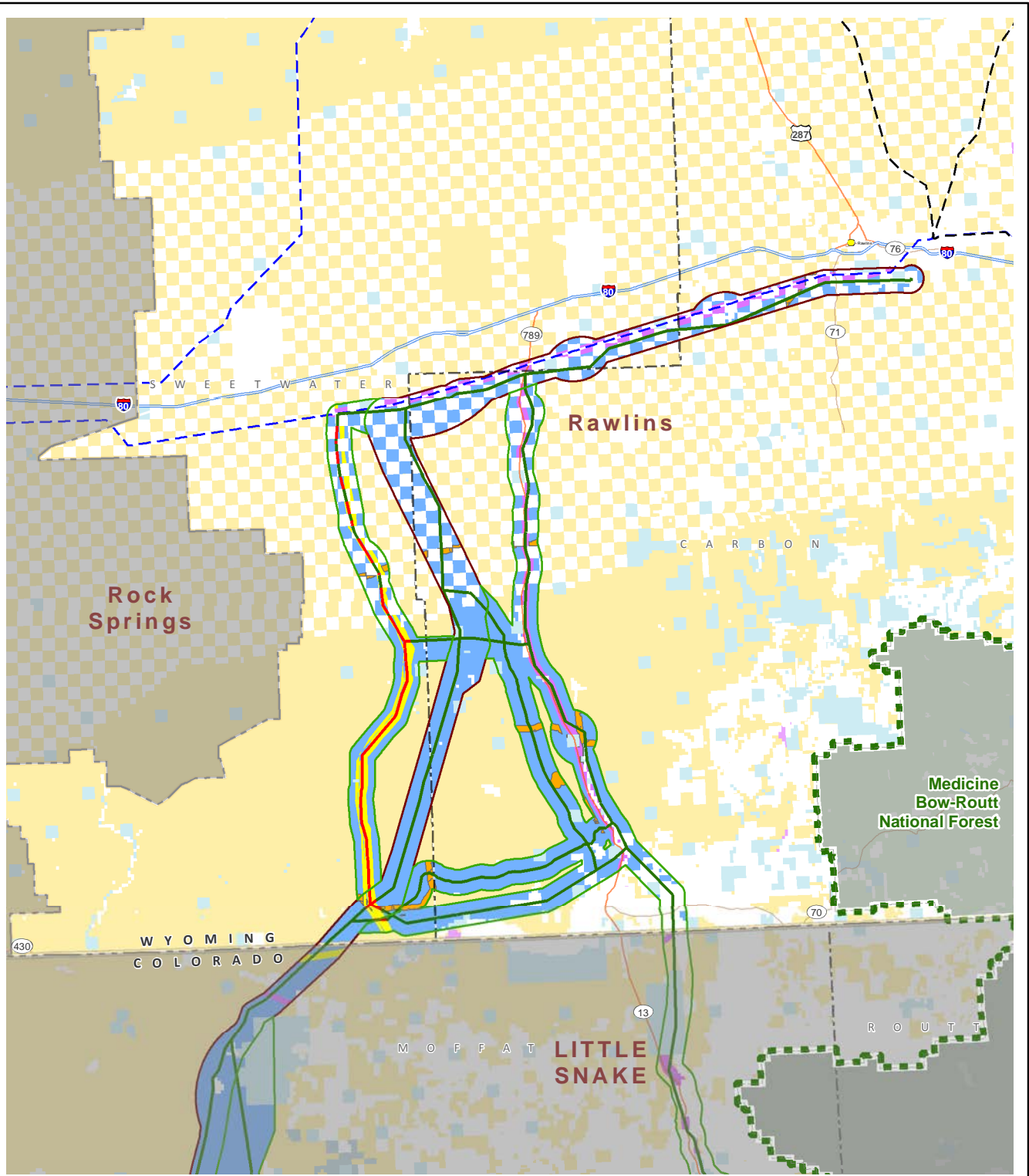
³ Resource conflicts were identified from affected management plans; however, these issues do not necessarily require a plan amendment as some issues allow exceptions in the current plan.

⁴ Non-conformance issues related to visual resources include all areas of VRM Class I and II, VQO Preservation and Retention, or SIO Very High and High.

⁵ Areas that would conflict with visual quality objectives were determined through the TWE impact analysis in Section 3.12; however, these areas are designated as VRM Class III, VQO Partial Retention, or SIO Moderate in the current management plan and do not necessarily restrict the proposed use in the current approved plan. Therefore, plan amendments for these conflicts are not necessarily required, but are mitigated as determined by federal land managers.

⁶ Through discussions with federal land managers and information considered, it was determined that a plan amendment was not necessary to address the conflicts identified. These resource conflicts could be addressed through other measures, including exceptions, as allowed through the current area plan.

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BLM Field Office	Compliant with Plan	Existing Transmission 230 to 287kV
USFS Boundary	Not Compliant with Plan	500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	500kV
ROW Avoidance	Existing Aboveground Corridor	345kV
VRM Classification	Existing Underground Only Corridor	138 to 161kV
VRM Class I		115kV
VRM Class II		Below 100kV
		Unknown Voltage

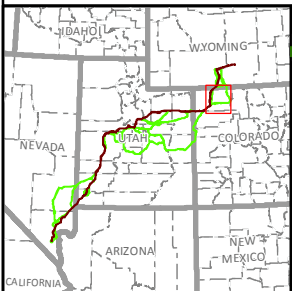
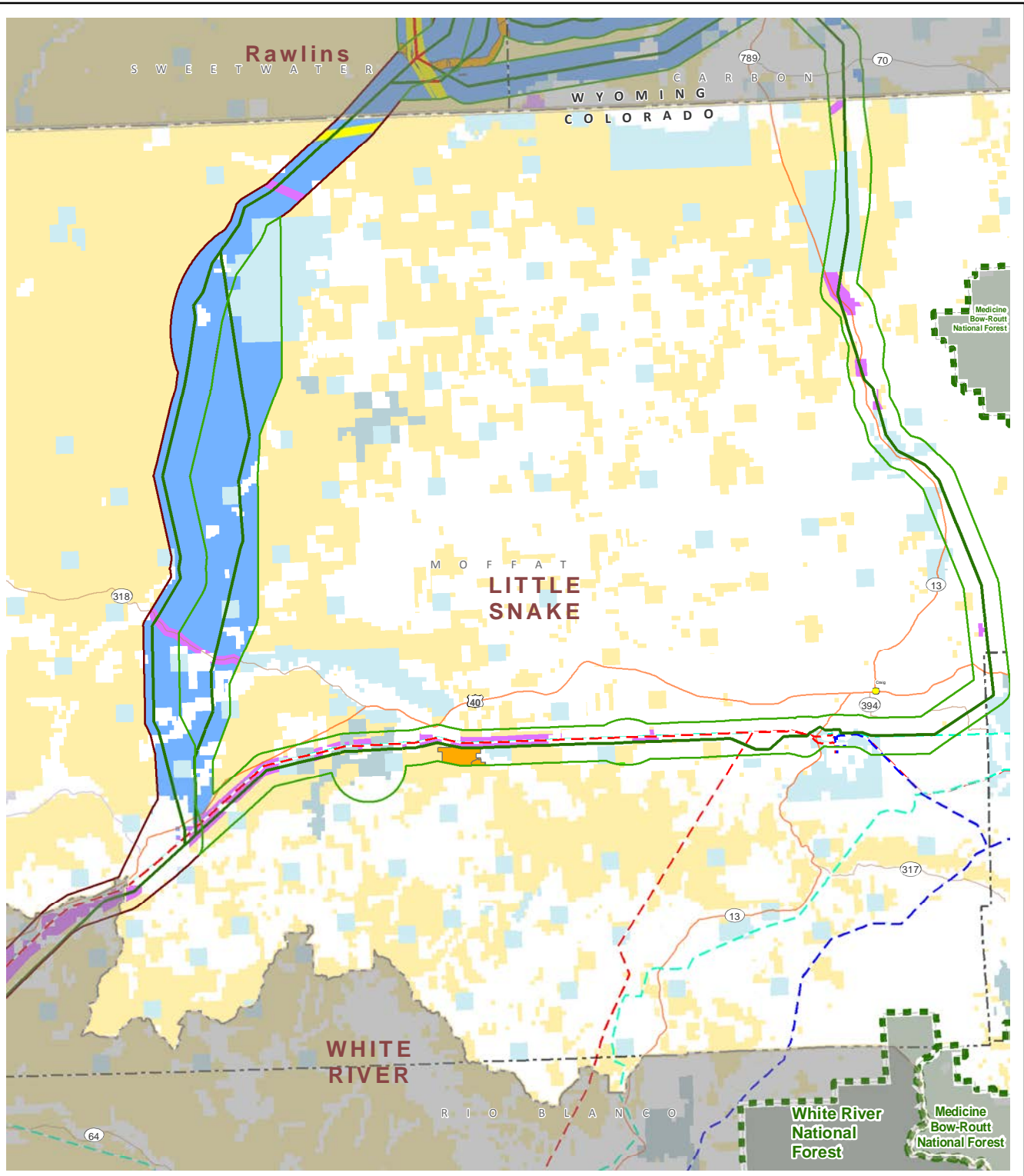
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-1
Plan Compliance
Rawlins Field Office

0 3.25 6.5 13 Miles
0 3.5 7 14 km

1:750,000

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<ul style="list-style-type: none"> BLM Field Office USFS Boundary ROW Exclusion ROW Avoidance VRM Classification VRM Class I VRM Class II 	<ul style="list-style-type: none"> Compliant with Plan Not Compliant with Plan Amend for Overhead Utilities Existing Aboveground Corridor Existing Underground Only Corridor 	Existing Transmission <ul style="list-style-type: none"> 230 to 287kV 500kV +/- DC 500kV 345kV 138 to 161kV 115kV Below 100kV Unknown Voltage
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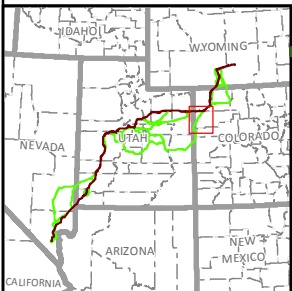
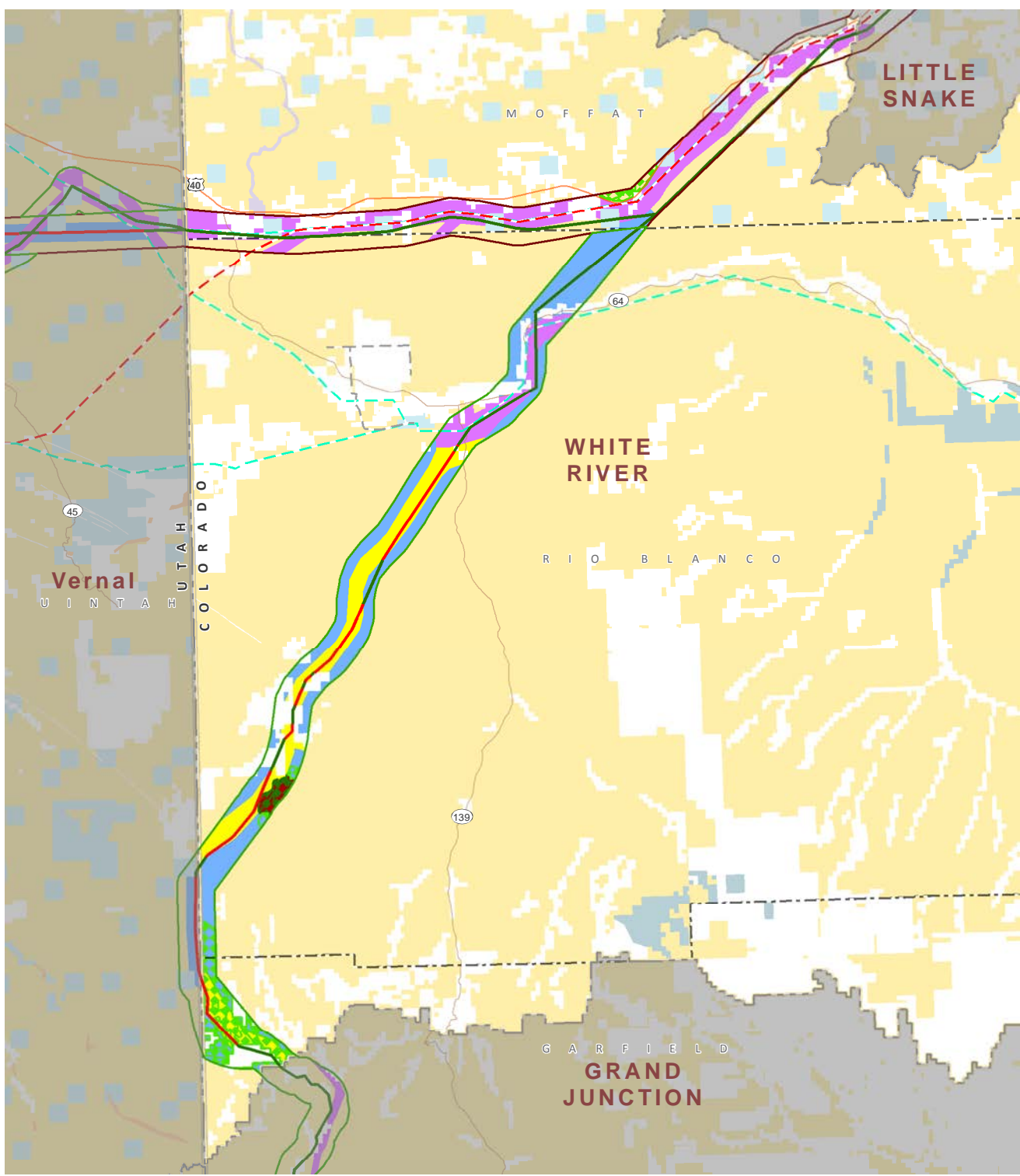
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-2
Plan Compliance
Little Snake Field Office

0 2.25 4.5 9 Miles
0 2.25 4.5 9 km

1:530,000

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<ul style="list-style-type: none"> BLM Field Office USFS Boundary ROW Exclusion ROW Avoidance VRM Classification VRM Class I VRM Class II 	<ul style="list-style-type: none"> Compliant with Plan Not Compliant with Plan Amend for Overhead Utilities Existing Aboveground Corridor Existing Underground Only Corridor 	Existing Transmission <ul style="list-style-type: none"> 230 to 287kV 500kV +/- DC 500kV 345kV 138 to 161kV 115kV Below 100kV Unknown Voltage
---	--	--

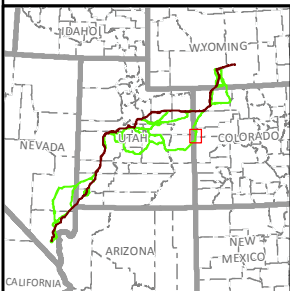
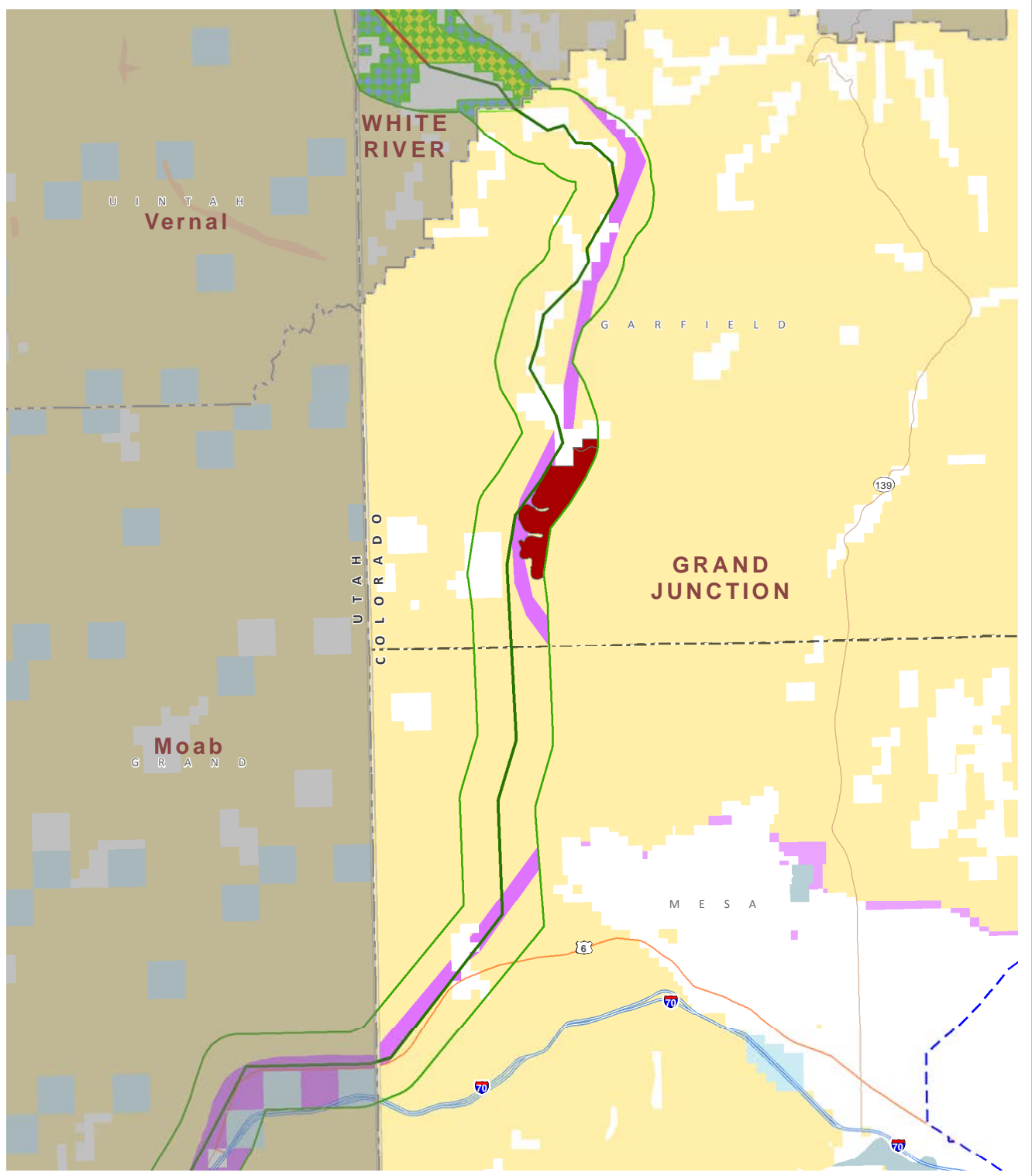
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-3
Plan Compliance
White River Field Office

0 2.25 4.5 9 Miles
0 2.25 4.5 9 km

1:510,000

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TRANSWEST EXPRESS TRANSMISSION PROJECT

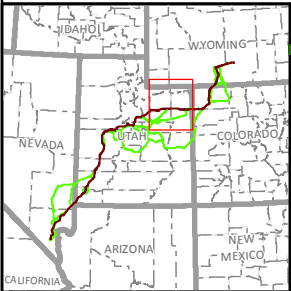
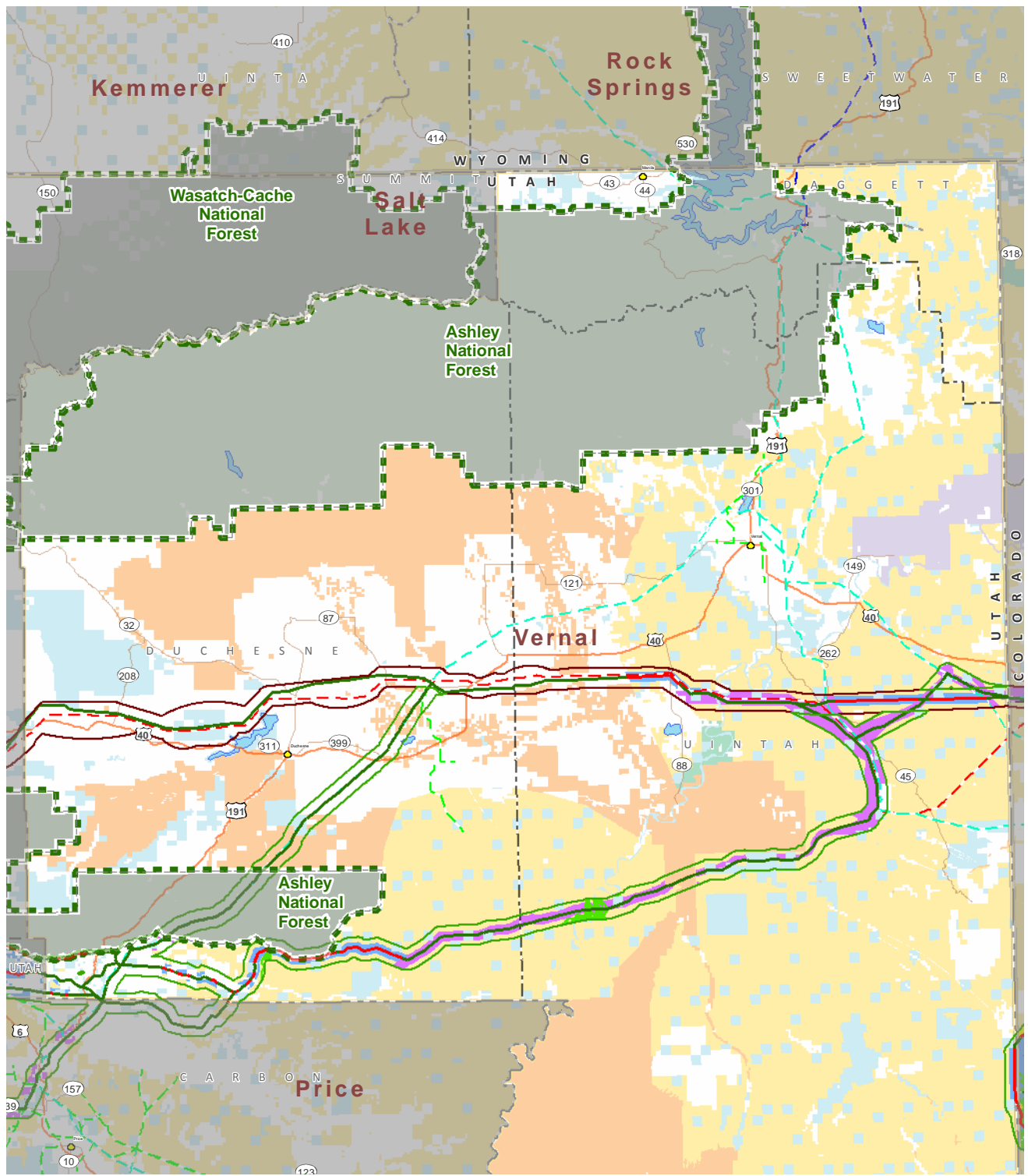
Figure 4-4
Plan Compliance
Grand Junction Field Office

0 1 2 4 Miles
0 1 2 4 km

1:250,000

N

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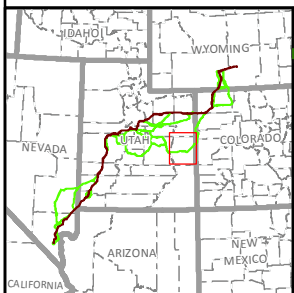
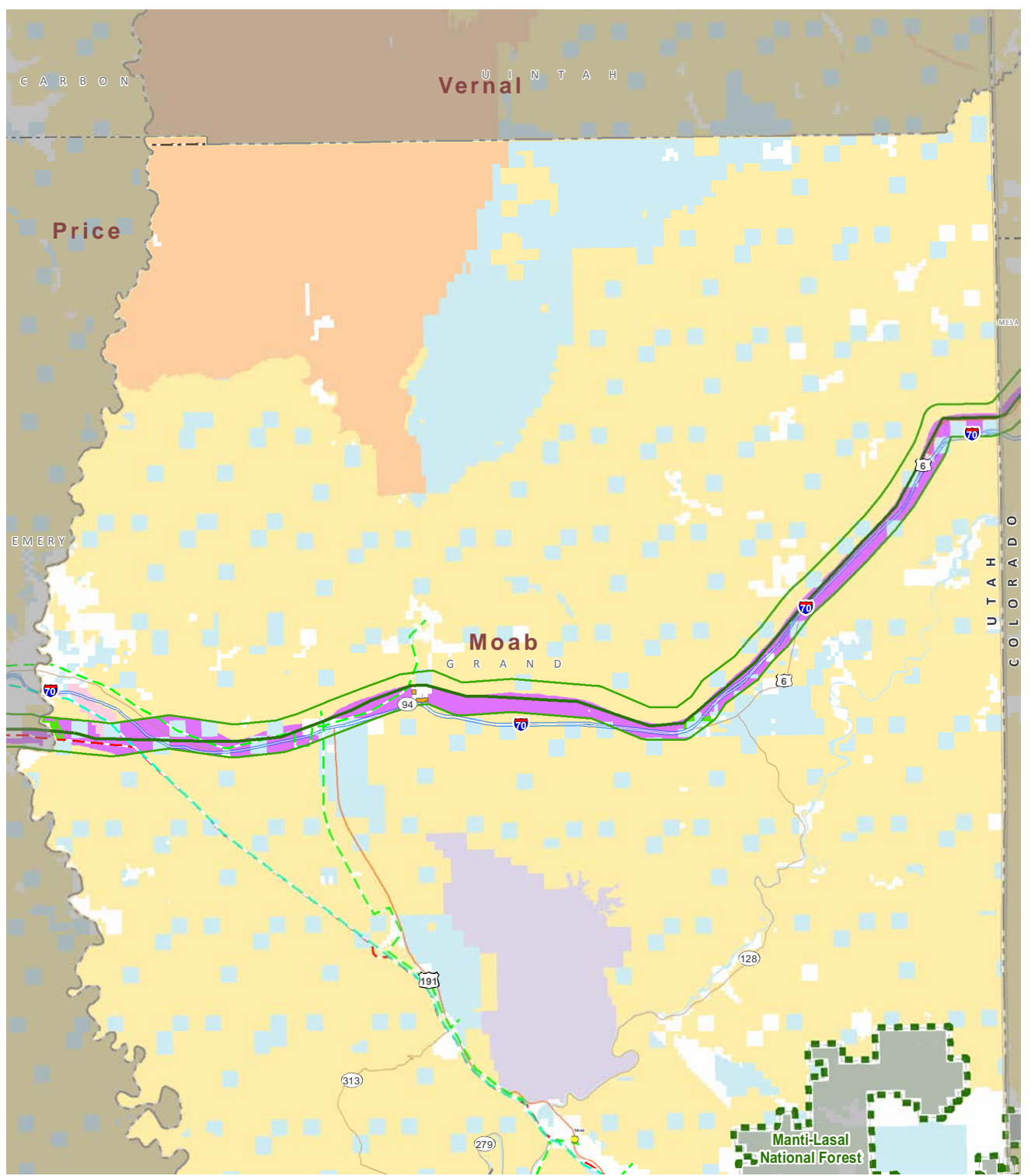
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USFS Boundary	Not Compliant with Plan	Existing Transmission 500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	Existing Transmission 500kV
ROW Avoidance	Existing Aboveground Corridor	Existing Transmission 345kV
VRM Classification VRM Class I	Existing Underground Only Corridor	Existing Transmission 138 to 161kV
VRM Class II		Existing Transmission 115kV
		Existing Transmission Below 100kV
		Existing Transmission Unknown Voltage

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-5
Plan Compliance
Vernal Field Office

0 4.25 8.5 17 Miles
0 4.25 8.5 17 km
1:940,000

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<ul style="list-style-type: none"> BLM Field Office USFS Boundary ROW Exclusion ROW Avoidance VRM Classification VRM Class I VRM Class II 	<ul style="list-style-type: none"> Compliant with Plan Not Compliant with Plan Amend for Overhead Utilities Existing Aboveground Corridor Existing Underground Only Corridor 	Existing Transmission <ul style="list-style-type: none"> 230 to 287kV 500kV +/- DC 500kV 345kV 138 to 161kV 115kV Below 100kV Unknown Voltage
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TRANSWEST EXPRESS TRANSMISSION PROJECT

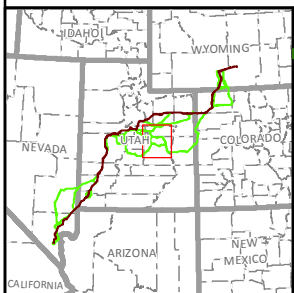
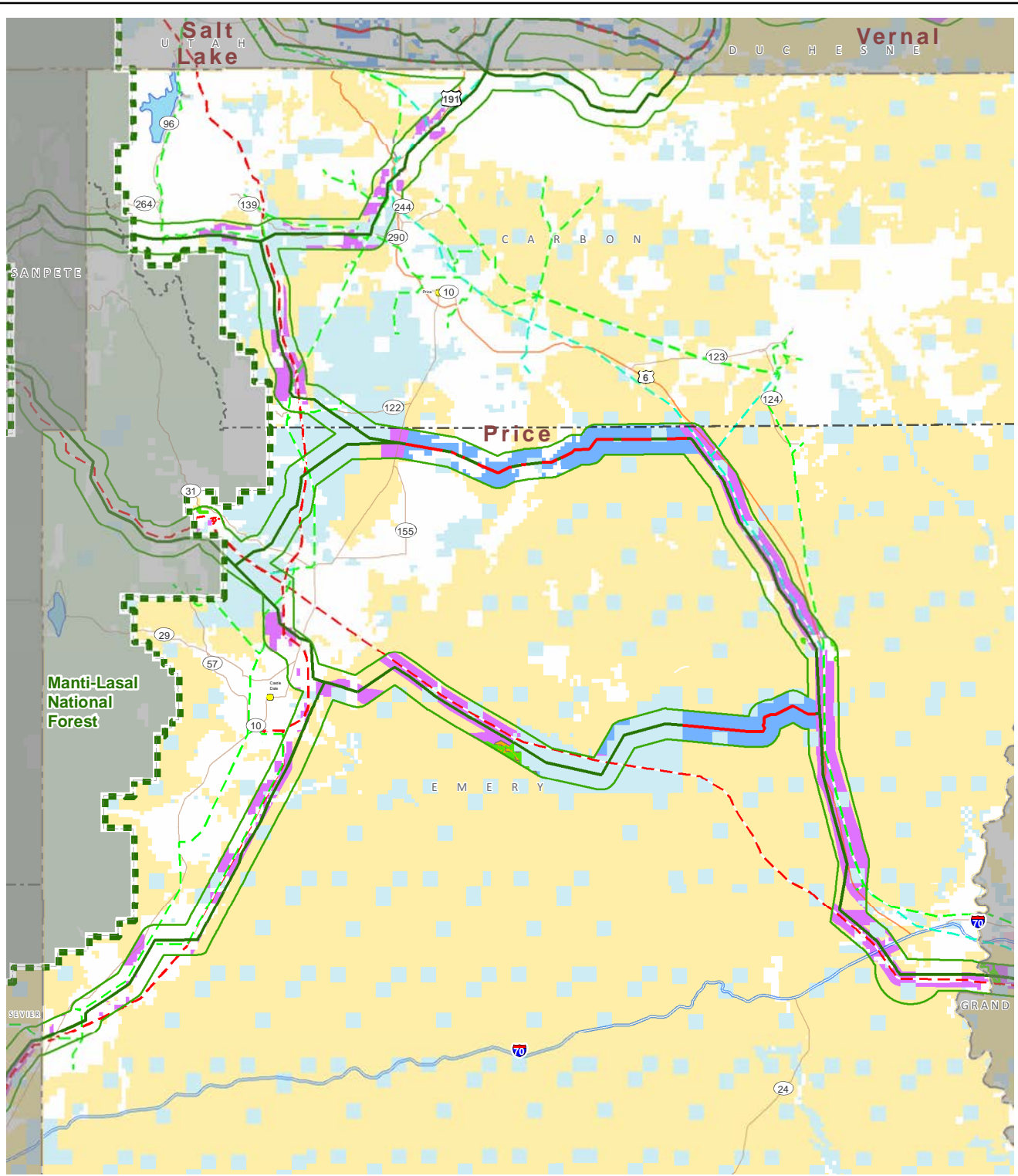
Figure 4-6
Plan Compliance
Moab Field Office

0 2.5 5 10 Miles

0 2.5 5 10 km

1:580,000

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BLM Field Office	Compliant with Plan	Existing Transmission 230 to 287kV
USFS Boundary	Not Compliant with Plan	500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	500kV
ROW Avoidance	Existing Aboveground Corridor	345kV
VRM Classification	Existing Underground Only Corridor	138 to 161kV
VRM Class I		115kV
VRM Class II		Below 100kV
		Unknown Voltage

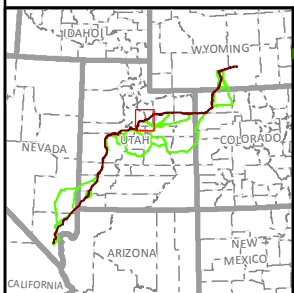
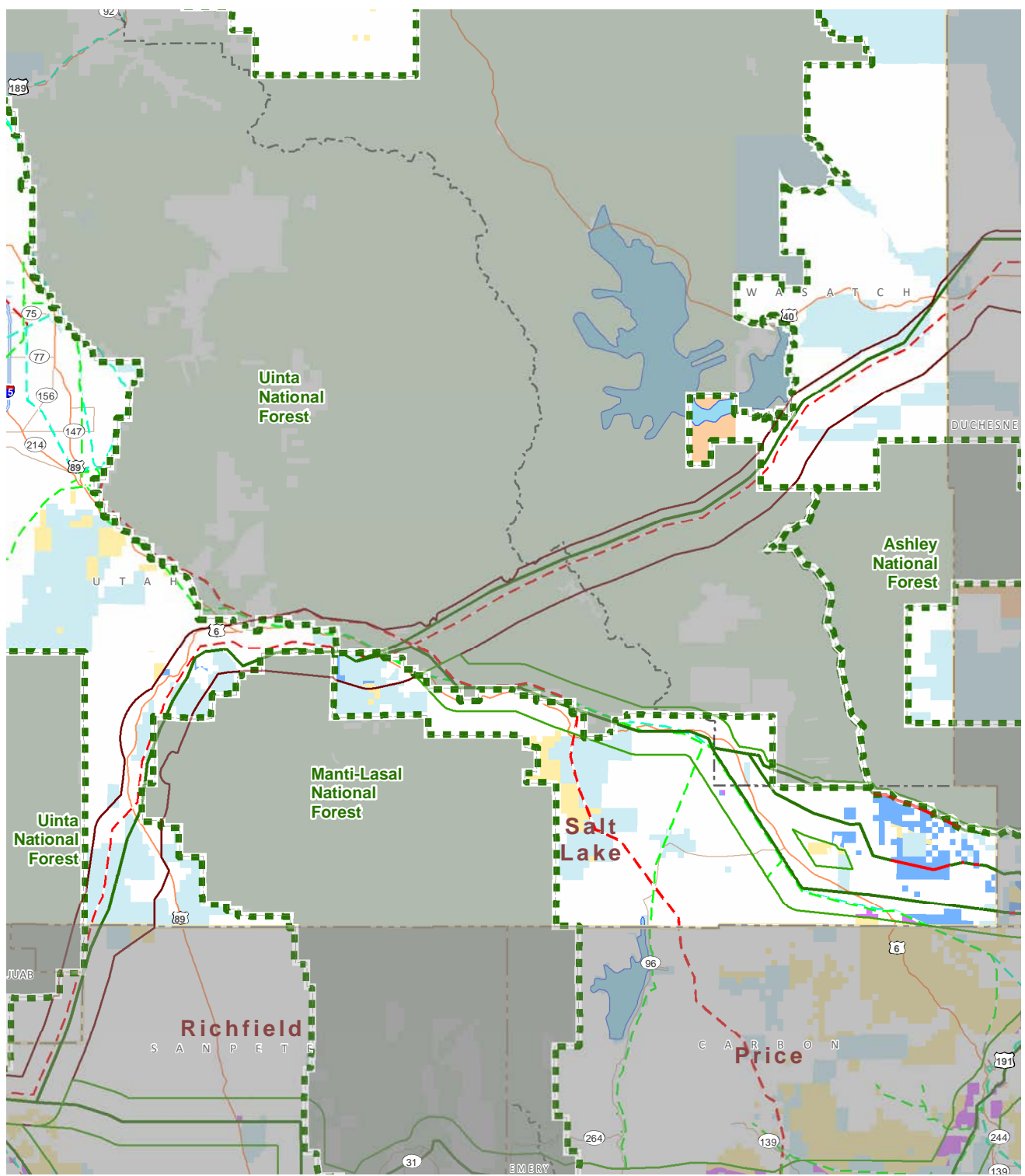
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-7
Plan Compliance
Price Field Office

0 2.75 5.5 11 Miles
0 2.75 5.5 11 km

1:620,000

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BLM Field Office	Compliant with Plan	Existing Transmission 230 to 287kV
USFS Boundary	Not Compliant with Plan	500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	500kV
ROW Avoidance	Existing Aboveground Corridor	345kV
VRM Classification	Existing Underground Only Corridor	138 to 161kV
VRM Class I		115kV
VRM Class II		Below 100kV
		Unknown Voltage

TRANSWEST EXPRESS TRANSMISSION PROJECT

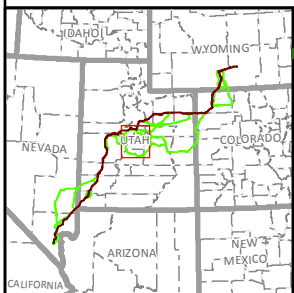
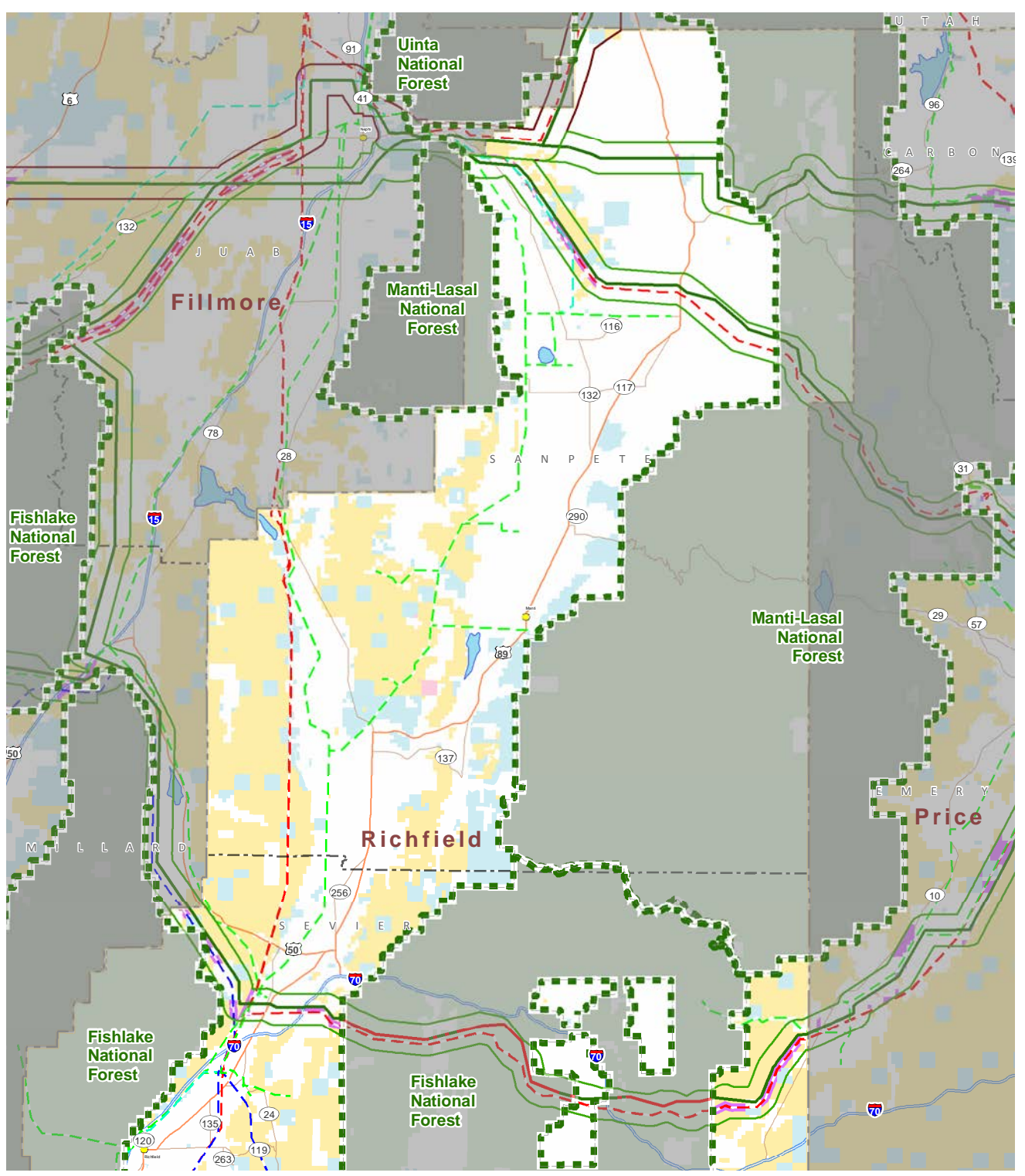
Figure 4-8
Plan Compliance
Salt Lake Field Office

0 1.75 3.5 7 Miles
0 1.75 3.5 km

1:400,000

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BLM Field Office	Compliant with Plan	Existing Transmission 230 to 287kV
USFS Boundary	Not Compliant with Plan	500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	500kV
ROW Avoidance	Existing Aboveground Corridor	345kV
VRM Classification	Existing Underground Only Corridor	138 to 161kV
VRM Class I		115kV
VRM Class II		Below 100kV
		Unknown Voltage

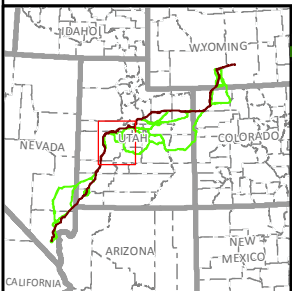
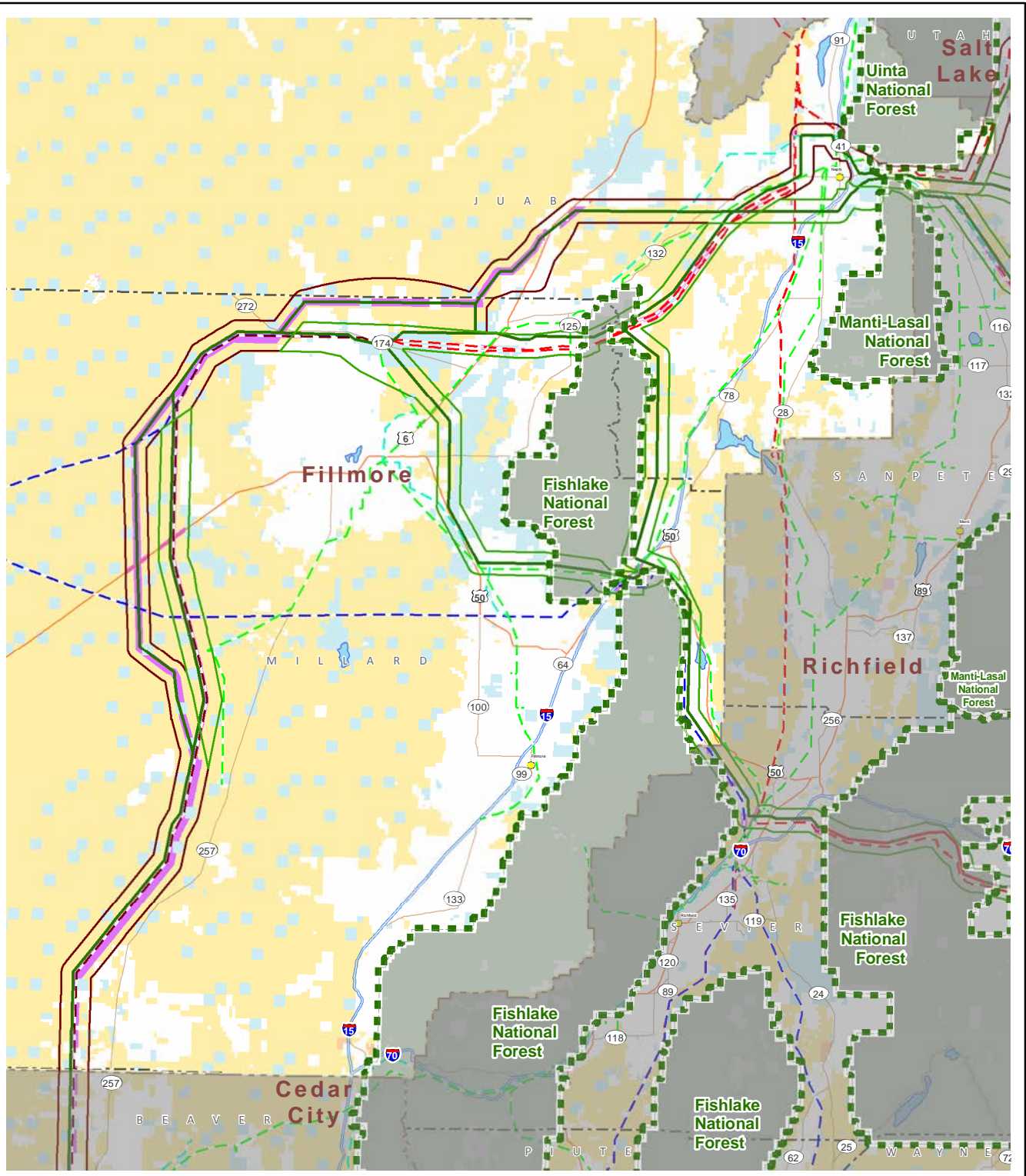
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-9
Plan Compliance
Richfield Field Office

0 2.75 5.5 11 Miles
0 2.75 5.5 11 km

1:600,000

X:\0\project\12907_003_Transwest_Express\Figures\Document\Figures\2013_DEIS_V3\PlanAmendment\Fig_4_X_BLM_PlanAmendmentSeries.mxd



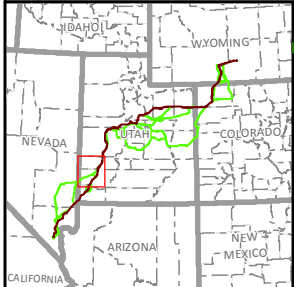
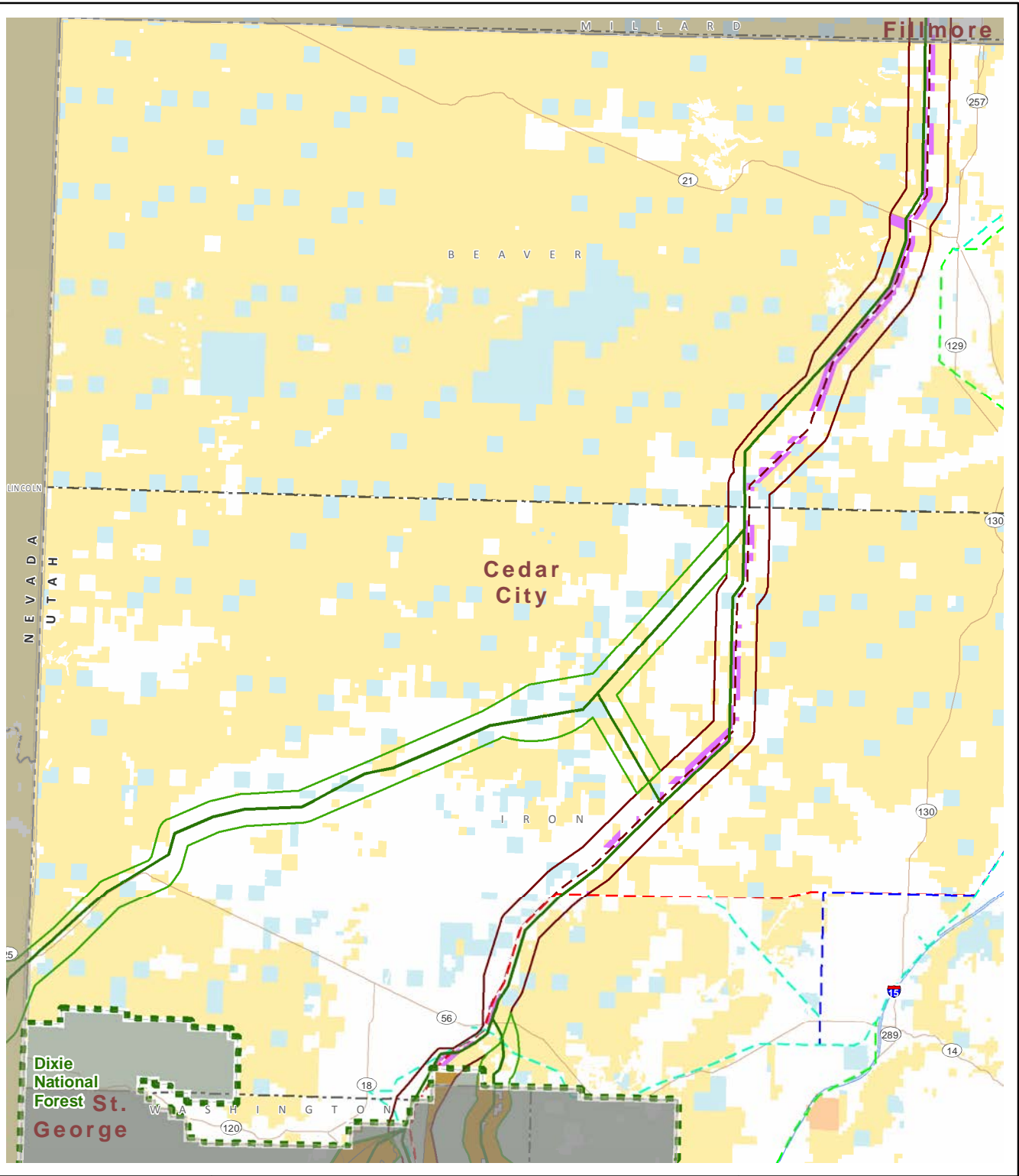
BLM Field Office	Compliant with Plan	Existing Transmission 230 to 287kV
USFS Boundary	Not Compliant with Plan	500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	500kV
ROW Avoidance	Existing Aboveground Corridor	345kV
VRM Classification	Existing Underground Only Corridor	138 to 161kV
VRM Class I		115kV
VRM Class II		Below 100kV
		Unknown Voltage

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-10
Plan Compliance
Fillmore Field Office

0 3.75 7.5 15 Miles
0 3.75 7.5 15 km
1:810,000

X:\0\project\12907_003_Transwest_Express\Figures\Document\Figures\2013_DEIS_V3\PlanAmendment\Fig_4_X_BLM_PlanAmendmentSeries.mxd



<ul style="list-style-type: none"> BLM Field Office USFS Boundary ROW Exclusion ROW Avoidance VRM Classification VRM Class I VRM Class II 	<ul style="list-style-type: none"> Compliant with Plan Not Compliant with Plan Amend for Overhead Utilities Existing Aboveground Corridor Existing Underground Only Corridor 	Existing Transmission <ul style="list-style-type: none"> 230 to 287kV 500kV +/- DC 500kV 345kV 138 to 161kV 115kV Below 100kV Unknown Voltage
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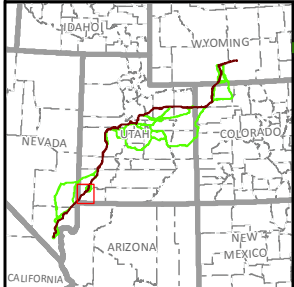
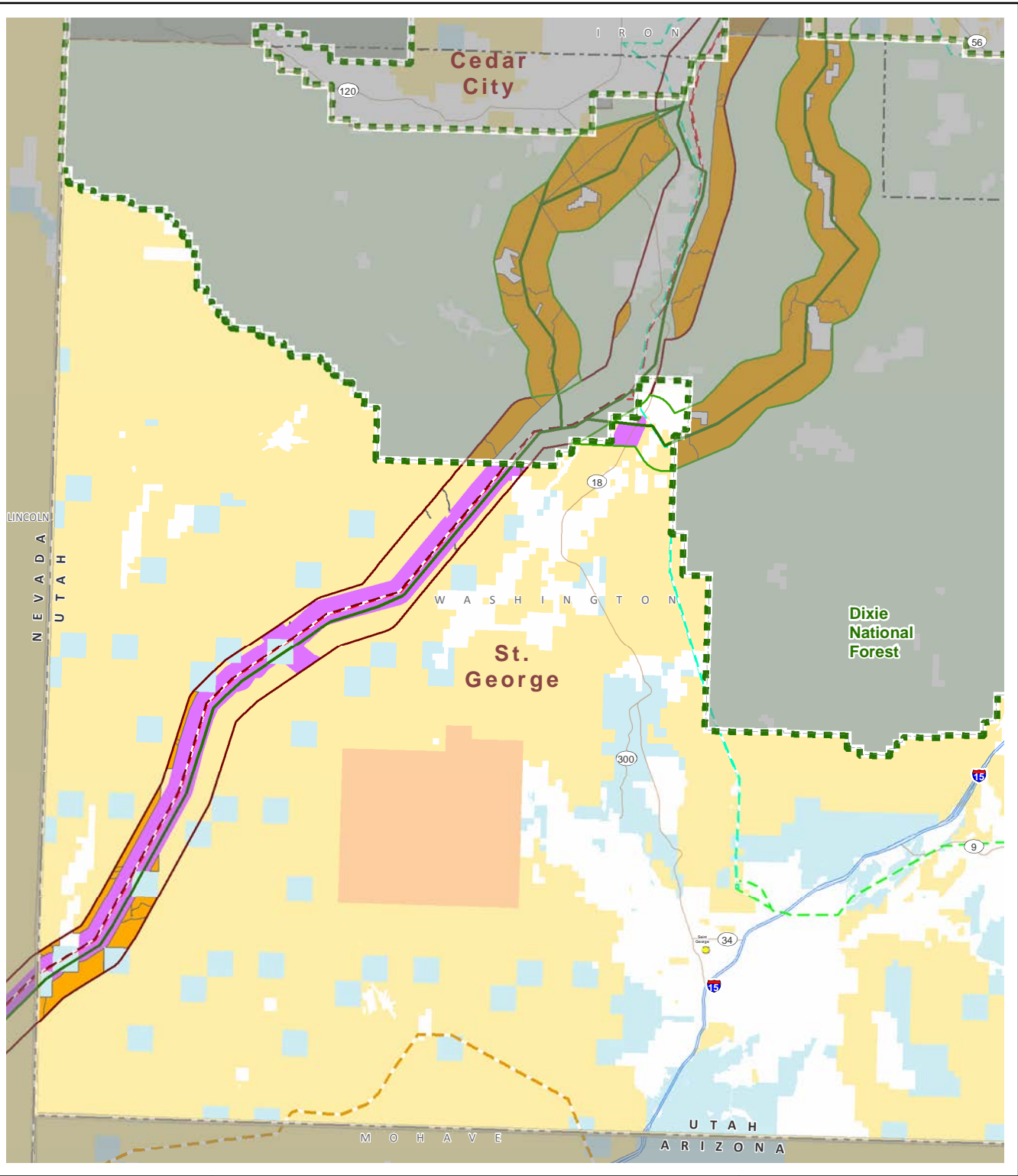
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-11
Plan Compliance
Cedar City Field Office

0 2.5 5 10 Miles
0 2.5 5 10 km

1:580,000

X:\projects\12907_003_Transwest_Express\Figures\Document\Figures\2013_DEIS_V3\PlanAmendment\Fig_4_X_BLM_PlanAmendmentSeries.mxd



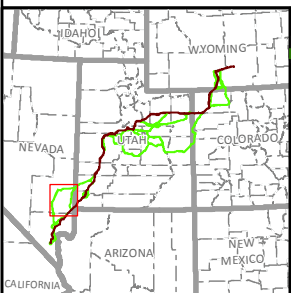
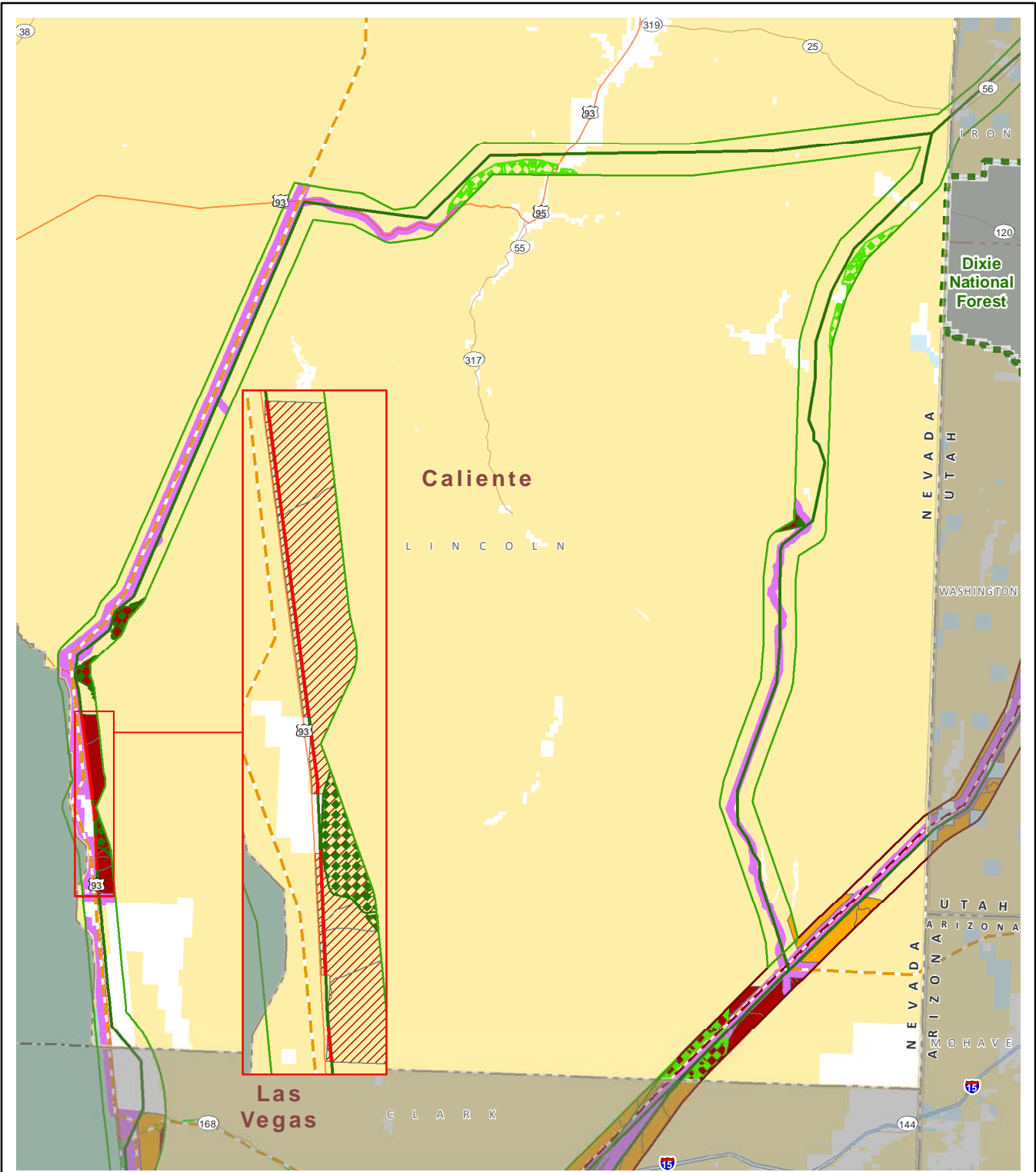
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USFS Boundary	Not Compliant with Plan	Existing Transmission 500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	Existing Transmission 500kV
ROW Avoidance	Existing Aboveground Corridor	Existing Transmission 345kV
VRM Classification VRM Class I	Existing Underground Only Corridor	Existing Transmission 138 to 161kV
VRM Class II		Existing Transmission 115kV
		Existing Transmission Below 100kV
		Existing Transmission Unknown Voltage

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-12
Plan Compliance
St. George Field Office

1:360,000

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<ul style="list-style-type: none"> BLM Field Office USFS Boundary ROW Exclusion ROW Avoidance VRM Classification VRM Class I VRM Class II 	<ul style="list-style-type: none"> Compliant with Plan Not Compliant with Plan One-time Exception Amend for Overhead Utilities Existing Aboveground Corridor 	Existing Transmission <ul style="list-style-type: none"> 230 to 287kV 500kV +/- DC 500kV 345kV 138 to 161kV 115kV Below 100kV Unknown Voltage
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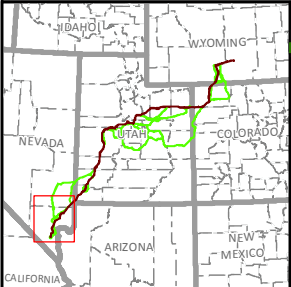
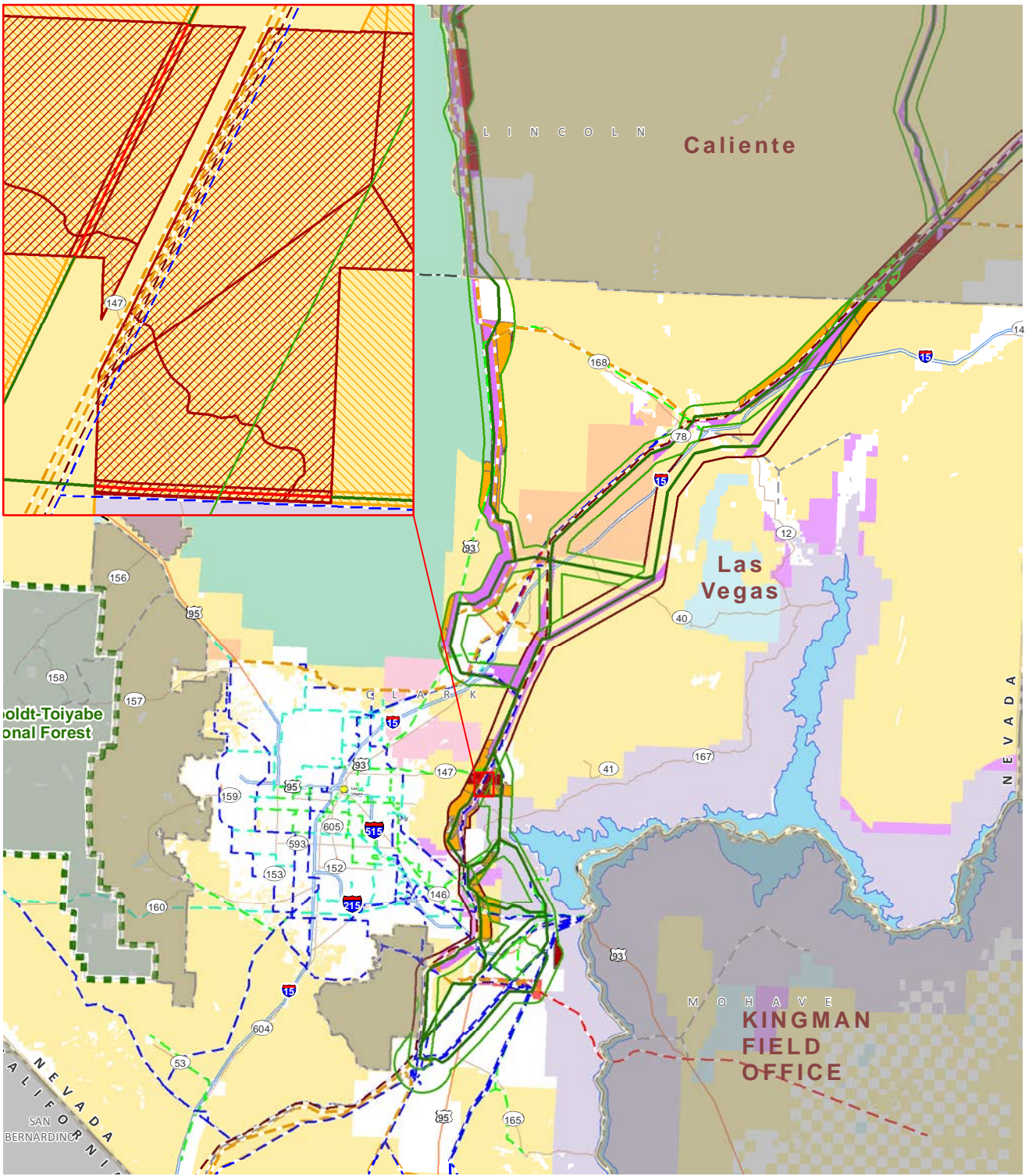
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-13
Plan Compliance
Caliente Field Office

0 2.5 5 10 Miles
0 2.5 5 10 km

1:580,000

X:\projects\12907_003_Transwest_Express\Figures\Document\Figures\2013_DEIS\3\PlanAmendment\Fig_4_14_BLM_PlanAmendmentSeries_LasVegas.mxd



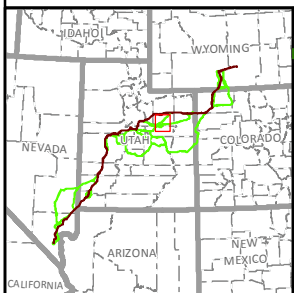
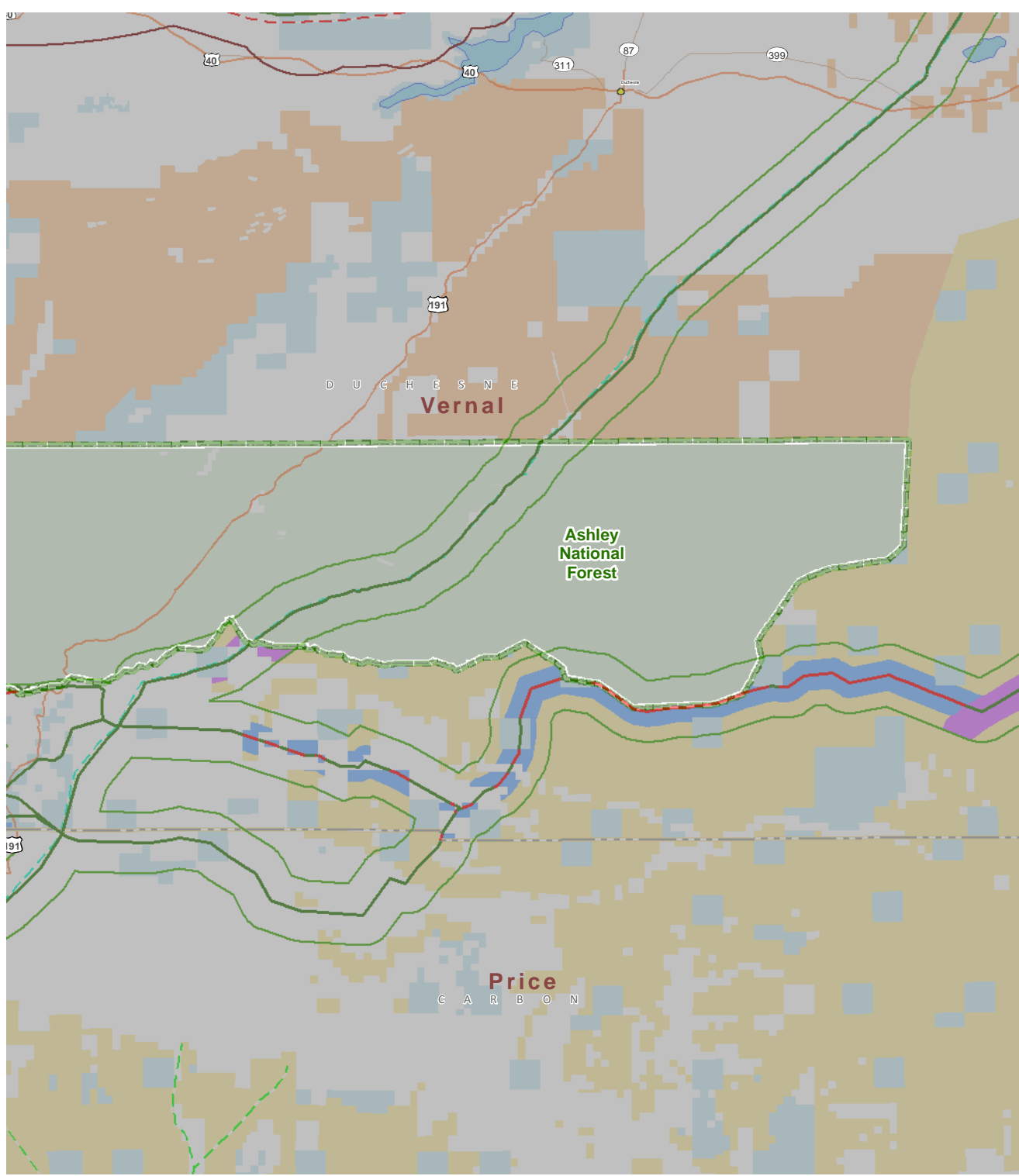
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TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-14
Plan Compliance
Las Vegas Field Office

1:860,000

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BLM Field Office	Compliant with Plan	Existing Transmission 230 to 287kV
USFS Boundary	Not Compliant with Plan	500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	500kV
ROW Avoidance	Existing Aboveground Corridor	345kV
SIO Classification High	USFS Window	138 to 161kV
VQO Classification Retention		115kV
Preservation		Below 100kV
		Unknown Voltage

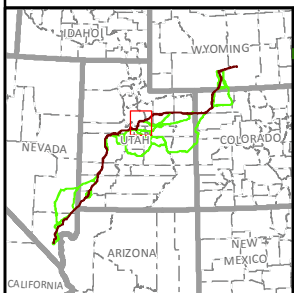
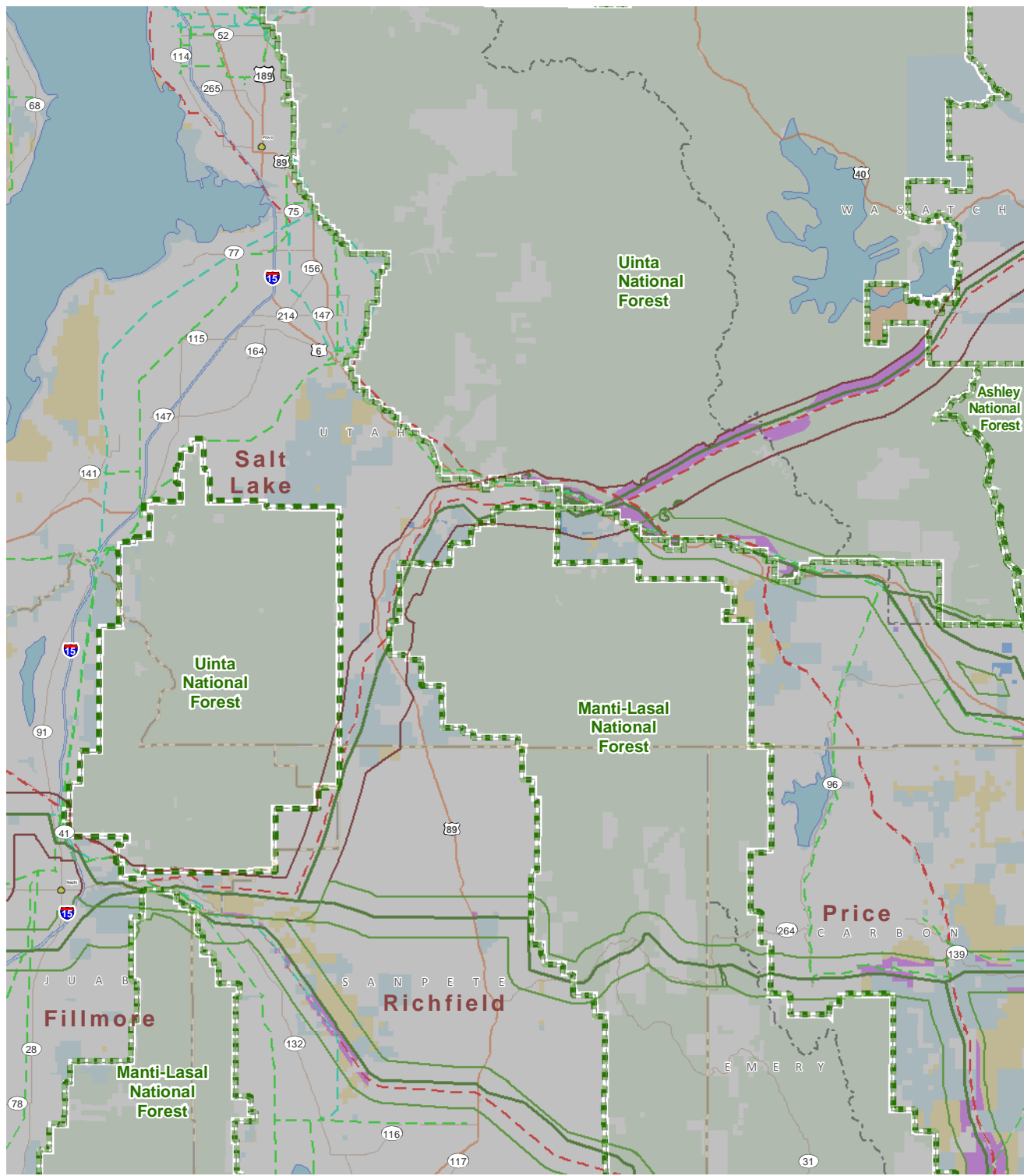
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-15
Plan Compliance
Ashley National Forest

0 1.25 2.5 5 Miles
0 1.25 2.5 5 km

1:310,000

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	BLM Field Office		Compliant with Plan		Existing Transmission 230 to 287kV
	USFS Boundary		Not Compliant with Plan		500kV +/- DC
	ROW Exclusion		Amend for Overhead Utilities		500kV
	ROW Avoidance		Existing Aboveground Corridor		345kV
	SIO Classification High		USFS Window		138 to 161kV
	VQO Classification Retention				115kV
	Preservation				Below 100kV
					Unknown Voltage

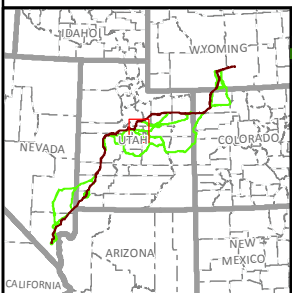
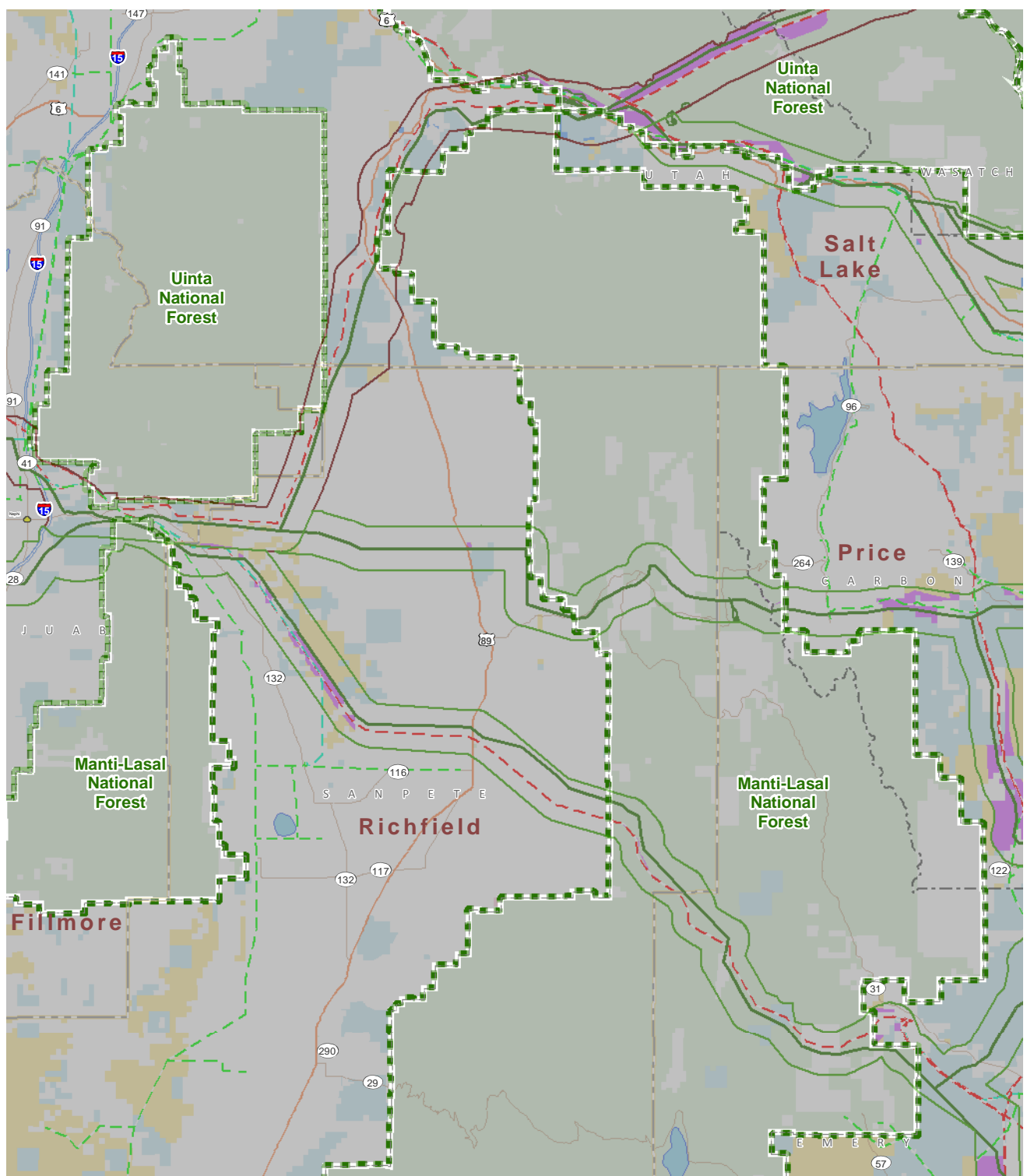
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-16
Plan Compliance
Uinta-Wasatch-Cache National Forest

0 2 4 8 Miles
0 2 4 8 km

1:460,000

X:\projects\12907_003_Transwest_Express\Figures\Document\Figures\2013_DEIS_V3\PlanAmendment\Fig_4_X_FS_PlanAmendmentSeries.mxd



BLM Field Office	Compliant with Plan	Existing Transmission 230 to 287kV
USFS Boundary	Not Compliant with Plan	500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	500kV
ROW Avoidance	Existing Aboveground Corridor	345kV
SIO Classification	USFS Window	138 to 161kV
High		115kV
VQO Classification		Below 100kV
Retention		Unknown Voltage
Preservation		

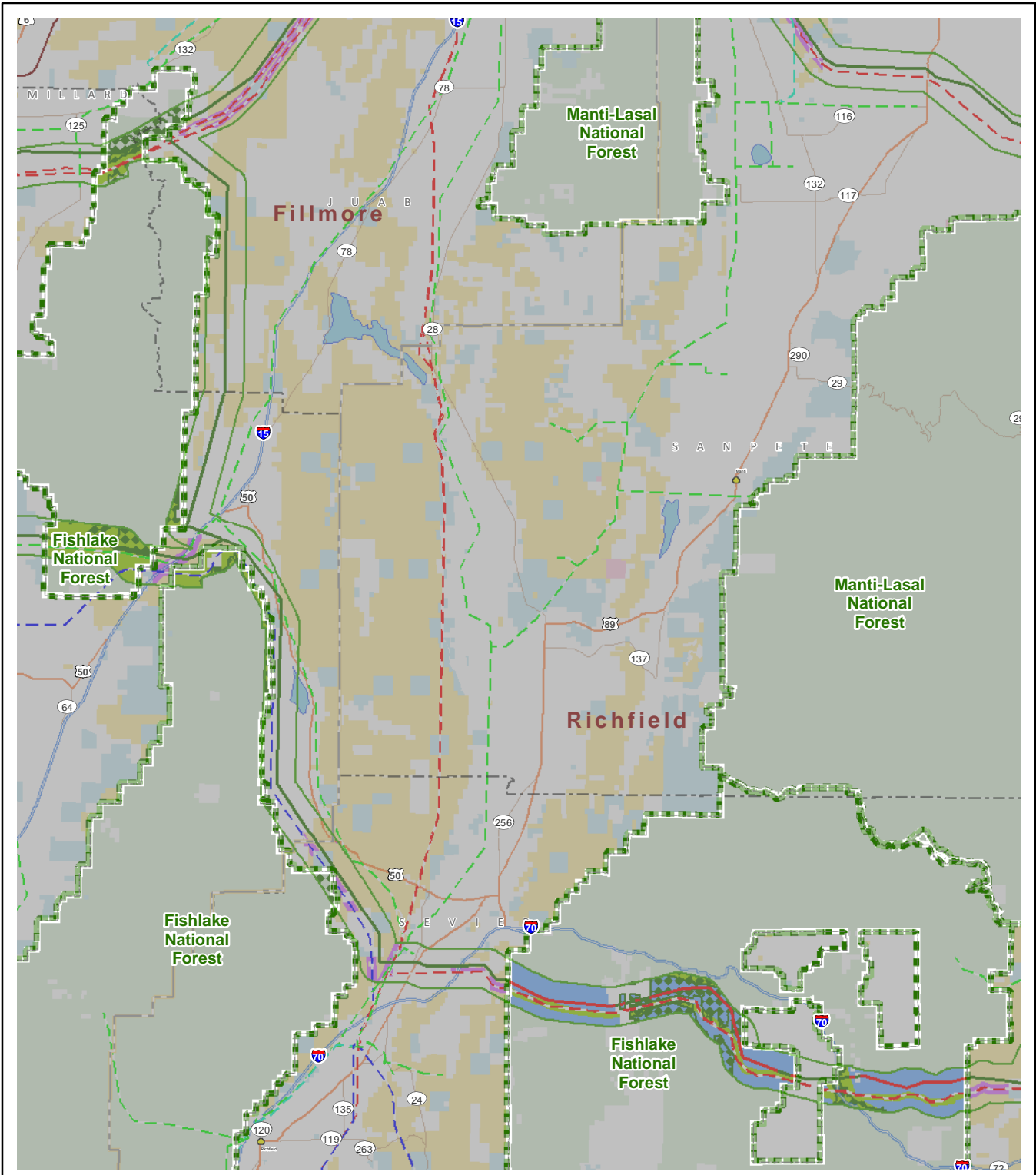
TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-17
Plan Compliance
Manti-LaSal National Forest

0 1.75 3.5 7 Miles
0 2 4 8 km

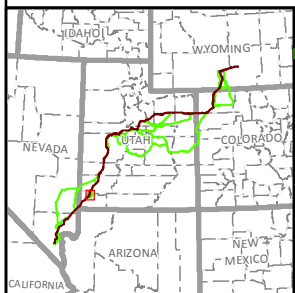
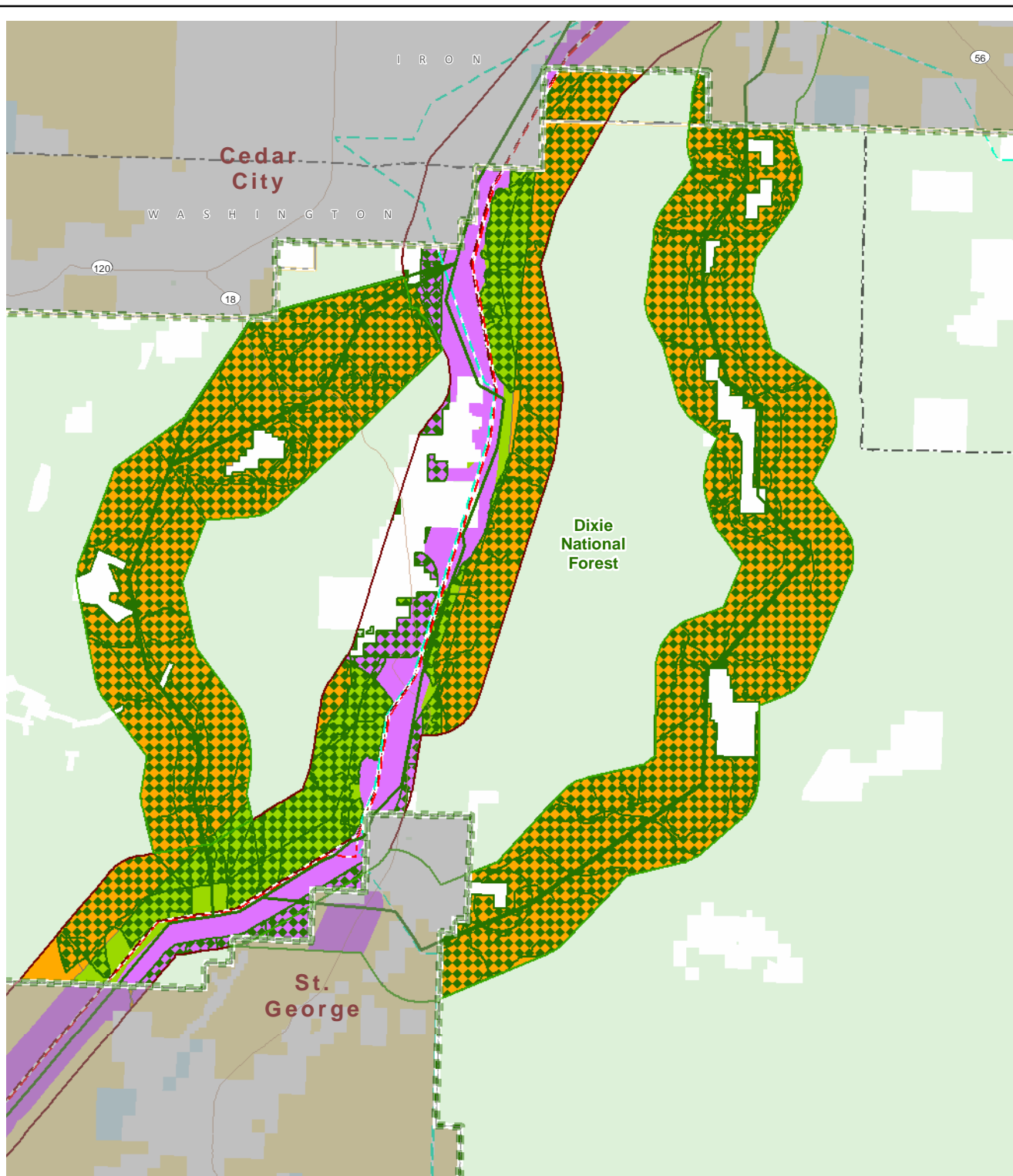
1:430,000

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	<ul style="list-style-type: none"> BLM Field Office USFS Boundary ROW Exclusion ROW Avoidance SIO Classification High VQO Classification Retention Preservation 	<ul style="list-style-type: none"> Compliant with Plan Not Compliant with Plan Amend for Overhead Utilities Existing Aboveground Corridor USFS Window 	<p>Existing Transmission</p> <ul style="list-style-type: none"> 230 to 287kV 500kV +/- DC 500kV 345kV 138 to 161kV 115kV Below 100kV Unknown Voltage 	<p>TRANSWEST EXPRESS TRANSMISSION PROJECT</p> <p>Figure 4-18 Plan Compliance Fishlake National Forest</p> <p>1:480,000</p>
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BLM Field Office	Compliant with Plan	Existing Transmission 230 to 287kV
USFS Boundary	Not Compliant with Plan	Existing Transmission 500kV +/- DC
ROW Exclusion	Amend for Overhead Utilities	Existing Transmission 500kV
ROW Avoidance	Existing Aboveground Corridor	Existing Transmission 345kV
SIO Classification High	USFS Window	Existing Transmission 138 to 161kV
SIO Classification Retention		Existing Transmission 115kV
SIO Classification Preservation		Existing Transmission Below 100kV
		Existing Transmission Unknown Voltage

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 4-19
Plan Compliance
Dixie National Forest

0 0.75 1.5 3 Miles
0 0.75 1.5 3 km

1:180,000

N

4.4.1 BLM Rawlins Field Office

Alternatives A, B, C, and D as well as the Mexican Flats, Baggs, Fivemile Point North and Fivemile Point South Alternative Connectors traverse lands administered by the Rawlins FO. According to the RMP (RMP ROD, p. 2-17), “all BLM-administered public lands, except WSAs and some SD/MAs (including ACECs), are open to consideration for placement of transportation and utility ROW systems. Each transportation system and utility ROW will be located adjacent to existing facilities, when possible.” Appendix A-34 of the RMP details ROW corridor and selection criteria. All alternatives traverse areas that would conflict with resource protection measures, including buffers to protect raptors and historic trails, and areas that would conflict with visual quality objectives as determined through the TWE impact analysis in Section 3.12. In addition to these resource conflicts, Alternative C and the Mexican Flats and Fivemile Point North Alternative Connectors would also conflict with buffers to protect surface water.

Alternative B is entirely situated within the underground-only 1,320-ft CIG/Entrega/WIC Transmission line corridor. To minimize environmental impacts and the proliferation of separate ROWs for TWE and/or other RFFA transmission projects within the FO, the BLM has indicated that a plan amendment would be needed to designate a new corridor or expand the existing corridor for any TWE project route traversing the FO.

For Alternative A, ROW decisions listed under Section 2.3.5 Lands and Realty in the RMP (p. 2-18) and Table A34-1 in Appendix 34 (p. A34-1) and Table A (page A-15) in the ROD for the Westwide Energy Corridor (WWEC) would be amended as follows for 58 miles (***new text in bold italics***):

Utility/Transportation Systems

1. Areas with important resource values will be avoided where possible in planning for new facility placement (600,290 acres). If it becomes necessary for facilities (i.e., linear ROWs) to be placed within avoidance areas, effects will be intensively managed. Avoidance and exclusion areas are identified on Map 2-33b and Table 2-5.
2. ***Utility corridors are designated as follows:***
 - a. ***Rawlins-Wamsutter: The existing WWEC multi-modal utility corridor south of I-80 is expanded to two miles between Rawlins and Wamsutter. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible. Minimum separation distance is required in greater sage-grouse core areas. All possible measures will be taken to avoid conflicts with other existing and proposed uses (utility and otherwise) within the designated corridor.***
 - b. ***Wamsutter-Powder Rim: A north-south, two-mile-wide utility corridor is designated along the Sweetwater/Carbon County line for all utilities. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible. All possible measures will be taken to avoid conflicts with other existing and proposed uses (utility and otherwise) within the designated corridor.***

Table A34-1. Designated ROW Corridors

Corridor	Width	Uses
Spence-Bairoil-Jim Bridger 230 kV Transmission Line	1,320'	Overhead utilities only
CIG/Entrega/WIC Transmission lines	1,320'	Buried utilities only
Lost Creek Pipeline	1,320'	Buried utilities only
WAPA 115 kV Transmission Line	1,320'	Overhead utilities only

Corridor	Width	Uses
I-80 Corridor	1,320' on either side of the interstate	Buried utilities only
Rawlins-Wamsutter WVEC Corridor ¹	3,500' 2 miles	Multi-modal
Highway 789	1,320' east of the highway	Overhead utilities
Wamsutter-Powder Rim Corridor	2 miles	All utilities
Rock Springs to Dave Johnston 230 kV Transmission Line	1,320' north from the existing line	Overhead utilities only

¹ Not included in the Table A34-1 of the RMP but designated through the WVEC land use plan amendment process.

For Alternative B, ROW decisions listed under Section 2.3.5 Lands and Realty in the RMP (p. 2-18) and Table A34-1 in Appendix 34 (p. A34-1) and Table A (page A-15) in the ROD for WVEC would be amended as follows for 61 miles (**new text in bold italics**):

Utility/Transportation Systems

1. Areas with important resource values will be avoided where possible in planning for new facility placement (600,290 acres). If it becomes necessary for facilities (i.e., linear ROWs) to be placed within avoidance areas, effects will be intensively managed. Avoidance and exclusion areas are identified on Map 2-33b and Table 2-5.

2. Utility corridors are designated as follows:

- a. Rawlins-Frewen: The existing WVEC multi-modal utility corridor south of I-80 is expanded to two miles between Rawlins and Frewen. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible. Minimum separation distance is required in greater sage-grouse core areas. All possible measures will be taken to avoid conflicts with other existing and proposed uses (utility and otherwise) within the designated corridor.***
- b. CIG/Entrega/WIC Transmission lines: Conversion and expansion of the existing north-south, underground-only corridor to a two-mile wide underground and aboveground utility corridor is designated west of the Sweetwater/Carbon County line. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible. All possible measures will be taken to avoid conflicts with other existing and proposed uses (utility and otherwise) within the designated corridor.***

Table A34-1. Designated ROW Corridors

Corridor	Width	Uses
Spence-Bairoil-Jim Bridger 230 kV Transmission Line	1,320'	Overhead utilities only
CIG/Entrega/WIC Transmission lines	1,320' 2 miles	Buried and overhead utilities only
Lost Creek Pipeline	1,320'	Buried utilities only
WAPA 115 kV Transmission Line	1,320'	Overhead utilities only
I-80 Corridor	1,320' on either side of the interstate	Buried utilities only
Rawlins-Frewen WVEC Corridor ¹	3,500' 2 miles	Multi-modal
Highway 789	1,320' east of the highway	Overhead utilities
Rock Springs to Dave Johnston 230 kV Transmission Line	1,320' north from the existing line	Overhead utilities only

¹ Not included in the Table A34-1 of the RMP but designated through the WVEC land use plan amendment process.

For Alternative C, ROW decisions listed under Section 2.3.5 Lands and Realty in the RMP (p. 2-18) and Table A34-1 in Appendix 34 (p. A34-1) and Table A (page A-15) in the ROD for WWEC would be amended as follows for 27 miles (***new text in bold italics***):

Utility/Transportation Systems

1. Areas with important resource values will be avoided where possible in planning for new facility placement (600,290 acres). If it becomes necessary for facilities (i.e., linear ROWs) to be placed within avoidance areas, effects will be intensively managed. Avoidance and exclusion areas are identified on Map 2-33b and Table 2-5.
2. ***Utility corridors are designated as follows:***
 - a. ***Rawlins-Creston: The existing WWEC multi-modal utility corridor south of I-80 is expanded to two miles between Rawlins and Creston to allow. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible. Minimum separation distance is required in greater sage-grouse core areas. All possible measures will be taken to avoid conflicts with other existing and proposed uses (utility and otherwise) within the designated corridor.***
 - b. ***Highway 789: The existing utility corridor along Highway 789 from Creston to Baggs is expanded to two miles to allow for all utilities including high voltage overhead transmission. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible. Minimum separation distance is required in greater sage-grouse core areas. All possible measures will be taken to avoid conflicts with other existing and proposed uses (utility and otherwise) within the designated corridor.***

Table A34-1. Designated ROW Corridors

Corridor	Width	Uses
Spence-Bairoil-Jim Bridger 230 kV Transmission Line	1,320'	Overhead utilities only
CIG/Entrega/WIC Transmission lines	1,320'	Buried utilities only
Lost Creek Pipeline	1,320'	Buried utilities only
WAPA 115 kV Transmission Line	1,320'	Overhead utilities only
I-80 Corridor	1,320' on either side of the interstate	Buried utilities only
Rawlins-Creston WWEC Corridor ¹	<i>3,500' 2 miles</i>	Multi-modal
Highway 789	<i>1,320' east of the highway 2 miles</i>	Overhead utilities
Rock Springs to Dave Johnston 230 kV Transmission Line	1,320' north from the existing line	Overhead utilities only

¹ Not included in the Table A34-1 of the RMP but designated through the WWEC land use plan amendment process.

For Alternative D (Agency Preferred Alternative) and the Baggs Alternative Connector, ROW decisions listed under Section 2.3.5 Lands and Realty in the RMP (p. 2-18) and Table A34-1 in Appendix 34 (p. A34-1) and Table A (page A-15) in the ROD for WWEC would be amended as follows for 76 miles (***new text in bold italics***):

Utility/Transportation Systems

1. Areas with important resource values will be avoided where possible in planning for new facility placement (600,290 acres). If it becomes necessary for facilities (i.e., linear ROWs) to

be placed within avoidance areas, effects will be intensively managed. Avoidance and exclusion areas are identified on Map 2-33b and Table 2-5.

2. Utility corridors are designated as follows:

- a. Rawlins-Wamsutter: The existing WWEC multi-modal utility corridor south of I-80 is expanded to two miles between Rawlins and Wamsutter. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible. Minimum separation distance is required in greater sage-grouse core areas. All possible measures will be taken to avoid conflicts with other existing and proposed uses (utility and otherwise) within the designated corridor.**
- b. Wamsutter-Baggs-Powder Rim: A two-mile wide utility corridor is designated north-south to Baggs then east-west to Powder Rim for all utilities. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible. All possible measures will be taken to avoid conflicts with other existing and proposed uses (utility and otherwise) within the designated corridor.**

Table A34-1. Designated ROW Corridors

Corridor	Width	Uses
Spence-Bairoil-Jim Bridger 230 kV Transmission Line	1,320'	Overhead utilities only
CIG/Entrega/WIC Transmission lines	1,320'	Buried utilities only
Lost Creek Pipeline	1,320'	Buried utilities only
WAPA 115 kV Transmission Line	1,320'	Overhead utilities only
I-80 Corridor	1,320' on either side of the interstate	Buried utilities only
Rawlins-Creston WWEC Corridor ¹	3,500' 2 miles	Multi-modal
Highway 789	1,320' east of the highway	Overhead utilities
Wamsutter-Baggs-Powder Rim Corridor	2 miles	All utilities
Rock Springs to Dave Johnston 230 kV Transmission Line	1,320' north from the existing line	Overhead utilities only

¹ Not included in the Table A34-1 of the RMP but designated through the WWEC land use plan amendment process.

4.4.2 BLM Little Snake Field Office

Alternatives A, B, C, and D traverse lands administered by the Little Snake FO. Alternatives A, B, and D are located either partly or wholly outside of designated corridors. According to the RMP (RMP ROD, p. RMP-51), "Section 503 of FLPMA provides for the designation of ROW corridors and encourages use of in-common ROWs to minimize environmental impacts and the proliferation of separate ROWs. BLM policy, as described in BLM Manual 2801.13B1, is to encourage prospective applicants to locate their proposals within corridors...The remainder of the LSFO will be open for the consideration of ROWs on a case-by-case basis, with stipulations identified during activity level environmental reviews."

All alternatives traverse areas that would conflict with resource protection measures, as follows:

- Alternatives A and C encroach on buffers to protect raptors, special status aquatic species, Greater sage-grouse, perennial water sources, and areas that would conflict with visual quality objectives as determined through the TWE impact analysis in Section 3.12. In addition, Alternative C encroaches on buffers to protect a State Wildlife Area.

- Alternatives B and D encroach on buffers to raptors, Greater sage-grouse, white-tailed prairie dog towns, and areas that would conflict with visual quality objectives as determined through the TWE impact analysis in Section 3.12.

Resource conflicts with Alternative C would occur within a designated utility corridor, where exceptions can be granted if mitigation or avoidance is not feasible. Resource conflicts for Alternatives A, B, and D occur in areas outside of designated corridors. To minimize environmental impacts and the proliferation of separate ROWs for TWE and other RFFA transmission projects within the FO, the BLM has indicated that a plan amendment would be needed to designate a new corridor for any TWE project route traversing the FO for routes outside of the electric-only or multi-modal designated WWEC corridors.

For Alternative A, ROW decisions listed under in Table 2-17 for Lands and Realty in the RMP (p. RMP-53) would be amended as follows for 34 miles (***new text in bold italics***):

Utility Corridors

A north-south, two-mile wide aboveground utility corridor is designated along Sevenmile Ridge following County Road 75 from the Wyoming state line south to U.S. Highway 40 at Maybell. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible.

For Alternatives B and D (Agency Preferred Alternative), ROW decisions listed under in Table 2-17 for Lands and Realty in the RMP (p. RMP-53) would be amended as follows for 27 miles (***new text in bold italics***):

Utility Corridors

A north-south, two-mile wide aboveground utility corridor is designated along the foothills of Sevenmile Ridge east of County Road 75 from the Wyoming state line south to U.S. Highway 40 at Maybell. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible.

4.4.3 BLM White River Field Office

Alternatives A, B, C, D, E, and F traverse lands administered by the White River FO. According to the RMP (RMP ROD, p. 2-49), “applications for land use authorizations (e.g., rights-of-way, leases, and permits) will be considered on a case-by-case basis and the remainder of the Resource Area outside of exclusion and avoidance areas will be considered open for land use authorizations.” All alternatives traverse areas that would conflict with resource protection measures, as follows:

- Alternatives A, D, E, and F (Agency Preferred) encroach on buffers to protect raptors.
- Alternatives B and C encroach on buffers to Greater sage-grouse, raptors, areas designated as VRM Class II and areas that would conflict with visual quality objectives as determined through the TWE impact analysis in Section 3.12.

Alternatives A, D, E, and F (Agency Preferred) are situated within utility corridors designated through WWEC where exceptions may be granted if avoidance or mitigation would not be feasible. Therefore, a plan amendment would not be required.

Alternatives B and C are situated within an underground only ROW corridor, the 1-mile-wide Dragon Trail-Atchee Ridge ROW corridor. A portion of the route passes through VRM Class II in Garfield County, an area that inventoried as VRI Class III.

For Alternatives B and C, utility corridor decisions in the RMP (p. 2-51) would be amended as follows for 38 miles (***new text in bold italics***):

DRAGON TRAIL-ATCHEE RIDGE: This corridor follows the route once proposed as the Rangely Loop segment of the Northwest Pipeline Expansion Project. It runs south from Rangely, to the vicinity of Baxter Pass, is approximately ~~1 mile~~ ***two miles*** wide, and will accommodate all buried ***and overhead*** linear facilities. ***Power lines located within the designated utility corridor would be excepted from the requirements associated with VRM Class II areas. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible.***

4.4.4 BLM Grand Junction Field Office

Proposed routes through this area are considered to be in conformance with the RMP. Alternatives B and C pass through a 4-mile wide utility corridor (from De Beque to Southern Boundary of resource area) for all major power lines, but some portions deviate. While the RMP encourages the use of existing corridors (RMP ROD, p. 2-29), the remaining public lands are suitable for consideration for public utilities.

Alternatives B and C traverse areas that would conflict with resource protection measures. Alternatives B and C cross portions of the Prairie Canyon ACEC, elk production areas, and areas that would conflict with visual quality objectives as determined through the TWE impact analysis in Section 3.12. However, these alternatives would be mostly situated within utility corridors designated through the RMP and exceptions could be granted if avoidance or minimization isn't feasible. Therefore, a plan amendment would not be required.

4.4.5 BLM Vernal Field Office

Alternatives A, B, C, D, E, and F (Agency Preferred Alternative) traverse lands administered by the Vernal FO. All alternatives traverse areas that would conflict with resource protection measures, as follows:

- Alternatives A and E encroach on buffers to protect white-tailed prairie dog colonies, Greater sage-grouse, floodplain and riparian areas, and areas that would conflict with visual quality objectives as determined through the TWE impact analysis in Section 3.12.
- Alternatives B and C encroach on buffers to protect Mexican Spotted Owl and floodplain and riparian areas.
- Alternatives D and F (Agency Preferred) encroaches on buffers to protect white-tailed prairie dog colonies, Greater sage-grouse, Mexican Spotted Owl, floodplain and riparian, the Lower Green River ACEC, White River corridors, and areas that would conflict with visual quality objectives as determined through the TWE impact analysis in Section 3.12, Visual Resources.

Alternative A, B, C, D, E, and F (Agency Preferred) would be partially situated outside of designated utility corridors. According to decision LAR-42 (RMP ROD, p. 91), major linear ROWs exceeding the size thresholds that are proposed outside of the preferred, designated corridors may require a plan amendment.

For Alternative A, utility corridor decision LAR-42 in the RMP (p. 91) would be amended as follows for 19 miles (***new text in bold italics***):

LAR-42

Major linear ROWs meeting the above thresholds that are proposed outside of the preferred, designated corridors may require a plan amendment.

The RMP has been amended to accommodate a new aboveground utility corridor up to one mile wide for high voltage transmission lines requiring straight east-west alignments between the Colorado State line near Dinosaur, CO and Randlett, UT. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible.

For Alternatives B and C, utility corridor decision LAR-42 in the RMP (p. 91) would be amended as follows for 6 miles (***new text in bold italics***):

LAR-42

Major linear ROWs meeting the above thresholds that are proposed outside of the preferred, designated corridors may require a plan amendment.

The RMP has been amended to accommodate a new aboveground utility corridor up to one mile wide for high voltage transmission lines requiring straight north-south alignments traversing Atchee Ridge Road across the Utah/Colorado State line. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible.

For Alternative D, utility corridor decision LAR-42 in the RMP (p. 91) would be amended as follows for 17 miles (***new text in bold italics***):

LAR-42

Major linear ROWs meeting the above thresholds that are proposed outside of the preferred, designated corridors may require a plan amendment.

The RMP has been amended to accommodate a new aboveground utility corridor up to one mile wide for high voltage transmission lines requiring east-west alignments south of the Ashley National Forest boundary, east of Highway 191. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible.

For Alternative E, utility corridor decision LAR-42 in the RMP (p. 91) would be amended as follows for 6 miles (***new text in bold italics***):

LAR-42

Major linear ROWs meeting the above thresholds that are proposed outside of the preferred, designated corridors may require a plan amendment.

The RMP has been amended to accommodate a new aboveground utility corridor up to one mile wide for high voltage transmission lines requiring east-west alignments between Highway 88 and Randlett, UT, west of the existing utility corridor. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible.

For Alternative F (Agency Preferred Alternative), utility corridor decision LAR-42 in the RMP (p. 91) would be amended as follows for 22 miles (***new text in bold italics***):

LAR-42

Major linear ROWs meeting the above thresholds that are proposed outside of the preferred, designated corridors may require a plan amendment.

The RMP has been amended to accommodate a new aboveground utility corridor up to one mile wide for high voltage transmission lines requiring east-west alignments south of the Ashley National Forest boundary, east of Highway 191. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible.

4.4.6 BLM Moab Field Office

Alternatives B and C traverse lands administered by the Moab FO. Proposed routes through this area are considered to be in conformance with the RMP. The RMP does not specifically restrict ROW to designated corridors. Alternatives B and C mostly follow the I-70 utility corridor and includes all major existing ROW as identified in the RMP with a 0.5-mile width on each side of the widest ROW corridor (LAR-14).

Alternatives B and C traverse areas that would conflict with resource protection measures. Alternatives B and C cross segments of the Old Spanish Trail (within existing designated utility corridors), the Three Rivers and Westwater mineral withdrawal area, select rivers for protection of special status aquatic species, and riparian area buffers, and areas that would conflict with visual quality objectives as determined through the TWE impact analysis in Section 3.12, Visual Resources. However, alternatives would be mostly situated within utility corridors designated through the RMP and exceptions could be granted if avoidance or minimization isn't feasible. Therefore, a plan amendment would not be required.

4.4.7 BLM Price Field Office

Alternatives B, C, and D as well as the Price and Castle Dale alternative connectors and a portion of the Emma Park Alternative Variation traverse lands administered by the Price FO. Alternative D as well as the Price and Castle Dale alternative connectors and a portion of the Emma Park Alternative Variation would not meet resource objectives that establish buffers to protect streams. However, these alternatives are situated within utility corridors designated through the RMP and the transmission line can be designed to avoid the water resource buffers and access roads routed to minimize conflict. Therefore, a plan amendment would not be required for these alternatives.

Alternative D and the Price and Castle Dale alternative connectors and a portion of the Emma Park Alternative Variation are situated within utility corridors designated through the RMP where they cross BLM-administered land. However, Alternatives B and C would be partially situated on lands outside of designated corridors and would require a plan amendment to designate a new utility corridor in these areas. The RMP identifies utility corridors as the preferred location for future major linear ROWs including transmission (not distribution) lines with a voltage capacity of 69 kV or greater (LAR-23, RMP ROD, p. 122). LAR-24 indicates that any new utility corridors will require a plan amendment (RMP ROD, p. 123).

Alternatives B and C traverse areas that would conflict with resource protection measures. Alternative B crosses segments of the Old Spanish Trail (within existing designated utility corridors), buffers to protect white-tailed prairie dog colonies, and stream protection buffers. Alternative C crosses portions of two ACECs (San Rafael Canyon as well as the Dry Wash and Molen Seep units of the Rock Art ACECs), segments of the Old Spanish Trail (within existing designated utility corridors), buffers to protect white-tailed prairie dog colonies, stream protection buffers, and areas that would conflict with visual quality objectives as determined through the TWE impact analysis in Section 3.12. Therefore, plan amendments

that allow exceptions for these stipulations in the newly designated utility corridors would also be required.

For Alternative B, utility corridor decision LAR-22 in the RMP (p. 122) would be amended as follows for 14 miles (***new text in bold italics***):

LAR-22

Designate existing utility corridors, (including the WUG updates to the Western Regional Corridor Study and west-wide energy corridors designated pursuant to the Energy Policy Act of 2005 and studied in an interagency Programmatic EIS) and additional corridors subject to physical barriers and sensitive resource values (Map R-21).

A new east-west aboveground utility corridor up to one mile is designated south of the Carbon County line between U.S. Highway 191/6 and State Route 10 to accommodate high voltage transmission. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible.

For Alternative C, utility corridor decision LAR-22 in the RMP (p. 122) would be amended as follows for 10 miles (***new text in bold italics***):

LAR-22

Designate existing utility corridors, (including the WUG updates to the Western Regional Corridor Study and west-wide energy corridors designated pursuant to the Energy Policy Act of 2005 and studied in an interagency Programmatic EIS) and additional corridors subject to physical barriers and sensitive resource values (Map R-21).

A new east-west aboveground utility corridor up to one mile is designated along County Road 401/Green River Cutoff between U.S. Highway 191/6 and Castle Dale to accommodate high voltage transmission. Exceptions to resource stipulations within the designated corridor may be granted if measures of avoidance or minimization are not feasible. If future utilities cannot avoid ROW Exclusion Areas designated through the RMP encroaching into the corridor, then relocation of the utility or a plan amendment would be needed.

4.4.8 BLM Salt Lake Field Office

Alternatives A, E, F, and the Emma Park Alternative Variation traverse the Salt Lake FO. However, only Alternative F (Agency Preferred Alternative) and the Emma Park Alternative Variation traverse small parcels of lands administered by the Salt Lake FO. These alternatives are not located within a designated utility corridor when crossing public lands. According to the RMP (RMP ROD, p. 56), “future proposals for major rights-of-way such as pipelines, large power lines and permanent improved roads must use identified corridors. Otherwise, a planning amendment and appropriate environmental analysis will be required. Proposals that are not considered major may be sited outside corridors after demonstrating that locating within a corridor is not viable. In all cases, the utilization of ROW in common shall be considered whenever possible. ROW, whether within or outside a corridor, will avoid the following areas to the maximum extent possible:

- Lands within 0.5 mile of greater sage-grouse strutting grounds if the disturbance would adversely impact the effectiveness of the lek.
- Lands within 1200 feet of riparian/aquatic habitats.

- Lands within VRM class II and III areas.
- Lands within WSAs.
- Lands where an aboveground ROW would be an obvious visual or physical intrusion such as ridge tops or narrow drainages.
- Lands with slopes greater than 30 percent.
- Lands with known or suspected hazardous materials.”

For Alternative F (Agency Preferred Alternative) and the Emma Park Alternative Variation, transportation and utility corridor decisions associated with the RMP (p. 56) would be amended as follows for 3 miles (*new text in bold italics*):

Decision 2

A two-mile wide aboveground utility corridor is designated south of the Ashley National Forest boundary between Highway 191 and U.S. Highway 6 to accommodate future high-voltage transmission lines.

4.4.9 BLM Richfield Field Office

Alternatives A, B, C, D, E, and F traverse lands administered by the Richfield FO. Proposed routes through this area are considered to be in conformance with the RMP. The RMP does not specifically restrict ROWs to designated corridors. According to the LAR-33 (RMP ROD, p. 130), “to minimize adverse environmental impacts and the proliferation of separate ROWs, use common ROWs whenever possible, including collocation of new utility transmission lines and other facilities within existing utility and highway corridors.”

Alternatives B, C, and D would not meet resource objectives that establish buffers to protect streams and Alternative C would traverse a wetland. However, these alternatives are situated within utility corridors designated through the RMP and the transmission line can be designed to avoid the water resource buffers and access roads routed to minimize conflict. Therefore, a plan amendment would not be required.

4.4.10 BLM Fillmore Field Office

Alternatives A, B (Agency Preferred in Region III), C, D, E, and F (Agency Preferred in Region II) as well as the Lynndyl and IPP East Alternative Connectors traverse lands administered by the Fillmore FO. Proposed routes through this area are considered to be in conformance with the RMP. The RMP does not specifically restrict ROWs to designated corridors. According to the Warm Springs RMP (Warm Springs ROD, p.40), “new ROW will be restricted to designated corridors wherever feasible. Special management designation areas and VRM Class II areas are ROW avoidance areas.” According to the House Range RMP, (House Range ROD, p. 67), “Section 503 of FLPMA states ‘...utilization of ROW in common shall be required to the extent practical...’ The utilization of existing corridors, whether designated or not, will be standard procedure.”

The point where Alternatives A, D, E, and F converge with U.S. Highway 6 south of Jericho would not be able to meet visual quality objectives as determined through the TWE impact analysis in Section 3.12. However, this area is within a utility corridor designated through WWEC, and exceptions to visual resource conflicts could be granted if mitigation and avoidance is not feasible. Therefore, a plan amendment would not be required.

4.4.11 BLM Cedar City Field Office

Alternatives A, B (Agency Preferred), and C as well as the Avon Alternative Connector and northern portions of the Pinto Alternative Variation traverse lands administered by the Cedar City FO. Proposed routes through this area are considered to be in conformance with the RMP. The RMP does not specifically restrict ROWs to designated corridors. According to the RMP (RMP ROD, p. 6), “encourage, to the maximum extent practicable, the location of new major ROW within designated corridors.”

The point where Alternatives B and C diverge at the state line would not be able to meet visual quality objectives as determined through the TWE impact analysis in Section 3.12. However, the BLM has determined that a plan amendment would not be required, but visual resource mitigation and avoidance would be used to the extent practical to minimize the conflict.

4.4.12 BLM St. George Field Office

Alternative A and the southern portion of the Pinto Alternative Variation traverse lands administered by the St. George FO. These alternatives are situated within utility corridors designated by WWEC or the RMP. According to the RMP decision LD-12 (RMP ROD, p. 2.3), applications for new ROW on public lands will be considered and analyzed on a case-by-case basis. Proposals will be reviewed for consistency with planning decisions and evaluated under requirements of the NEPA and other applicable laws for resource protection. Mitigation needed to avoid adverse impacts will be integrated into project proposals and, where appropriate, alternatives identified to further reduce environmental impacts to lands, resources, or adjacent land uses. New utility lines and long-distance transmission lines will be designed and located so as to reduce visual impacts to travelers along I-15 and visually sensitive highways in the county.

Alternative A traverses areas considered to be Desert Tortoise Critical Habitat; however, the reference line would be located within the designated utility corridor and resource mitigation and avoidance would be used to the extent practical to minimize the conflict. Therefore, a plan amendment would not be needed.

4.4.13 BLM Caliente Field Office

Alternatives A, B (Agency Preferred), and C traverse the Caliente FO and mostly follow utility corridors designated through WWEC or the RMP. According to the RMP (RMP ROD, p. 65), “ROW and other land uses are recognized as major uses of the public lands and are authorized pursuant to Sections 302 and 501 of FLPMA. Section 503 of the FLPMA provides for the designation of utility corridors and encourages utilization of ROW in-common to minimize environmental impacts and the proliferation of separate ROW. It is BLM policy to encourage prospective applicants to locate their proposals within corridors. Only facilities and uses that are consistent with the special designation associated with that area will be permitted in avoidance areas. Designation of exclusion zones—those areas where no new ROW will be allowed—will provide protection of lands and resources with values that are not compatible with ROW or other land uses.”

Alternatives A, B, and C would not be able to meet visual quality objectives as determined through the TWE impact analysis in Section 3.12. However, these areas are situated within a utility corridor designated through WWEC and the RMP, and exceptions to visual resource conflicts could be granted if mitigation and avoidance is not feasible. While the 2-mile corridor that may be used for access roads encompasses ROW exclusion areas associated with one designated wilderness area and ROW exclusion areas associated with an ACEC, utilities and associated access could be routed to avoid these areas. Therefore, a plan amendment would not be required.

Due to the spacing constraints within the utility corridor along U.S Highway 93, the reference line for Alternative C is situated within a ROW exclusion area and the 2-mile corridor encompasses multiple ROW exclusions areas. Approximately 9 miles of the Alternative C reference line would cross the 57,190-acre Kane Springs ACEC exclusion area, and an amendment would be needed to expand the ROW corridor through this area. While the 2-mile corridor that may be used for access roads encompasses ROW exclusion areas associated with two designated wilderness areas, five proposed wilderness areas and one NWR, access roads could be routed to minimize or avoid these areas.

For Alternative C, Map 23 and Table 26 (p. 115 and 119) associated with RMP decision SD-3 would be amended as follows for 9 miles (***new text in bold italics***):

Table 26
Management Prescriptions for ACECs

Kane Springs (57,190 acres)	
Management Activities	Management Prescriptions
Land Use Authorization	Limited ⁹ /avoidance ² /exclusion area ¹⁵

¹⁵ ***A one-time exception is granted to accommodate one high-voltage transmission line through the ROW exclusion area adjacent to U.S. Highway 93***

4.4.14 BLM Las Vegas Field Office

Alternatives A (Agency Preferred Alternative), B, C and the Sunrise Mountain Alternative Connector would not meet resource objectives as noted below; however, a plan amendment would only be required for Alternative A and the Sunrise Mountain Alternative Connector.

Alternative B would not meet resource objectives that establish buffers to protect water resources and visual objectives as determined through the TWE impact analysis in Section 3.12. Alternative C would not meet visual objectives as determined through the TWE impact analysis in Section 3.12. The transmission line can be designed to avoid the water resource buffers and access roads routed to minimize conflict. In addition, these alternatives are situated within utility corridors designated through WWEC and the LRMP, and exceptions to visual resource conflicts could be granted if mitigation and avoidance is not feasible. Therefore, a plan amendment would not be required for Alternatives B and C.

Alternative A would cross the Muddy River and Alternative B would cross both the Muddy River and Meadow Valley Wash. These rivers were determined to be eligible for inclusion in the Wild and Scenic River system with tentative classifications of recreational for the Muddy River and scenic for Meadow Valley Wash. However, since these rivers are not addressed in the current RMP, a plan amendment would not be required.

Alternative A and the Sunrise Mountain Alternative Connector would pass through the Sunrise Mountain ISA, an exclusion area. An existing ROW corridor would need to be expanded adjacent to existing utilities for Alternative A. For the Sunrise Mountain Alternative Connector, a one-time exception would be needed to allow the transmission line to cross a small area north of the Lake Mead National Recreation Area boundary.

For Alternative A (Agency Preferred Alternative), RMP decision RW-1-a (RMP ROD, p. 19) in the RMP would be amended as follows for 1 mile (***new text in bold italics***):

1. A corridor 1,400 feet wide from the north side of the Sunrise ISA south through Rainbow Gardens to the Lake Mead crossover is designated. ***A one-time exception to expand the***

existing corridor up to 1-mile wide is granted to accommodate one high-voltage transmission line.

This corridor is described as west of the east boundary of the IPP-McCullough powerlines. Activation and use of this corridor ***or the one-time exception*** is contingent upon Congressional action releasing the ISA from further wilderness consideration and study.

For the Sunrise Mountain Alternative Connector, RMP decision RW-1-a (RMP ROD, p. 19) in the RMP would be amended as follows for 1 mile ***(new text in bold italics)***:

1. A corridor 1,400 feet wide from the north side of the Sunrise ISA south through Rainbow Gardens to the Lake Mead crossover is designated. This corridor is described as west of the east boundary of the IPP-McCullough powerlines.

A one-time exception to designate a 1,500 feet wide, east-west utility corridor along the southeast edge of the Sunrise Mountain ISA adjacent to the Lake Mead National Recreation Area boundary is granted to accommodate one high-voltage transmission line.

Activation and use of this corridor ***or the one-time exception*** is contingent upon Congressional action releasing the ISA from further wilderness consideration and study.

4.4.15 USFS Ashley National Forest

Alternatives E and F pass through the Ashley National Forest. Proposed routes through this area were determined to meet standards and guidelines and are considered to be in conformance with the LRMP. The LRMP did not formally identify ROW corridors and ROW requests are processed on a case-by-case basis following the NEPA process based on a demonstrated need and only after assurance that the use is properly coordinated with other resources and within land capabilities. Alternative E passes through the Sowers Canyon area that was recommended to be incorporated into the South Unit planning utility window; however, this recommendation was never formally adopted in the approved plan. The Sowers Canyon evaluation contained in the LRMP concluded that there was no land use plan conflict and that all conflicts with resource values could be mitigated. Although the USFS has not identified any plan amendments for the alternative route at this time, the USFS may identify plan amendments in response to additional information learned through the EIS process to fulfill the intent of standards and guidelines in the areas affected.

4.4.16 USFS Uinta National Forest

Alternatives A, E, and F pass through the Uinta National Forest. Proposed routes through this area were determined to meet standards and guidelines except as noted and are considered to be in conformance with the LRMP. Routes through this area follow utility corridors designated by WWEC or the LRMP. Alternatives A, E, and F conflict with standards establishing buffers for riparian habitat conservation areas; however, the transmission line can be designed to avoid the area and access roads routed to minimize conflict. The point where Alternatives A, E, and F converge in the Uinta National Forest would not be able to meet visual quality objectives as determined through the TWE impact analysis in Section 3.12, Visual Resources. However, this area is situated within a utility corridor designated through WWEC and the LRMP, and exceptions to visual resource conflicts could be granted if mitigation and avoidance is not feasible. Alternatives A, E, and F use the existing Deseret Generating and Transmission utility corridor designated in the LRMP, which limits use to currently permitted power transmission facilities (in MA-8.2-4 Standard). In addition, the FEIS associated with the LRMP states that requests for infrastructural developments on National Forest System lands would only be considered if the need

cannot be satisfied on lands under other ownership. Generally, additional infrastructure facilities would be limited as much as possible to existing utility corridors and sites. Since Alternatives A, E, and F would be situated within utility corridors designated by WVEC or the LRMP, a plan amendment would not be required. Although the USFS has not identified any plan amendments for the alternative route at this time, the USFS may identify plan amendments in response to additional information learned through the EIS process to fulfill the intent of standards and guidelines in the areas affected.

4.4.17 USFS Manti-La Sal National Forest

Alternatives A, B, C, D, E, and F pass through the Manti-La Sal National Forest; all routes follow utility corridors designated by WVEC or the LRMP. Proposed routes through this area were determined to meet standards and guidelines with the one exception noted and are considered to be in conformance with the LRMP. At the northern edge of the Manti-La Sal National Forest near the county line east of Nephi, the point where Alternatives A, B, C, D, E, and F converge would not meet visual quality objectives as determined through the TWE impact analysis in Section 3.12. However, this point is at the forest edge and would mostly be situated on private lands and a plan amendment would not be required to resolve the visual resource conflict.

According to the LRMP (Appendix D, p. D-2), “energy transportation proposals and applications for locations outside of corridors (within avoidance areas) would be subject to possible denial, if mitigation measures could not provide for adequate protection of sensitive/critical resource values. Proposals and applications for locations within avoidance or unclassified areas would be evaluated on a case-by-case basis. Approval of proposals/applications with adequate mitigations may be possible from such evaluations.” Although the USFS has not identified any plan amendments for the alternative route at this time, the USFS may identify plan amendments in response to additional information learned through the EIS process to fulfill the intent of standards and guidelines in the areas affected.

4.4.18 USFS Fishlake National Forest

Alternatives B, C, and F pass through the Fishlake National Forest. According to the LRMP (Appendix G, p. G-8), “there are no areas on the Fishlake National Forest with legislation prohibiting transmission facilities.” The alternatives were determined to meet standards and guidelines except as noted for visual resources.

Alternatives B and F would traverse an area of High SIO and an area that would not meet visual management objectives as determined as determined through the TWE impact analysis in Section 3.12. However, the area is situated within a utility corridor designated through the LRMP (the Lynndyl to Mona utility corridor) and exceptions to visual resource conflicts could be granted if mitigation and avoidance is not feasible. Therefore, a plan amendment would not be required for Alternatives B and F.

Alternative C traverses two small areas of High SIO and areas that would not meet visual management objectives as determined as determined through the TWE impact analysis in Section 3.12. The route cannot be relocated to avoid crossing these areas. One of these areas is within a utility corridor and window as shown in the North Half Utilities and Transportation Management map in the LRMP. A plan amendment would be required to widen the utility corridor and window south of I-70 to bring the project in conformance for Alternative C.

For Alternative C, plan amendment language would be added to the LRMP to widen the corridor width for the Huntington/Hunter – Sigurd, 345 kv, Trough Hollow to Sigurd Segment, in *Table F Summary of Management Direction For Existing Electrical Transmission Line And Highway Routes and Planning Windows* (p. G-29) as follows (***new text in bold italics***):

1. Electrical Transmission Line Routes	Corridor Designation	Type of Facility	Width of Corridor	Adjacent N.F. Land Designation
d. Huntington/Hunter – Sigurd, 345 kv Trough Hollow to Sigurd Segment	Yes	Overhead Only, up to 600 kV	Lateral distance of Trough Hollow or lateral distance of most stable landforms in Gooseberry Valley, whichever is the least distance, up to 2 miles	Gooseberry-Fishlake-Hilgard and Old Woman-Willow Creek Avoidance Area

In addition, text would be added under *C. Management Requirements, Visual Resource Management (A04)* (p. IV-14) as follows for 22 miles (***new text in bold italics***):

7. Choose facility and structure design, color of materials, location and orientation to meet the adopted visual quality objective(s) for the management area. ***In areas where utility corridors and windows are designated, exceptions to visual quality objectives and scenic integrity objectives will be allowed if mitigation or avoidance is not possible.***

Although the USFS has identified the plan amendment described for the alternative route at this time, the USFS may identify additional plan amendments in response to additional information learned through the EIS process to fulfill the intent of standards and guidelines in the areas affected.

4.4.19 USFS Dixie National Forest

Alternative A as well as the Ox Valley East, Ox Valley West, and Pinto Alternative Variations pass through the Dixie National Forest. Proposed routes through this area were determined to meet standards and guidelines except as noted and are considered to be in conformance with the LRMP. The Ox Valley East, Ox Valley West, and Pinto Alternative Variations pass through ROW Avoidance Areas and areas that would not meet visual management objectives as determined as determined through the TWE impact analysis in Section 3.12. Alternative A follows a WVEC corridor. Portions of these alternatives traverse areas designated as primitive motorized and semi-primitive non-motorized ROS; however, exceptions to visual and recreation use conflicts could be granted if mitigation and avoidance is not feasible. Therefore, USFS determined that a plan amendment would not be required. Although the USFS has not identified any plan amendments for the alternative route at this time, the USFS may identify plan amendments in response to additional information learned through the EIS process to fulfill the intent of standards and guidelines in the areas affected.

4.5 Analysis of Environmental Impacts and Planning Implications

This section presents an analysis of the environmental impacts and planning implications that would be associated with approval of the land use plan amendments, as described in the previous sections. Pursuant to federal regulations, this analysis is limited to the portions of the land use plans being considered for amendment.

Under all alternatives, plan amendments for the following BLM FOs would not be needed: Grand Junction, Moab, Richfield, Fillmore, Cedar City, and St. George. Under all alternatives, plan amendments for the following National Forests would not be needed: Uinta, Manti La-Sal, Ashley, and Dixie. The analysis for plan amendments needed by alternative is presented in the following sections.

4.5.1 Climate and Air Quality

There would be little or no impacts on air resources from plan amendment decisions. Plan amendments to create new or expand existing utility corridors would influence the ability to locate utilities in areas. These actions in turn would have direct impacts on air resources, which would be analyzed pursuant to NEPA process as individual projects are proposed. Consistency with current air quality regulations in

Wyoming, Colorado, Utah, or Nevada would need to be assessed as future projects are proposed along with the potential for individual projects to exceed applicable state or federal air quality standards and meet conformity requirements. Section 3.1 provides a detailed description of impacts to air resources within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.1.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. No national forests require plan amendments under this alternative. The proposed plan amendments would have minor and inconsequential effects for the following areas because the areas are in attainment for air quality related values: BLM Rawlins FO, BLM Little Snake FO, and BLM Vernal FO. Only areas that may have air quality impact concerns for the plan amendment under this alternative are discussed in the following section.

BLM Las Vegas Field Office (Agency Preferred Alternative)

A BLM RMP plan amendment expanding an existing utility corridor, for a length of 1 mile, to allow for more utilities through the Sunrise Mountain ISA in the Las Vegas FO area would have minor and inconsequential effects under current conditions as stated above. Effects from any future authorized projects would be of slightly more concern in this area because a portion of Clark County is a nonattainment area for ozone (8-hour) and dust (particulate matter, PM₁₀ [24-hour]).

4.5.1.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. The proposed plan amendments would have minor and inconsequential effects for the following areas because the areas are in attainment for air quality related values: BLM Rawlins FO, BLM Little Snake FO, BLM White River FO, BLM Vernal FO, and BLM Price FO. There are no areas with air quality impact concerns for the plan amendments under this alternative.

4.5.1.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. The proposed plan amendments would have minor and inconsequential effects for the following areas because the areas are in attainment for air quality related values: BLM Rawlins FO, BLM White River FO, BLM Vernal FO, BLM Price FO, BLM Caliente FO, and USFS Fishlake National Forest. There are no areas with air quality impact concerns for the plan amendments under this alternative.

4.5.1.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on climate and air quality in the respective areas is discussed in the following sections. The proposed plan amendments would have minor and inconsequential effects for the following FOs because the area is in attainment for air quality related values: BLM Rawlins FO, BLM Little Snake FO, and BLM Vernal FO.

4.5.1.5 Alternative E

The Alternative E route would require plan amendments involving one BLM office—Vernal. The proposed plan amendment would have minor and inconsequential effects in the BLM Vernal FO because the area is in attainment for air quality related values.

4.5.1.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The proposed plan amendments would have minor and inconsequential effects for both of these areas since they are in attainment for air quality related values.

4.5.1.7 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs: Rawlins and Las Vegas. The proposed plan amendments would have minor and inconsequential effects in the BLM Rawlins FO because the area is in attainment for air quality related values. Only areas that may have air quality impact concerns for the plan amendment under this alternative are discussed in the following section.

BLM Las Vegas Field Office

A one-time exception to allow the Sunrise Mountain Alternative Connector route, for a length of 1 mile, would have similar effects to climate and air quality as described for Alternative A above.

4.5.1.8 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The proposed plan amendment for the Emma Park Alternative Variation would have minor and inconsequential effects in the BLM Salt Lake FO because the area is in attainment for air quality related values.

4.5.2 Geological, Paleontological, and Mineral Resources

Section 3.2 provides a detailed description of impacts to geological, paleontological, and mineral resources within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.2.1 Paleontological Resources

There would be little or no impacts on paleontological resources from plan amendment decisions. Plan amendments to create new utility or expand existing corridors would influence the ability to locate utilities in areas. These actions in turn have direct impacts on paleontological resources, which are analyzed pursuant to NEPA as individual projects are proposed. Allowing for potential future utilities to be developed in areas where currently none exist could increase the likelihood of unanticipated subsurface discoveries. Any development activities in the proximity of high potential fossil yield areas could degrade the value of a site.

Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. No national forests require plan amendments under this alternative. The effect these plan amendments would have on the management of paleontological resources in the respective FOs is discussed below.

BLM Rawlins Field Office

There are a number of important fossil bearing formations in the area. Expanding an existing and designating a new utility corridor for a length of 58 miles would increase the potential for discovering or disturbing paleontological resources. A total of 53,620 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

BLM Little Snake Field Office

The only outstanding fossil resource in the area is Dinosaur National Monument, located a few miles east of Vernal, Utah. The majority of the 42 miles of new utility corridor overlaps category III (moderate or unknown potential) and V (very high potential) Potential Fossil Yield Classification (PFYC) areas; however, there is some overlap with PFYC II (low potential) areas. A total of 31,954 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

BLM Vernal Field Office

There are a number of important fossil bearing formations in the area. Expanding an existing and designating a new utility corridor for a length of 19 miles would increase the potential for discovering or disturbing paleontological resources. A total of 9,182 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

BLM Las Vegas Field Office (Agency Preferred Alternative)

This area does not have formations with high fossil potential. While expanding an existing utility corridor for a length of 1 mile would increase the potential for discovering or disturbing paleontological resources, these impacts would not be likely given the low potential of the area.

Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. No national forests require plan amendments under this alternative. The effect these plan amendments would have on the management of paleontological resource in the respective FOs is discussed below.

BLM Rawlins Field Office

There are a number of important fossil bearing formations in the area. Effects for the 61 miles of new utility corridor would be similar to those described for Alternative A. A total of 51,439 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

BLM Little Snake Field Office

There is an outstanding fossil resource in the area at Dinosaur National Monument, located a few miles east of Vernal, Utah. The majority of the 37 miles of new utility corridor overlaps category III and V PFYC areas; however, there is some overlap with PFYC II areas. A total of 51,710 acres of potential fossil yield Class 5 areas would be overlapped by the amended area. Effects would be similar to those described for Alternative A.

BLM White River Field Office

There are a number of important fossil bearing formations in the area. Expanding and converting an existing utility corridor for 38 miles would increase the potential for discovering or disturbing paleontological resources. A total of 46,907 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

BLM Vernal Field Office

There are a number of important fossil bearing formations in the area. Effects of designating 6 miles of new utility corridor would be similar to those described for Alternative A. A total of 2,001 acres of potential fossil yield Class 5 would be overlapped by the amended area.

BLM Price Field Office

There are a number of important fossil bearing formations in the area and an outstanding fossil resource in the area at Cleveland Lloyd Dinosaur Quarry, located a few miles south of the utility corridor. Designating a new utility corridor for 14 miles would increase the potential for discovering or disturbing paleontological resources. A total of 4,821 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and Fishlake National Forest. The effect these plan amendments would have on the management of paleontological resources in the respective BLM offices and national forest is discussed below.

BLM Rawlins Field Office

There are a number of important fossil bearing formations in the area. Effects for the 27 miles of new utility corridor would be similar to those described for Alternative A. A total of 16,013 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

BLM White River Field Office

Impacts would be the same as Alternative B.

BLM Vernal Field Office

Impacts would be the same as Alternative B.

BLM Price Field Office

There are a number of important fossil bearing formations in the area and an outstanding fossil resource in the area at Cleveland Lloyd Dinosaur Quarry, located a few miles north of the utility corridor. Designating a new utility corridor for 10 miles would increase the potential for discovering or disturbing paleontological resources. A total of 4,829 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

BLM Caliente Field Office

This area does not have formations with high fossil potential. While expanding an existing utility corridor for 9 miles would increase the potential for discovering or disturbing paleontological resources, these impacts would not be likely given the low potential of the area.

USFS Fishlake National Forest

There are a number of important fossil bearing formations in the area. Designating a new utility corridor for 22 miles would increase the potential for discovering or disturbing paleontological resources. There are no potential fossil yield Class 5 areas that would be overlapped by the amended area. A total of 7,012 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on the management of paleontological resources in the respective BLM offices is discussed below.

BLM Rawlins Field Office (Agency Preferred Alternative)

There are a number of important fossil bearing formations in the area. Effects for the 76 miles of new utility corridor would be similar to those described for Alternative A. A total of 71,719 acres of potential fossil yield Class 5 areas would be overlapped by the amended area.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

There are a number of important fossil bearing formations in the area. Effects of designating 17 miles of new utility corridor would be similar to those described for Alternative A. A total of 9,121 acres of potential fossil yield Class 5 would be overlapped by the amended area.

Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. The effect the plan amendment would have on the management of paleontological resources in the respective BLM office is discussed below.

BLM Vernal Field Office

There are a number of important fossil bearing formations in the area. Effects of designating 6 miles of new utility corridor would be similar to those described for Alternative A. A total of 2,442 acres of potential fossil yield Class 5 would be overlapped by the amended area.

Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect the plan amendments would have on the management of paleontological resources in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

There are a number of important fossil bearing formations in the area. Effects of designating 22 miles of new utility corridor would be similar to those described for Alternative A. A total of 11,011 acres of potential fossil yield Class 5 would be overlapped by the amended area.

BLM Salt Lake Field Office (Agency Preferred Alternative)

There are a number of important fossil bearing formations in the area. Effects of designating 3 miles of new utility corridor would be similar to those described for Alternative A. A total of 2,296 acres of potential fossil yield Class 5 would be overlapped by the amended area.

Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. Effects of designating 3 miles of new utility corridor would be similar to those described for Alternative A. A total of 2,523 acres of potential fossil yield Class 5 would be overlapped by the amended area.

Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on paleontological resources management in the respective FOs is discussed below.

BLM Rawlins Field Office

There are a number of important fossil bearing formations in the area. Effects for designation of new utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile Point South (2 miles), and Mexican Flats (9 miles) alternative connectors would be similar to those described for Alternative A. Potential follies yield Class 5 areas overlapped by the amended areas include: Baggs (24,139 acres), Fivemile Point North (1,928 acres), Fivemile Point South (999 acres), and Mexican Flats (7,006 acres).

BLM Las Vegas Field Office

This area does not have formations with high fossil potential. While expanding an existing utility corridor for 1 mile would increase the potential for discovering or disturbing paleontological resources, these impacts would not be likely given the low potential of the area. Only 3 acres of potential fossil yield Class 5 would overlap with the amended area.

4.5.2.2 Mineral Resources

Allowing for potential future development of utilities in areas where currently none exist could affect the management of mineral resources. A potential impact would be the loss of access to mineral resources and prevention of the mineral owner (including governmental entities) to develop minerals. Where the corridor is co-located with existing utility or transportation routes, it is expected to have a minimal impact on access to and development of mineral resources.

Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. No national forests require plan amendments under this alternative. The effect these plan amendments would have on the management of mineral resources in the respective FOs is discussed below.

BLM Rawlins Field Office

The 58 miles of newly designated utility corridor would pass through areas leased for mineral development and active operations. The utility corridor traverses areas open to leasing with standard stipulations and minor constraints as well as some areas of major constraints for fluid minerals. There are mineral withdrawal areas south of I-80. The remaining land within the utility corridor is available for other minerals; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Little Snake Field Office

The utility corridor traverses areas open to leasing with minor constraints. The land within the 42-mile utility corridor is available for other minerals; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Vernal Field Office

The FO is entirely contained within the Uinta Basin, which is known nationally for oil and gas production. The Vernal RMP and ROD prioritize the development of mineral resources while protecting other valuable natural resources. The 19-mile utility corridor traverses areas open to leasing with standard stipulations for fluid minerals. The land within the utility corridor is available for other minerals; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Las Vegas Field Office (Agency Preferred Alternative)

Since the development of mineral resources is not permitted within the Rainbow Gardens ACEC, which overlaps the Sunrise ISA, impacts to mineral resources would not be anticipated, due to the 1-mile amended area.

Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. The effect these plan amendments would have on the management of mineral resources in the respective FOs is discussed below.

BLM Rawlins Field Office

The 61-mile utility corridor includes areas leased for mineral development and active operations. The utility corridor traverses areas open to leasing with standard stipulations and minor constraints as well as some areas of major constraints for fluid minerals. There are mineral withdrawal areas south of I-80. The remaining land within the utility corridor is available for other minerals; however, there is no active mineral activity. Conversion and expansion of the underground-only corridor would expand the area where utilities could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Little Snake Field Office

The 37-mile utility corridor traverses areas open to leasing with minor constraints for fluid minerals. The land within the utility corridor is available for other minerals; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM White River Field Office

The 38-mile utility corridor traverses areas open to leasing with standard stipulations and minor constraints for fluid minerals. There are no other mineral resources affected. Conversion and expansion of the underground-only corridor would expand the area where utilities could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Vernal Field Office

The 6-mile utility corridor traverses areas open to leasing with standard stipulations for fluid minerals. The land within the utility corridor is available for other mineral activity; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources, as discussed under Alternative A. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Price Field Office

The 14-mile utility corridor traverses areas open to leasing with standard stipulations for fluid minerals. No areas of tar sands, oil shale, or coal reserves are affected. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and Fishlake National Forest. The effect these plan amendments would have on managing mineral resources in the respective BLM offices and national forest is discussed below.

BLM Rawlins Field Office

The 27-mile utility corridor includes areas leased for mineral development and active operations. The utility corridor traverses areas open to leasing with standard stipulations and minor constraints as well as some areas of major constraints. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM White River Field Office

Effects to minerals management as a result of expanding and converting an existing underground-only corridor would be the same as described for Alternative B.

BLM Vernal Field Office

Effects to minerals management as a result of designating a new utility corridor would be the same as described for Alternative B.

BLM Price Field Office

The 10-mile utility corridor traverses areas open to leasing with standard stipulations. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Caliente Field Office

Mineral resources development is not permitted within the Kane Springs ACEC; therefore, there would be no impact to mineral resources management due to the corridor location.

USFS Fishlake National Forest

Because the 22-mile ROW is co-located with an existing transportation and utility corridor, it is unlikely to interfere with mineral resources management. Allowing exceptions to the SIO designation could also reduce visual mitigation restrictions on mineral resources development.

Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on managing mineral resources in the respective BLM offices is discussed below.

BLM Rawlins Field Office (Agency Preferred Alternative)

The 76-mile utility corridor includes areas leased for mineral development and active operations. The utility corridor traverses areas open to leasing with standard stipulations and minor constraints as well as some areas of major constraints. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

The 17-mile utility corridor traverses areas open to leasing with standard stipulations for fluid minerals. The land within the utility corridor is available for other mineral activity; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources, as discussed under Alternative A. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Alternative E

The Alternative E route would require plan amendments involving one BLM offices—Vernal. The effect these plan amendments would have on managing mineral resources in the respective BLM office is discussed below.

BLM Vernal Field Office

The 6-mile utility corridor traverses areas open to leasing with standard stipulations for fluid minerals. The land within the utility corridor is available for other mineral activity; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources, as discussed under Alternative A. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect the plan amendments would have on the managing mineral resources in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The 22-mile utility corridor traverses areas open to leasing with standard stipulations for fluid minerals. The land within the utility corridor is available for other mineral activity; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources, as discussed under Alternative A. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Salt Lake Field Office (Agency Preferred Alternative)

The 3-mile utility corridor traverses areas open to leasing with standard stipulations for fluid minerals. The land within the utility corridor is available for other minerals; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3-mile utility corridor for the Emma Park Alternative Variation traverses areas open to leasing with standard stipulations for fluid minerals. The land within the utility corridor is available for other minerals; however, there is no active mineral activity. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on the management of mineral resources in the respective FOs is discussed below.

BLM Rawlins Field Office

Effects for the designation of new utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile South (2 miles), and Mexican Flats (9 miles) alternative connectors would be similar to those described for Alternative A. These alternative connectors traverse areas open to leasing with minor constraints as well as some areas of major constraints. Concentrating utilities in this area could compete with the ability to access and develop mineral resources. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

BLM Las Vegas Field Office

Since the development of mineral resources is not permitted within the Rainbow Gardens ACEC, which overlaps the Sunrise ISA, impacts to mineral resources would not be anticipated.

4.5.3 Soil Resources

No direct effect would occur to soil resources from plan amendments; however, effects could occur from changes to land management that would allow and/or encourage new utility project development such as the establishment of new designated or expanded utility corridors. Development of additional utility projects within new utility corridors or development of additional ROWs would result in direct and indirect impacts to soil resources. Impacts could occur from short-term increases of erosion rates within disturbed areas, potential creation of unstable soil conditions at excavated areas, and soil contamination from leaks and spills. Impacts also could occur from short-term increases in upland erosion. These impacts would be analyzed on a project-by-project basis, and are discussed in detail for the TWE Project in Section 3.3, Soils, of this EIS.

4.5.3.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments are not required for national forests under this alternative. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office

The 58 miles of newly designated utility corridor would pass through areas with sensitive soils. The amended area would overlap with 39,888 acres of soil designated as highly erodible and 47,912 acres that are designated as prone to compaction. Concentrating utilities in this area could compromise soil stability and productivity.

BLM Little Snake Field Office

The 42 miles of utility corridor that would require a plan amendment would overlap with 27,122 acres of soil designated as highly erodible, 19,473 acres that are designated as prone to compaction, and 2,985 acres of prime farmland. Concentrating utilities in this area could compromise soil stability and productivity.

BLM Vernal Field Office

The 19 miles of utility corridor that would require a plan amendment would overlap with 3,254 acres of soil designated as highly erodible, 9,891 acres that are designated as prone to compaction, and 811 acres of prime farmland. Concentrating utilities in this area could compromise soil stability and productivity.

BLM Las Vegas Field Office (Agency Preferred Alternative)

The one mile of utility corridor that would require a plan amendment would overlap with 20 acres of soil designated as highly erodible. Concentrating utilities in this area could compromise soil stability.

4.5.3.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office

The 61 miles of utility corridor that would require a plan amendment would pass through areas with sensitive soils. The amended area would overlap with 48,559 acres of soil designated as highly erodible and 47,133 acres that are designated as prone to compaction. Concentrating utilities in this area could compromise soil stability and productivity.

BLM Little Snake Field Office

The 37 miles of utility corridor that would require a plan amendment would overlap with 34,418 acres of soil designated as highly erodible, 26,441 acres that are designated as prone to compaction, and 4,649 acres of prime farmland. Concentrating utilities in this area could compromise soil stability and productivity.

BLM White River Field Office

The 38 miles of utility corridor that would require a plan amendment would overlap with 349 acres of soil designated as highly erodible, 26,854 acres that are designated as prone to compaction, and 3,815 acres of prime farmland. Concentrating utilities in this area could compromise soil stability and productivity.

BLM Vernal Field Office

The 6 miles of utility corridor that would require a plan amendment would overlap with 14 acres of soil designated as prone to compaction. Concentrating utilities in this area could compromise soil productivity.

BLM Price Field Office

The 14 miles of utility corridor that would require a plan amendment would overlap with 5,895 acres of soil designated as highly erodible, 13,819 acres that are designated as prone to compaction, and 682 acres of prime farmland. Concentrating utilities in this area could compromise soil stability and productivity.

4.5.3.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office

The 27 miles of utility corridor that would require a plan amendment would pass through areas with sensitive soils. The amended area would overlap with 11,965 acres of soil designated as highly erodible, 17,106 acres that are designated as prone to compaction, and 199 acres of prime farmland. Concentrating utilities in this area could compromise soil stability and productivity.

BLM White River Field Office

Impacts would be the same as for Alternative B.

BLM Vernal Field Office

Impacts would be the same as for Alternative B.

BLM Price Field Office

The 10 miles of utility corridor that would require a plan amendment would overlap with 609 acres of soil designated as highly erodible and 6,085 acres that are designated as prone to compaction. Concentrating utilities in this area could compromise soil stability and productivity.

BLM Caliente Field Office

The nine miles of utility corridor that would require a plan amendment would overlap with 118 acres of soil designated as highly erodible. Concentrating utilities in this area could compromise soil stability.

USFS Fishlake National Forest

The 22 miles of utility corridor that would require a plan amendment would overlap with 10,805 acres of soil designated as highly erodible, 21,061 acres that are designated as prone to compaction, and 1 acre of prime farmland. The corridor would be co-located with an existing transportation and utility corridor; however, concentrating utilities in this area could compromise soil stability and productivity.

4.5.3.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office (Agency Preferred Alternative)

The 76 miles of utility corridor that would require a plan amendment would pass through areas with sensitive soils. The amended area would overlap with 40,511 acres of soil designated as highly erodible and 58,172 acres that are designated as prone to compaction. Concentrating utilities in this area could compromise soil stability and productivity.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as for Alternative B.

BLM Vernal Field Office

The 17 miles of utility corridor that would require a plan amendment would overlap with 4,696 acres of soil designated as highly erodible and 9,178 acres designated as prone to compaction. Concentrating utilities in this area could compromise soil stability and productivity.

4.5.3.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Vernal Field Office

The 6 miles of utility corridor that would require a plan amendment would overlap with 335 acres of soil designated as highly erodible, 2,999 acres designated as prone to compaction, and 506 acres of prime farmland. Concentrating utilities in this area could compromise soil stability and productivity.

4.5.3.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect the plan amendments would have on the managing soil resources in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The 22-mile utility corridor that would require a plan amendment would overlap with 4,618 acres of soil designated as highly erodible and 11,090 acres designated as prone to compaction. Concentrating utilities in this area could compromise soil stability and productivity.

BLM Salt Lake Field Office (Agency Preferred Alternative)

The 3-mile utility corridor that would require a plan amendment would overlap with 275 acres of soil designated as highly erodible, 2,239 acres designated as prone to compaction, and four acres of prime farmland. Concentrating utilities in this area could compromise soil stability and productivity.

4.5.3.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3-mile utility corridor for the Emma Park Alternative Variation that would require a plan amendment would overlap with 107 acres of soil designated as highly erodible and 2,723 acres designated as prone to compaction. Concentrating utilities in this area could compromise soil stability and productivity.

4.5.3.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office

Designation of new utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile South (2 miles), and Mexican Flats (9 miles) alternative connectors would pass through areas with sensitive soils. The areas requiring a plan amendment would overlap with soil designated as highly erodible (Baggs—17,393 acres, Mexican Flats—3,622 acres, and no areas for Fivemile Point North and South), soil designated as prone to compaction (Baggs—17,640 acres, Fivemile Point North—315 acres,

Fivemile Point South—816 acres, and Mexican Flats—6,675 acres). Only the Baggs Alternative Connector would overlap with soil designated as prime farmland (116 acres). Concentrating utilities in this area could compromise soil stability and productivity.

BLM Las Vegas Field Office

The 1 mile of utility corridor that would require a plan amendment would overlap with three acres of soil designated as highly erodible by water. The placement of utilities in this area could compromise soil stability and productivity.

4.5.4 Water Resources

No direct effect would occur to water resources from plan amendments; however, effects could occur from changes to land management that would allow and/or encourage new utility project development such as the establishment of new designated or expanded utility corridors. Development of additional utility projects within new utility corridors or development of additional ROWs would result in direct and indirect impacts to water resources. Impacts could occur from short-term increases of erosion rates within disturbed areas, potential creation of unstable soil conditions at excavated areas, increased suspended sediment concentrations below access road stream crossings, and water contamination from leaks and spills. Impacts also could occur from short-term increases from upland erosion contributing to suspended solids concentrations and sedimentation issues in streams. These impacts would be analyzed on a project-by-project basis, and are discussed in detail for the TWE Project in Section 3.4, Water Resources, of this EIS.

4.5.4.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments are not required for national forests under this alternative. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office

The 58 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 294 miles of intermittent streams and 316 acres of waterbodies. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM Little Snake Field Office

The 42 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 196 miles of intermittent streams and 4 acres of waterbodies. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM Vernal Field Office

The 19 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 46 miles of intermittent streams. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM Las Vegas Field Office (Agency Preferred Alternative)

The 1 mile of utility corridor that would require a plan amendment would not cross or overlap with any intermittent or perennial streams or waterbodies.

4.5.4.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under these alternatives. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office

The 61 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 320 miles of intermittent streams and 75 acres of waterbodies. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM Little Snake Field Office

The 37 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 223 miles of intermittent streams and 4 acres of waterbodies. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM White River Field Office

The 38 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 211 miles of intermittent and 5 miles of perennial streams. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM Vernal Field Office

The 6 miles of utility corridor that would require a plan amendment would cross or overlap with 12 miles of intermittent streams. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM Price Field Office

The 14 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 51 miles of intermittent streams, 1 mile of perennial streams, and 11 acres of waterbodies. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

4.5.4.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. Plan amendments for utility corridors could result in effects from potential additional development as stated above. Additional impacts are noted in the following sections.

BLM Rawlins Field Office

The 27 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 147 miles of intermittent streams, 17 miles of perennial streams, and 84 acres of waterbodies. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation. Exceptions to surface water buffers may need to be granted if avoidance or minimization is not possible when siting utilities; however, overhead structures can span these areas and roads re-routed to the extent feasible.

BLM White River Field Office

Impacts would be the same as for Alternative B.

BLM Vernal Field Office

Impacts would be the same as for Alternative B.

BLM Price Field Office

The 10 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 40 miles of intermittent streams and 6 acres of waterbodies. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM Caliente Field Office

The 9 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with one mile intermittent streams. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

USFS Fishlake National Forest

The 22 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 51 miles of intermittent streams, 10 miles of perennial streams, and 27 acres of waterbodies. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

4.5.4.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office (Agency Preferred Alternative)

The 76 miles of utility corridor that would require a plan amendment would cross or overlap with intermittent streams and various waterbodies. The amended area would overlap with 346 miles of intermittent streams and 472 acres of waterbodies. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as for Alternative B.

BLM Vernal Field Office

The 6 miles of utility corridor that would require a plan amendment would cross or overlap with 12 miles of intermittent streams. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

4.5.4.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Vernal Field Office

The 6 miles of utility corridor that would require a plan amendment would cross or overlap with 15 miles of intermittent streams. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

4.5.4.6 Alternative F

The Alternative F route would require a plan amendment involving two BLM offices—Vernal and Salt Lake. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Vernal Field Office (Agency Preferred Alternative)

The 22-mile utility corridor that would require a plan amendment would overlap with 30 miles of intermittent streams and 1 mile of perennial streams. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

BLM Salt Lake Field Office (Agency Preferred Alternative)

The 3-mile utility corridor that would require a plan amendment would overlap with 3 miles of intermittent streams and 2 miles of perennial streams. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

4.5.4.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3-mile utility corridor for the Emma Park Alternative Variation that would require a plan amendment would overlap with 3 miles of intermittent streams and 1 mile of perennial streams. Concentrating utilities in this area could result in reductions to water quality due to erosion and sedimentation.

4.5.4.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. Plan amendments for utility corridors could result in effects from potential additional development as stated above. Additional impacts are noted in the following sections.

BLM Rawlins Field Office

Designation of new utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile South (2 miles), and Mexican Flats (9 miles) alternative connectors would overlap with intermittent streams, perennial streams, and waterbodies. The Baggs Alternative Connector would overlap with 84 miles of intermittent streams and 5 acres of water bodies. The Fivemile Point North Alternative Connector would overlap with 7 miles of intermittent streams. The Fivemile Point South Alternative

Connector would overlap with 5 miles of intermittent streams and 2 acres of water bodies. The Mexican Flats Alternative Connector would overlap with 36 miles of intermittent streams and 4 acres of water bodies. Exceptions to surface water buffers for the Mexican Flats and Fivemile Point North alternative connectors may need to be granted if avoidance or minimization is not possible when siting utilities; however, overhead structures can span these areas and roads re-routed to the extent feasible.

BLM Las Vegas Field Office

The 1 mile of utility corridor that would require a plan amendment would not cross or overlap with any intermittent or perennial streams or waterbodies.

4.5.5 Vegetation

Section 3.5 provides a detailed description of impacts to vegetation resources within the corridors proposed, plan amendment-specific impacts are addressed in the following sections. This section is subdivided into general vegetation, forest management, and fire and fuels management.

4.5.5.1 General Vegetation

Allowing for potential future development of utilities in areas where currently none exist could affect the vegetation composition and spread of noxious weeds. Vegetation could be removed temporarily during potential future project construction or the vegetation composition permanently altered for installation of project facilities. Surface disturbing activities, human presence, and wildland fires all have the potential to increase the spread of noxious and invasive weed species.

Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office

The 58 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 200 acres of grassland, 1,293 acres of riparian and wetland communities, 64,417 acres of shrubland, 335 acres of forested, and 2,593 acres of sparsely vegetated or barren land. No agricultural land or pinyon/juniper would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM Little Snake Field Office

The 42 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 6,659 acres of grassland, 8 acres of riparian and wetland communities, 41,137 acres of shrubland, 167 acres of agricultural land, 23 acres of pinyon/juniper, and 473 acres of sparsely vegetated or barren land. No forested areas would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM Vernal Field Office

The 19 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 3 acres of agricultural land, 232 acres of grassland, 1,231 acres of pinyon/juniper, 8,994 acres of shrubland, 9 acres of riparian/wetland and 1,240 acres of sparsely vegetated or barren land. No forested areas would be within

the amended area. Concentrating utilities in this area would result in the replacement or alteration of vegetation within these community types.

BLM Las Vegas Field Office (Agency Preferred Alternative)

The 1 mile of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 4 acres of riparian and wetland communities, 26 acres of shrubland, and 3 acres of sparsely vegetated or barren land. No agricultural land, forested areas, grasslands, or pinyon/juniper would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments for utility corridors could result in effects from potential additional development as stated above. Additional impacts are noted in the following sections.

BLM Rawlins Field Office

Impacts from expansion of the existing corridor along I-80 and conversion of a utility corridor to allow overhead facilities south of I-80 would be the same as those stated above. Over time, development would temporarily or permanently alter the vegetation composition necessary for managing sage-obligate habitat. Known unique plant communities lie to the north and east of the corridor and would not be affected by the development of an aboveground utility corridor.

The 61 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 6 acres of agricultural land, 257 acres of forested areas, 197 acres of grassland, 1,200 acres of riparian and wetland communities, 62,567 acres of shrubland, and 2,076 acres of sparsely vegetated or barren land. No pinyon/juniper would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM Little Snake Field Office

The 37 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 230 acres of agricultural land, 1 acre of forested land, 8 acres of pinyon/juniper, 8,478 acres of grassland, 3 acres of riparian and wetland communities, 49,411 acres of shrubland, and 829 acres of sparsely vegetated or barren land. No agricultural land, forested areas, or pinyon/juniper would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM White River Field Office

Impacts from expansion and conversion of a utility corridor to allow overhead facilities would be the same as those stated above. The northern portion of the corridor passes through a “weed free” area. Efforts to combat the invasion and spread of noxious weeds would likely need to be elevated to ensure this condition in, along, and near the corridor. In areas near the Oil Spring Mountain and White River Riparian ACECs, efforts will need to be elevated to ensure the protection of Remnant Vegetation Associations (vegetation species with the potential to be listed in the near future).

The 38 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 26 acres of agricultural land, 2,525 acres of forested areas, 606 acres of grassland, 19,736 acres of pinyon/juniper, 73 acres of riparian and wetland communities, 26,324 acres of shrubland, and 802 acres of sparsely vegetated or barren

land. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM Vernal Field Office

The 6 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 102 acres of forested, 1,962 acres of pinyon/juniper, two acres of riparian and wetland, 288 acres of shrubland, and 83 acres of sparsely vegetated or barren land. No agricultural land or grassland would be in the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM Price Field Office

The 14 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 48 acres of agricultural land, 573 acres of grassland, 700 acres of pinyon/juniper, 285 acres of riparian and wetland communities, 12,718 acres of shrubland, and 2,426 acres of sparsely vegetated or barren land. No forested areas would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and Fishlake National Forest. Plan amendments for utility corridors could result in effects from potential additional development as stated above. Additional impacts are noted in the following sections.

BLM Rawlins Field Office

The 27 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 2 acres of agricultural land, 123 acres of forested areas, 434 acres of grassland, 955 acres of riparian and wetland communities, 39,853 acres of shrubland, and 531 acres of sparsely vegetated or barren land. No pinyon/juniper would be within the amended area. Concentrating utilities in this area would result in the replacement or alteration of vegetation within these community types.

BLM White River Field Office

Effects would be the same as for Alternative B described above.

BLM Vernal Field Office

Effects would be the same as for Alternative B described above.

BLM Price Field Office

The 10 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 674 acres of grassland, 1,885 acres of pinyon/juniper, 3 acres of riparian and wetland communities, 5,714 acres of shrubland, and 3,453 acres of sparsely vegetated or barren land. No agricultural land or forested areas would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM Caliente Field Office

The 9 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 4 acres of riparian and wetland communities and 274 acres of shrubland. No agricultural land, forested areas, grassland, pinyon/juniper, or sparsely vegetated or barren land would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

USFS Fishlake National Forest

The 22 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 35 acres of agricultural land, 2,749 acres of forested areas, 51 acres of grassland, 8,858 acres of pinyon/juniper, 373 acres of riparian and wetland communities, 8,873 acres of shrubland, and 904 acres of sparsely vegetated or barren land. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office (Agency Preferred Alternative)

The 76 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 7 acres of agricultural land, 441 acres of forested areas, 183 acres of grassland, 1,958 acres of riparian and wetland communities, 82,061 acres of shrubland, and 373 acres of sparsely vegetated or barren land. No pinyon/juniper would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as for Alternative B.

BLM Vernal Field Office

The 17 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with six acres of agricultural land, 384 acres of forested, 737 acres of grassland, 4,279 acres of pinyon/juniper, two acres of riparian and wetland, 2,380 acres of shrubland, and 1,281 acres of sparsely vegetated or barren land. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Vernal Field Office

The 6 miles of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with three acres of agricultural land, 12 acres of forested, 143 acres of grassland, 66 acres of pinyon/juniper, nine acres of riparian and wetland,

3,818 acres of shrubland, and 254 acres of sparsely vegetated or barren land. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect the plan amendments would have on the managing vegetation resources in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The 22-mile utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with six acres of agricultural land, 1,668 acres of forested, 750 acres of grassland, 4,248 acres of pinyon/juniper, two acres of riparian and wetland, 2,960 acres of shrubland, and 1,315 acres of sparsely vegetated or barren land. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM Salt Lake Field Office (Agency Preferred Alternative)

The 3-mile utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with three acres of agricultural land, 1,064 acres of forested, 59 acres of grassland, 88 acres of pinyon/juniper, 1,048 acres of shrubland, and 23 acres of sparsely vegetated or barren land. No areas of riparian and wetland would be affected. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3-mile utility corridor for the Emma Park Alternative Variation that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 1,120 acres of forested, 53 acres of grassland, 28 acres of pinyon/juniper, 1,359 acres of shrubland, and 133 acres of sparsely vegetated or barren land. No areas of agricultural land or riparian and wetland would be affected. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

BLM Rawlins Field Office

Designation of new utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile South (2 miles), and Mexican Flats (9 miles) alternative connectors would overlap with several different vegetation community types. The Baggs Alternative Connector would overlap with 12 acres of agricultural land, 465 acres of forested land, 21 acres of grassland, 314 acres of riparian and wetland, 18,148 acres of shrubland, and 972 acres of sparsely vegetated or barren land; no areas of pinyon juniper would be affected. The Fivemile Point North Alternative Connector would overlap with two acres of grassland, 12 acres of riparian and wetland, 2,075 acres of shrubland, and 78 acres of sparsely vegetated or barren land; no areas of agricultural land, forested, or pinyon juniper would be affected. The Fivemile Point South Alternative Connector would overlap with eight acres of riparian and wetland and 987 acres of shrubland; no areas of agricultural land, grassland, forested, pinyon juniper, or sparsely vegetated or barren would

be affected. The Mexican Flats Alternative Connector would overlap with one acre of agricultural land, 142 acres of riparian and wetland, 7,276 acres of shrubland, and 961 acres of sparsely vegetated or barren land; no areas of grassland, forested, or pinyon juniper would be affected. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

BLM Las Vegas Field Office

The one mile of utility corridor that would require a plan amendment would overlap with several different vegetation community types. The amended area would overlap with 16 acres of shrubland and 14 acres of sparsely vegetated or barren land. No agricultural land, forested areas, grasslands, pinyon/juniper, or riparian and wetland communities would be within the amended area. Concentrating utilities in this area would result in the removal or alteration of vegetation within these community types.

4.5.5.2 Forest Management

Allowing for potential future utilities to be developed in areas where currently none exist could affect the management of forests. Corridor areas may influence the size and location of commercial timber harvesting. Initial ROW clearing and operational maintenance would result in a reduced fuel load and, therefore, incrementally reduce the potential for wildland fires in the area of the corridor. There would be a greater emphasis on fire suppression to protect the developed infrastructure within the corridor.

Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. No national forests require plan amendments under this alternative. The proposed plan amendments would have minor and inconsequential effects for the following areas because the areas do not contain forested and woodland areas suitable for timber harvest: BLM Little Snake FO, and BLM Las Vegas FO. Only areas that may have forest management concerns for the plan amendment under this alternative are discussed in the following sections.

BLM Rawlins Field Office

Since all forested and woodland areas within the FO are open to commercial and noncommercial timber harvesting, the location of this corridor could potentially interfere with harvest operations in the Powder Rim area of the FO. However, given that the limited forest resources exist along the route, impacts to forest management would not be anticipated.

BLM Vernal Field Office

Some of these areas that would be crossed Alternative A are approved for woodcutting and the existence of the corridor could interfere with harvesting operations.

Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. The effect these plan amendments would have on forest management in the respective FOs is discussed below. The proposed plan amendments would have minor and inconsequential effects for the following areas because the areas do not contain forested and woodland areas suitable for timber harvest: BLM Little Snake FO, BLM White River FO, and BLM Price FO. Only areas that may have forest management concerns for the plan amendment under this alternative are discussed in the following section.

BLM Rawlins Field Office

Since all forested and woodland areas within the FO are open to commercial and noncommercial timber harvesting, the location of this corridor could potentially interfere with harvest operations in the Powder Rim area of the FO. However, given that the limited forest resources exist along the route, impacts to forest management would not be anticipated.

BLM Vernal Field Office

Some of the areas that are crossed by Alternative B are approved for woodcutting and the existence of the corridor could interfere with harvesting operations.

Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and Fishlake National Forest. The effect these plan amendments would have on forest management in the respective BLM offices and national forest is discussed below. The proposed plan amendments would have minor and inconsequential effects for the following areas because the areas do not contain forested and woodland areas suitable for timber harvest: BLM White River FO, BLM Price FO, BLM Caliente FO. Only areas that may have forest management concerns for the plan amendment under this alternative are discussed in the following sections.

BLM Rawlins Field Office

Since all forested and woodland areas within the FO are open to commercial and noncommercial timber harvesting, the location of this corridor could potentially interfere with harvest operations in the Powder Rim area of the FO. However, given that the limited forest resources exist along the route, impacts to forest management would not be anticipated.

BLM Vernal Field Office

Some of the areas that are crossed by Alternative C are approved for woodcutting and the existence of the corridor could interfere with harvesting operations.

USFS Fishlake National Forest

Timber harvest operations are active within the forest. The majority of the proposed utility corridor location follows a transportation corridor and the remainder is co-located with an existing transmission line. Expanding the utility corridor and allowing exception to the SIO could open the area for harvest or other types of development, which could interfere with harvest operations. However, the proposed utility corridor location does not cross any areas managed for production or forest management.

Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on forest management in the respective BLM offices is discussed below. The proposed plan amendments would have minor and inconsequential effects for the following area because the area does not contain forested and woodland areas suitable for timber harvest: BLM Little Snake FO. Only areas that may have forest management concerns for the plan amendment under this alternative are discussed in the following section.

BLM Rawlins Field Office (Agency Preferred Alternative)

Since all forested and woodland areas within the FO are open to commercial and noncommercial timber harvesting, the location of this corridor could potentially interfere with harvest operations in the Powder

Rim area of the FO. However, given that the limited forest resources exist along the route, impacts to forest management would not be anticipated.

BLM Vernal Field Office

Some of the areas that are crossed by Alternative D are approved for woodcutting and the existence of the corridor could interfere with harvesting operations.

Alternative E

The Alternative E route would require plan amendments involving one BLM office—Vernal.

BLM Vernal Field Office

Some of the areas that are crossed by Alternative E are approved for woodcutting and the existence of the corridor could interfere with harvesting operations.

Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The proposed plan amendment would have minor and inconsequential effects in the BLM Salt Lake FO because the area does not contain forested and woodland areas suitable for timber harvest. Only areas that may have forest management concerns for the plan amendment under this alternative are discussed in the following section.

BLM Vernal Field Office (Agency Preferred Alternative)

Some of the areas that are crossed by Alternative F are approved for woodcutting and the existence of the corridor could interfere with harvesting operations.

Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The proposed plan amendment would have minor and inconsequential effects in the BLM Salt Lake FO because the area does not contain forested and woodland areas suitable for timber harvest.

Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs: Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on forest management in the respective FOs is discussed below. The proposed plan amendments would have minor and inconsequential effects for the following area because the area does not contain forested and woodland areas suitable for timber harvest: BLM Las Vegas Office. Only areas that may have forest management concerns for the plan amendment under this alternative are discussed in the following section.

BLM Rawlins Field Office

Since all forested and woodland areas within the FO are open to commercial and noncommercial timber harvesting, the location of utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile Point South (2 miles), and Mexican Flats (9 miles) alternative connectors potentially could interfere with harvest operations in the Powder Rim area of the FO. However, given that the limited forest resources exist along the route, impacts to forest management would not be anticipated.

4.5.5.3 Fire and Fuels Management

Allowing for potential future utilities to be developed in areas where currently none exist could affect the management of fire and fuels. Benefits to fire and fuel management would include decreased fuel loads due to ROW clearing and maintenance, resulting in the potential for reduced fire size and intensity. The addition of access roads also could facilitate firefighting efforts. The inclusion of a utility corridor could eliminate the ability to use wildland fire for beneficial vegetation treatment and may increase the frequency of fire events due to additional human presence, vehicles, and equipment (ignition sources). The location of infrastructure would elevate the need to suppress fire in the utility corridor with this additional value at risk to wildland fire. If an RMP or LRMP does not state that wildland fire is being reintroduced to the ecosystem, then it is assumed that some level of suppression of wildland fire is the overall strategy of the land management agency.

Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. No national forests require plan amendments under this alternative. The effect these plan amendments would have on fire and fuels management in the respective FOs is discussed below.

BLM Rawlins Field Office

The location of an aboveground transmission line in this area could have an effect on fire and fuels management because the area has been designated as suitable for the use of wildland fire as a resource benefit used to protect, maintain, and enhance vegetation resources and to allow fire to function in its natural ecological role. There would need to be an increased emphasis on fire suppression and post-fire restoration in the corridor area to protect the infrastructure and maintain public health and safety.

BLM Little Snake Field Office

As a whole, the Little Snake FO integrates wildland fire into the ecosystem as a natural process on a landscape scale. Development in a new utility corridor where currently no development exists could have an effect on fire and fuels management. Along the Alternative A route, a suppression response from fire management units to wildland fire may be necessary to prevent damage to the infrastructure and risks to public health and safety taking into consideration firefighter safety. This area would be precluded from the use of wildland fire as a vegetation treatment; however, the vegetation clearing and maintenance practices along the corridor may serve a similar role.

BLM Vernal Field Office

Prescribed and wildland fire is used within the FO as a method for reintroducing natural fire regimes to fire-adapt ecosystems; however, in the eastern portion of the FO, where Alternative A crosses public land, is a high fire risk area where fire is not desired. Introducing additional structures in this area may increase the potential for wildfire and associated suppression efforts required to control any fire starts. Any future transmission lines would need to meet design requirements to reduce the chances of fire in this high fire risk area.

BLM Las Vegas Field Office (Agency Preferred Alternative)

There is some use of prescribed fire within the Las Vegas FO; however, the vast majority of the FO is managed to suppress fire. Alternative A does not pass through any areas where fire is used for enhancement of vegetation communities.

Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. The effect these plan amendments would have on fire and fuels management in the respective FOs is discussed below.

BLM Rawlins Field Office

The Alternative B route has been designated as suitable for the use of wildland fire as a resource benefit used to protect, maintain, and enhance vegetation resources and to allow fire to function in its natural ecological role. Effects to fire and fuels management would be the same as for Alternative A described above.

BLM Little Snake Field Office

As a whole, the Little Snake FO integrates wildland fire into the ecosystem as a natural process on a landscape scale. Effects to fire and fuels management from the newly designated corridor would be the same as for Alternative A described above.

BLM White River Field Office

Wildland fire is used by the White River FO as a method for protecting, maintaining, and enhancing vegetation communities. Conversion and expansion of the existing utility corridor could have an effect on fire and fuels management within the FO. The corridor would constitute an area where additional fire suppression may be required to protect the infrastructure providing for public health and safety. Vegetation clearing and maintenance practices along the corridor may serve a similar role to fire in reducing fuel biomass.

BLM Vernal Field Office

In the eastern portion of the FO where Alternative B crosses public land, is a high fire risk area where fire is not desired. Therefore, Alternative B may not constitute an area where additional suppression efforts would be required.

BLM Price Field Office

Within the Price FO, wildland fire is the preferred method of vegetation treatment because it is considered to be less intrusive. Portions of Alternative B that extend outside of the utility corridor designated in the RMP equate to areas where wildland fire use would be precluded. In the absence of fire, mechanical, chemical, and biological methods are employed for vegetation treatments. The vegetation clearing and maintenance practices along the corridor would serve a similar role in reducing fuel loads.

Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and Fishlake National Forest. The effect these plan amendments would have on fire and fuels management in the respective BLM offices and national forest is discussed below.

BLM Rawlins Field Office

The Alternative C route has been designated as suitable for the use of wildland fire as a resource benefit used to protect, maintain, and enhance vegetation resources and to allow fire to function in its natural ecological role. Effects to fire and fuels management would be the same as for Alternative A described above.

BLM White River Field Office

Effects to fire and fuels management as a result of converting to an aboveground corridor would be the same as for Alternative B described above.

BLM Vernal Field Office

Effects to fire and fuels management from the newly designated corridor would be the same as for Alternative B described above.

BLM Price Field Office

Portions of Alternative C that extend outside of the utility corridor designated in the RMP equate to areas where wildland fire use would be precluded. Effects to fire and fuels management as a result of expanding the existing utility corridor would be the same as for Alternative B described above.

BLM Caliente Field Office

Within the Caliente FO, fire is being reintroduced as a natural component of the ecosystem. A one-time exception through the Kane Springs ACEC would equate to an increased level of fire suppression, particularly in high elevation areas where there tends to be a greater accumulation of fuel biomass.

USFS Fishlake National Forest

Some wildland fires are permitted to burn within the Fishlake National Forest. This would depend on the vegetation community type involved and the intensity of the fire. In areas intersected by Alternative C, this strategy would likely be precluded. Fire suppression would need to be prioritized in an effort to protect the infrastructure within the ROW. While the ROW and aboveground transmission line would result in visual impairment due to clearing and presence of the line, the necessary fire suppression would benefit visual quality in that it would eliminate visual impairment resulting from burn areas. The vegetation clearing and maintenance practices along the ROW also would serve a similar role to fire in reducing fuel loads.

Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on fire and fuels management in the respective BLM offices is discussed below.

BLM Rawlins Field Office (Agency Preferred Alternative)

The Alternative D route has been designated as suitable for the use of wildland fire as a resource benefit used to protect, maintain, and enhance vegetation resources and to allow fire to function in its natural ecological role. Effects to fire and fuels management would be the same as for Alternative A described above.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

Areas crossed by Alternative D are classified as areas where wildland fire is desired but there are significant constraints. Effects to fire and fuels management would be the same as for Alternative A described above.

Alternative E

The Alternative E route would require plan amendments involving one BLM office—Vernal. The effect this plan amendment would have on fire and fuels management in the respective BLM office is discussed below.

BLM Vernal Field Office

Areas crossed by Alternative E are classified as areas where fire is not desired at all. Effects to fire and fuels management would be the same as for Alternative A described above. Effects to fire and fuels management would be the same as for Alternative A described above.

Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect the plan amendments would have on the fire and fuels management in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

Areas crossed by Alternative F are classified as areas where wildland fire is desired but there are significant constraints. Effects to fire and fuels management would be the same as for Alternative A described above.

BLM Salt Lake Field Office (Agency Preferred Alternative)

Overall, wildfire fire within the FO is suppressed when it occurs on public land. Therefore, Alternative F may not constitute an area where additional suppression efforts would be required.

Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3-mile utility corridor for the Emma Park Alternative Variation that would require a plan amendment would be located in an area of existing fire suppression. Therefore, the Emma Park Alternative Variation may not constitute an area where additional suppression efforts would be required.

Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on fire and fuels management in the respective FOs is discussed below.

BLM Rawlins Field Office

The Baggs, Fivemile Point North, Fivemile Point South, and Mexican Flats alternative connectors have been designated as suitable for the use of wildland fire as a resource benefit used to protect, maintain, and enhance vegetation resources and to allow fire to function in its natural ecological role. Effects to fire and fuels management would be the same as for Alternative A described above.

BLM Las Vegas Field Office

A one-time exception to allow the Sunrise Mountain Alternative Connector route would have similar effects to management of cultural resources as described for Alternative A above.

4.5.6 Special Status Plant Species

The expansion or designation of new utility corridors would concentrate future utility development in these areas. Impacts to special status plant species would generally be the same as discussed in Section 4.5.5, Vegetation. On BLM- and USFS-managed lands (and private lands in many cases), surveys typically are required in potential or known habitats of threatened, endangered, or otherwise special status species. These surveys would help determine the presence of any special status species or extent of habitat, and protective measures generally would be taken to avoid or minimize direct disturbance in these important areas before any potential future proposed utility projects are permitted. Additional information on special status species that may be affected is presented in Section 3.6, Special Status Plant Species.

4.5.6.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on special status plant species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to special status species from expansion of the existing utility corridor along I-80 and designation of a new utility corridor south of I-80 would be the same as those stated above. **Table 4-2** presents the federally listed and candidate plant species for the BLM Rawlins FO.

Table 4-2 Federally Listed and Candidate Plant Species Potentially Occurring in the BLM Rawlins Field Office

Species	Scientific Name	County	State	Federal Status
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	Carbon, Sweetwater	Wyoming	Threatened

The proposed utility corridor would cross 86 acres of known or modeled areas with Ute ladies'-tresses. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM Little Snake Field Office

Impacts to special status plant species from a new utility corridor would be the same as those stated above. **Table 4-3** presents the federally listed and candidate plant species for the BLM Little Snake FO.

Table 4-3 Federally Listed and Candidate Plant Species Potentially Occurring in the BLM Little Snake Field Office

Species	Scientific Name	County	State	Federal Status
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	Moffat	Colorado	Threatened

The proposed utility corridor would traverse 349 acres containing known or modeled areas with Ute ladies'-tresses. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM Vernal Field Office

Impacts to special status plant species from a new utility corridor would be the same as those stated above. **Table 4-4** presents the federally listed and candidate species for the BLM Vernal FO.

Table 4-4 Federally Listed and Candidate Plant Species Potentially Occurring in the BLM Vernal Field Office

Species	Scientific Name	County	State	Federal Status
Graham penstemon	<i>Penstemon grameii</i>	Duchesne, Uintah	Utah	Proposed Threatened
Shrubby reed-mustard	<i>Schoenocrambe suffrutescens</i>	Duchesne, Uintah	Utah	Endangered
White River beardtongue	<i>Penstemon scariosus</i>	Uintah	Utah	Candidate
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	Duchesne, Uintah, Daggett	Utah	Threatened
Clay reed-mustard	<i>Schoenocrambe argillacea</i>	Uintah	Utah	Threatened
Pariette cactus	<i>Sclerocactus brevispinus</i>	Duchesne, Uintah	Utah	Threatened
Uinta Basin hookless cactus	<i>Sclerocactus wetlandicus</i>	Duchesne, Uintah	Utah	Threatened

The proposed utility corridor would cross areas containing known or modeled areas with 342 acres of Graham penstemon. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM Las Vegas Field Office (Agency Preferred Alternative)

Impacts to special status plant species from a one-time exception through the Sunrise Mountain ISA would be the same as those stated above. **Table 4-5** presents the federally listed and candidate plant species for the BLM Las Vegas FO.

Table 4-5 Federally Listed and Candidate Plant Species Potentially Occurring in the BLM Las Vegas Field Office

Species	Scientific Name	County	State	Federal Status
Las Vegas buckwheat	<i>Eriogonum corymbosum var. nilesii</i>	Clark, Lincoln	Nevada	Candidate

The proposed utility corridor would cross 20 acres of areas containing known or modeled areas with Las Vegas buckwheat. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

4.5.6.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on special status species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

The proposed utility corridor would cross 214 acres of areas containing known or modeled Ute ladies'-tresses. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM Little Snake Field Office

Impacts to special status plant species from a new utility corridor would be similar to those stated for Alternative A. A total of 295 acres of known or modeled areas for Ute ladies'-tresses would be within the amended area. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM White River Field Office

Impacts to special status species from expansion and conversion of an underground utility corridor to allow aboveground development would be the same as those stated above. **Table 4-6** presents the federally listed and candidate plant species for the BLM White River FO.

Table 4-6 Federally Listed and Candidate Plant Species Potentially Occurring in the BLM White River Field Office

Species	Scientific Name	County	State	Federal Status
White River beardtongue	<i>Penstemon scariosus var. albifluvis</i>	Rio Blanco	Colorado	Candidate
Grahams penstemon	<i>Penstemon grahamii</i>	Rio Blanco	Colorado	Proposed Threatened
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	Rio Blanco	Colorado	Threatened

The proposed corridor would traverse areas containing known or modeled areas with Grahams penstemon, Ute ladies'-tresses, and White River beardtongue as follows: Grahams penstemon – 1,710 acres, Ute ladies'-tresses – 108 acres, and White River beardtongue – 1,247 acres. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM Vernal Field Office

The proposed utility corridor would cross two acres with known or modeled areas of Ute ladies'-tresses and 1,148 acres with known or modeled areas of White River beardtongue. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM Price Field Office

Impacts to special status plant species from a new utility corridor or possibly widening an existing corridor would be the same as those stated above. **Table 4-7** presents the federally listed and candidate plant species for the BLM Price FO.

Table 4-7 Federally Listed and Candidate Plant Species Potentially Occurring in the BLM Price Field Office

Species	Scientific Name	County	State	Federal Status
Jones Cycladenia	<i>Cycladenia humilis var. jonesii</i>	Grand, Emery	Utah	Threatened
Wright fishhook cactus	<i>Sclerocactus wrightiae</i>	Emery	Utah	Endangered
Last chance townsendia	<i>Townsendia aprica</i>	Emery	Utah	Threatened
San Rafael cactus	<i>Pediocactus despainii</i>	Emery	Utah	Endangered
Winkler cactus	<i>Pediocactus winkleri</i>	Emery	Utah	Threatened
Barneby reed-mustard	<i>Schoenocrambe barnebyi</i>	Emery	Utah	Endangered

The proposed utility corridor would cross 11,751 acres containing known or modeled areas with Wright fishhook cactus and 3,255 acres of known or modeled areas with Winkler cactus. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

4.5.6.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. The effect these plan amendments would have on special status species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

The proposed utility corridor would cross 403 acres of areas containing known or modeled Ute ladies'-tresses. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM White River Field Office

Impacts to special status plant species from expansion and conversion of an underground utility corridor to allow aboveground development would be the same as those stated above for Alternative B.

BLM Vernal Field Office

Impacts to special status plant species from designating the new utility corridor would be the same as those stated above for Alternative B.

BLM Price Field Office

The proposed utility corridor would cross areas containing known or modeled areas with Jones cycladenia, San Rafael cactus, Wright fishhook cactus, and Winkler cactus as follows: Jones cycladenia – 773 acres; San Rafael cactus – 206 acres; Wright fishhook cactus – 7,944 acres; Winkler cactus – 523 acres. Overhead utilities could be mitigated to avoid or span identified habitats to the extent practical.

BLM Caliente Field Office

Impacts to special status plant species from a one-time exception through the Sunrise Mountain ISA would be the same as those stated above. **Table 4-8** presents the federally listed and candidate plant species for the BLM Caliente FO.

Table 4-8 Federally Listed and Candidate Plant Species Potentially Occurring in the BLM Caliente Field Office

Species	Scientific Name	County	State	Federal Status
Las Vegas buckwheat	<i>Eriogonum corymbosum</i> var. <i>nilesii</i>	Clark, Lincoln	Nevada	Candidate

The proposed utility corridor would not cross areas containing known or modeled areas with special status plant species.

USFS Fishlake National Forest

Impacts to special status plant species from the expanded utility corridor would be the same as those stated above. **Table 4-9** presents the federally listed and candidate plant species for the USFS Fishlake National Forest.

Table 4-9 Federally Listed and Candidate Plant Species Potentially Occurring in the USFS Fishlake National Forest

Species	Scientific Name	County	State	Federal Status
Arizona willow	<i>Salix arizonica</i>	Sevier	Utah	Candidate
Bicknell milkvetch	<i>Astragalus consobrinus</i>	Sevier	Utah	Sensitive
Elsinore buckwheat	<i>Eriogonum ostlundii</i>	Sevier	Utah	Sensitive
Last Chance townsendia	<i>Townsendia aprica</i>	Sevier	Utah	Threatened
Maguire campion	<i>Silene petersonii</i>	Sevier	Utah	Sensitive
Sigurd townsendia	<i>Townsendia jonesii</i> var. <i>lutea</i>	Sevier	Utah	Candidate
Ward beardtongue	<i>Penstemon wardii</i>	Sevier	Utah	Candidate
Wright fishhook cactus	<i>Sclerocactus wrightiae</i>	Sevier	Utah	Endangered

The proposed utility corridor would cross areas containing known or modeled areas as follows: Arizona willow – 4,320 acres, Bicknell milkvetch – 1,544 acres, Elsinore buckwheat – 2,303 acres, Last Chance townsendia – 2,247 acres, Maguire campion – 3,082 acres, Sigurd townsendia – 2,995 acres, Ward beardtongue – 7,368 acres, and Wright fishhook cactus – 307 acres. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

4.5.6.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on special status species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office (Agency Preferred Alternative)

The proposed utility corridor would cross 729 acres of areas containing known or modeled Ute ladies'-tresses. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

The proposed utility corridor would cross 2,619 acres of Grahams penstemon, 425 acres of Uinta Basin hookless cactus, and three acres of Ute ladies'-tresses. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

4.5.6.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. The effect the plan amendment would have on special status species in the respective area is discussed in the following section.

BLM Vernal Field Office

The proposed utility corridor would not cross areas containing known or modeled special status plant species.

4.5.6.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect the plan amendments would have on special status plant species in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The proposed utility corridor would cross 3,937 acres of Grahams penstemon, 425 acres of Uinta Basin hookless cactus, and three acres of Ute ladies'-tresses. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical.

BLM Salt Lake Field Office (Agency Preferred Alternative)

Impacts to special status plant species from a new utility corridor on public lands would be the same as those stated above. **Table 4-10** presents the federally listed and candidate plant species for the BLM Salt Lake FO.

Table 4-10 Federally Listed and Candidate Species Potentially Occurring in the BLM Salt Lake Field Office

Species	Scientific Name	County	State	Federal Status
Deseret milk-vetch	<i>Astragalus desereticus</i>	Utah	Utah	Threatened
Clay phacelia	<i>Phacelia argillacea</i>	Utah	Utah	Endangered
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	Utah, Wasatch, Duchesne	Utah	Threatened

The proposed utility corridor would cross four acres of areas containing known or modeled areas Ute ladies'-tresses.

4.5.6.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3-mile utility corridor for the Emma Park Alternative Variation would not cross any known or modeled areas containing special status plant species.

4.5.6.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on special status plant species in the respective areas is discussed below.

BLM Rawlins Field Office

The proposed utility corridor would cross known or modeled areas for Ute ladies'-tresses for the Baggs (293 acres), Fivemile Point South (7 acres), and Mexican Flats (71 acres) alternative connectors. Overhead utilities could be mitigated to avoid or span identified habitat to the extent practical. The Fivemile Point North Alternative Connector would not cross any areas containing known or modeled special status plant species.

BLM Las Vegas Field Office

A one-time exception through the Sunrise Mountain ISA would cross 1 acre of Las Vegas buckwheat. Overhead utilities could be mitigated to span identified habitat to the extent practical.

4.5.7 Wildlife

Allowing for potential future development of utilities in areas where currently none exist could result in habitat loss, fragmentation, increased human disturbance, and direct wildlife mortalities. Potential impacts from habitat loss would include the incremental loss of potential cover and forage and the incremental increase of habitat fragmentation from vegetation removal associated with surface disturbance activities. Habitat loss or alteration also would result in direct losses of smaller, less mobile species of wildlife, such as small mammals and reptiles, and the displacement of more mobile species into adjacent habitats. In areas where habitats are at, or near, carrying capacity, animal displacement could result in some unquantifiable reductions in local wildlife populations. Wildlife mortalities may occur as a result of road construction, vehicle and transmission line collisions, and crushing of less mobile species, nests, and/or burrows. Potential impacts also could include increased predation, nest and burrow abandonment, or loss of eggs or young during construction.

The primary impact is wildlife avoidance (displacement) of otherwise suitable habitat in and around the disturbance areas during construction and operation. Avoidance would result in displacement of animals from an area larger than the actual disturbance area. The primary operation-related impacts to wildlife are mortalities as a result of electrocution and collision from transmission line components. Additional information on wildlife is presented in Section 3.7, Wildlife.

4.5.7.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on wildlife in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to wildlife from 58 miles of a new utility corridor would be the same as those stated above. Impacts to big game (i.e., pronghorn and mule deer) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial winter range), and sensitivity to disturbance. The 58 miles of the newly designated utility corridor would overlap with critical habitat for elk (1,782 acres), mule deer (5,839 acres), and pronghorn antelope (8,112 acres). Sage grouse core areas would be overlapped by 6,019 acres and raptor nest buffer zones would be intersected for a total of 44,680 acres. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife. Exceptions to stipulations for raptor nest buffers that occur within the corridor would be required for all utilities using the corridor. Mitigation and monitoring would be resolved for site-specific projects with the BLM staff.

BLM Little Snake Field Office

Impacts to wildlife from 42 miles of a new utility corridor to accommodate Alternative A would be the same as those stated above. Impacts to big game (i.e., pronghorn, mule deer, and elk) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., severe winter range), and sensitivity to disturbance. The 42 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (8,087 acres), mule deer (13,569 acres), and pronghorn antelope (8,352 acres). Sage grouse preliminary priority habitat would be overlapped by 49,110 acres and raptor nest buffer zones would be intersected for a total of 12,360 acres. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife. Exceptions to stipulations for raptor nest buffers that occur within the corridor may be required for all utilities using the corridor. Mitigation techniques including relocation of active nests may be required.

BLM Vernal Field Office

Impacts to wildlife from 19 miles of a new utility corridor to accommodate Alternative A would be the same as those stated above. Impacts to big game (e.g., mule deer) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial winter range), and sensitivity to disturbance. The 19 miles of utility corridor that would require a plan amendment would overlap with critical habitat for mule deer (2,237 acres), and pronghorn antelope (10,667 acres). No sage grouse preliminary priority habitat or raptor nest buffer zones would be intersected. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

BLM Las Vegas Field Office (Agency Preferred Alternative)

Impacts to wildlife from a 1 mile, one-time exception through the Sunrise Mountain ISA would be the same as those stated above. Impacts to big game (i.e., desert bighorn sheep), raptors, and reptiles would be more pronounced within this FO due to presence of available habitat (e.g., occupied habitat) and sensitivity to disturbance. No known critical or priority habitat would be within the amended area.

4.5.7.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on wildlife in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to wildlife from 61 miles of a new utility corridor and locating aboveground development in portion of a corridor designated as underground only would be the same as those stated above. Impacts to big game (i.e., pronghorn and mule deer) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial winter range), and sensitivity to disturbance. The 61 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (1,782 acres), mule deer (5,958 acres), and pronghorn antelope (7,280 acres). Sage grouse core areas would be overlapped by 6,019 acres and eight raptor nest buffer zones would be intersected for a total of 44,713 acres. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife. Exceptions to stipulations for raptor nest buffers that occur within the corridor would be required for all utilities using the corridor. Mitigation and monitoring would be resolved for site-specific projects with BLM staff.

BLM Little Snake Field Office

Impacts to wildlife from 37 miles of a new utility corridor to accommodate Alternative B would be similar to those stated for Alternative A. The 37 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (21,160 acres), mule deer (14,588 acres), and pronghorn antelope (11,502 acres). Sage grouse preliminary priority habitat would be overlapped by 59,681 acres and raptor nest buffer zones would be intersected for a total of 20,401 acres. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

BLM White River Field Office

Impacts to wildlife expanding and locating aboveground development in 38 miles of a corridor designated as underground only would be the same as those stated above. Impacts to big game (i.e., pronghorn, mule deer, and elk) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., severe winter range), and sensitivity to disturbance. The 38 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (7,612 acres), mule deer (4,898 acres), and Rocky Mountain bighorn sheep (4 acres). Sage grouse preliminary priority habitat would be overlapped for a total of 11,459 acres and raptor nest buffer zones would be intersected for a total of 21,497 acres. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife. Exceptions to stipulations for raptor nest buffers that occur within the corridor would be required for all utilities using the corridor. Mitigation and monitoring would be resolved for site-specific projects with BLM staff.

BLM Vernal Field Office

Impacts to wildlife from 6 miles of a new utility corridor to accommodate Alternative B would be the same as those stated above. Impacts to big game (e.g., mule deer) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial range), and sensitivity to disturbance. The 6 miles of utility corridor that would require a plan amendment would overlap with four acres of Rocky Mountain bighorn sheep. No sage grouse preliminary priority habitat or raptor nest buffers would be intersected. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

BLM Price Field Office

Impacts to wildlife from 14 miles of a new utility corridor would be the same as those stated above. Impacts to big game (i.e., desert bighorn sheep) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial winter range), and sensitivity to disturbance. The 14 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (1,581 acres) and pronghorn antelope (12,451 acres) and raptor nest buffer zones would be intersected for a total of 2,106 acres. No sage grouse preliminary priority habitat would be intersected. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

4.5.7.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. The effect these plan amendments would have on wildlife and fish resources in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to wildlife from expanding 27 miles of an existing utility corridor would be the same as those stated above. Impacts to big game (i.e., pronghorn and mule deer) and raptors would be more

pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial winter range), and sensitivity to disturbance. The 27 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (100 acres), mule deer (15,869 acres), and pronghorn antelope (21,220 acres). Sage grouse core areas would be overlapped by 8,130 acres and raptor nest buffer zones would be intersected for a total of 34,896 acres. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife. Exceptions to stipulations for raptor nest buffers that occur within the corridor would be required for all utilities using the corridor. Mitigation techniques and monitoring would be resolved for site-specific projects with BLM staff.

BLM White River Field Office

Impacts to wildlife from expanding and locating aboveground development in portion of a corridor designated as underground only would be the same as those stated above for Alternative B.

BLM Vernal Field Office

Impacts to wildlife from the new designated corridor would be the same as those stated above for Alternative B.

BLM Price Field Office

Impacts to wildlife from 10 miles of a new utility corridor would be similar to those stated above for Alternative B. The 10 miles of utility corridor would overlap with 60 acres of critical habitat for pronghorn and 3,017 acres of raptor nest buffer zones. No sage grouse preliminary priority habitat would be overlapped by the portion of the utility corridor that would require a plan amendment.

BLM Caliente Field Office

Impacts to wildlife from a 9-mile, one-time exception through the Kane Springs ACEC would be the same as those stated above. Impacts to big game (i.e., pronghorn and desert bighorn sheep), raptors, and reptiles would be more pronounced within this FO due to presence of available habitat, and sensitivity to disturbance. No critical big game habitat or raptor nest buffer zones would be intersected. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

USFS Fishlake National Forest

Impacts to wildlife from expanding 22 miles of the existing utility corridor would be the same as those stated above. Impacts to big game (i.e., mule deer and elk) and raptors would be more pronounced than other wildlife species in this national forest due to their relative abundance, presence of available habitat (e.g., crucial winter range), and sensitivity to disturbance. The 22 miles of utility corridor that would require a plan amendment would overlap with 18,032 acres of critical habitat for elk and 11,436 acres of critical habitat for mule deer. No sage grouse preliminary priority habitat or raptor nest buffer zones would be intersected. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

4.5.7.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on wildlife in the respective areas is discussed in the following sections.

BLM Rawlins Field Office (Agency Preferred Alternative)

Impacts to wildlife from expanding 76 miles of an existing utility and designating a new corridor would be the same as those stated above. Impacts to big game (i.e., pronghorn and mule deer) and raptors would

be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial winter range), and sensitivity to disturbance. The 76 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (1,779 acres), mule deer (16,252 acres), and pronghorn antelope (17,485 acres). Sage grouse core areas would be overlapped by 6,019 acres and raptor nest buffer zones would be intersected for a total of 57,211 acres. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife. Exceptions to stipulations for raptor nest buffers that occur within the corridor would be required for all utilities using the corridor. Mitigation and monitoring would be resolved for site-specific projects with BLM staff.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

Impacts to wildlife from 17 miles of a new utility corridor to accommodate Alternative D would be the same as those stated above. Impacts to big game (e.g., mule deer) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial range), and sensitivity to disturbance. The 17 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (323 acres), moose (1,811 acres), mule deer (113 acres), and pronghorn (64 acres). Sage grouse preliminary priority habitat would be overlapped by 1,077 acres. No raptor nest buffers would be intersected. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

4.5.7.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. The effect the plan amendment would have on wildlife in the respective area is discussed in the following section.

BLM Vernal Field Office

Impacts to wildlife from 6 miles of a new utility corridor to accommodate Alternative E would be the same as those stated above. Impacts to big game (e.g., mule deer) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial range), and sensitivity to disturbance. The 6 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (303 acres), moose (335 acres), mule deer (13 acres), and pronghorn (3,933 acres). Sage grouse preliminary priority habitat would be overlapped by 4,071 acres and raptor nest buffers would be overlapped by 1,573 acres. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

4.5.7.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect the plan amendments would have on special status plant species in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

Impacts to wildlife from 22 miles of a new utility corridor to accommodate Alternative F would be the same as those stated above. Impacts to big game (e.g., mule deer) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial range), and sensitivity to disturbance. The 22 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (251 acres), moose (2,706 acres), mule deer

(140 acres), and pronghorn (64 acres). Sage grouse preliminary priority habitat would be overlapped by 1,077 acres and raptor nest buffers would be overlapped by 845 acres. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

BLM Salt Lake Field Office (Agency Preferred Alternative)

Impacts to wildlife from 3 miles of a new utility corridor to accommodate Alternative F would be the same as those stated above. Impacts to big game (e.g., elk) and raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, presence of available habitat (e.g., crucial range), and sensitivity to disturbance. The 3 miles of utility corridor that would require a plan amendment would overlap with critical habitat for elk (180 acres) and moose (1,293 acres). Raptor nest buffers would be overlapped by 56 acres. No areas of sage grouse preliminary priority habitat would be overlapped. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

4.5.7.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3-mile utility corridor for the Emma Park Alternative Variation would overlap with critical habitat for elk (675 acres) and moose (2,488 acres). No areas of sage grouse preliminary priority habitat or raptor nest buffers would be overlapped. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

4.5.7.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on wildlife in the respective areas is discussed below.

BLM Rawlins Field Office

Designation of new utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile South (2 miles), and Mexican Flats (9 miles) alternative connectors would overlap with critical habitat for big game (i.e., pronghorn and mule deer) and raptors. The Baggs Alternative Connector would overlap with critical habitat for mule deer (19,430 acres) and pronghorn (15,891 acres) and 13,981 acres of raptor nest buffers; no areas of sage grouse core areas would be overlapped. The Fivemile Point North Alternative Connector would overlap with critical habitat for mule deer (2,187 acres) and 2,186 acres of raptor nest buffers; no areas of sage grouse core areas would be overlapped. The Fivemile Point South Alternative Connector would overlap with critical habitat for mule deer (999 acres) and 274 acres of raptor nest buffers; no areas of sage grouse core areas would be overlapped. The Mexican Flats Alternative Connector would overlap with critical habitat for mule deer (290 acres) and pronghorn (2,061 acres) and 5,507 acres of raptor nest buffers; no areas of sage grouse core areas would be overlapped. Concentrating utilities in this area could result in temporary or permanent displacement of wildlife.

BLM Las Vegas Field Office

Impacts to wildlife from a one-time exception through the Sunrise Mountain ISA would be the same as those stated for Alternative A.

4.5.8 Special Status Wildlife Species

The expansion or designation of new utility corridors would concentrate future utility development in these areas. Impacts to special status wildlife species would generally be the same as discussed in Section 4.5.7, Wildlife. On BLM- and USFS-managed lands (and private lands in many cases), surveys typically are required in potential or known habitats of threatened, endangered, or otherwise special

status species. These surveys would help determine the presence of any special status species or extent of habitat, and protective measures generally would be taken to avoid or minimize direct disturbance in these important areas before any potential future proposed utility projects are permitted. Additional information on special status species that may be affected is presented in Section 3.8, Special Status Wildlife Species.

4.5.8.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on special status wildlife species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to special status wildlife species from the 58 miles of expansion of the existing utility corridor along I-80 and designation of a new utility corridor south of I-80 would be the same as those stated above. **Table 4-11** presents the federally listed and candidate wildlife species for the BLM Rawlins FO.

Table 4-11 Federally Listed and Candidate Wildlife Species Potentially Occurring in the BLM Rawlins Field Office

Species	Scientific Name	County	State	Federal Status
Black-footed ferret	<i>Mustela nigripes</i>	Carbon	Wyoming	Experimental, NEP ¹
Black-footed ferret	<i>Mustela nigripes</i>	Carbon, Sweetwater	Wyoming	Endangered
Canada lynx	<i>Lynx canadensis</i>	Carbon	Wyoming	Threatened
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Carbon, Sweetwater	Wyoming	Candidate
Interior Least Tern	<i>Sterna antillarum</i>	Carbon	Wyoming	Endangered
Piping Plover	<i>Charadrius melodus</i>	Carbon	Wyoming	Threatened
Whooping Crane	<i>Grus Americana</i>	Carbon	Wyoming	Endangered
Yellow-billed cuckoo (Western)	<i>Coccyzus americanus</i>	Carbon, Sweetwater	Wyoming	Candidate

¹ Non-essential Population.

Impacts to the black-footed ferret, greater sage-grouse, and raptors would be more pronounced than other species in this FO due to their relative abundance, available habitat, and sensitivity to disturbance. All proposed plan amendment alternatives through the BLM Rawlins FO cross USFWS non-block cleared areas and white-tailed prairie dog colonies, raptors nest buffers, and greater sage-grouse core areas along I-80. A total of 5,191 acres of white-tailed prairie dog colonies would be overlapped by the 58 miles of utility corridor that would require a plan amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species. Projects proposed in the corridor would need to abide by timing stipulations and request an exception under unique or emergency situations.

BLM Little Snake Field Office

Impacts to special status wildlife species from 42 miles of a new utility corridor would be the same as those stated above. **Table 4-12** presents the federally listed and candidate wildlife species for the BLM Little Snake FO.

Table 4-12 Federally Listed and Candidate Wildlife Species Potentially Occurring in the BLM Little Snake Field Office

Species	Scientific Name	County	State	Federal Status
Black-footed ferret	<i>Mustela nigripes</i>	Moffat	Colorado	Experimental, NEP ¹
Canada lynx	<i>Lynx canadensis</i>	Moffat, Routt	Colorado	Threatened
North American wolverine	<i>Gulo gulo</i>	Moffat, Routt	Colorado	Candidate
Yellow-billed cuckoo (Western)	<i>Coccyzus americanus</i>	Moffat, Routt	Colorado	Candidate
Mexican spotted owl	<i>Strix occidentalis lucida</i>	Moffat	Colorado	Threatened

¹ Non-essential Population.

Impacts to greater sage-grouse and raptors would be more pronounced than other species in this BLM FO due to their relative abundance, available habitat, and sensitivity to disturbance. All proposed plan amendment alternatives through the BLM Little Snake Office cross raptors nest buffers and greater sage-grouse preliminary priority habitat. Exceptions to stipulations for buffers to protect these species that occur within the corridor would be necessary for all proposed utilities. A total of 3,633 acres of white-tailed prairie dog colonies would be overlapped by the 42 miles of utility corridor that would require a plan amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species. Mitigation measures including avoidance or off-site compensatory mitigation and monitoring would be required site-specific projects.

BLM Vernal Field Office

Impacts to special status wildlife species from 19 miles of a new utility corridor would be the same as those stated above. **Table 4-13** presents the federally listed and candidate wildlife species for the BLM Vernal FO.

Table 4-13 Federally Listed and Candidate Wildlife Species Potentially Occurring in the BLM Vernal Field Office

Species	Scientific Name	County	State	Federal Status
Canada lynx	<i>Lynx canadensis</i>	Duchesne, Uintah, Daggett	Utah	Threatened
Black-footed ferret	<i>Mustela nigripes</i>	Uintah	Utah	Experimental, NEP ¹
Yellow-billed cuckoo (Western)	<i>Coccyzus americanus</i>	Duchesne, Uintah, Daggett	Utah	Candidate
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Duchesne, Uintah, Daggett	Utah	Candidate
Mexican spotted owl	<i>Strix occidentalis lucida</i>	Duchesne, Uintah	Utah	Threatened

Impacts to the black-footed ferret, greater sage-grouse, and raptors would be more pronounced than other species in this BLM FO due to their relative abundance, available habitat, and sensitivity to disturbance. However, the area within the proposed utility corridor does not encroach on buffers for these species and is located north of occupied greater sage-grouse habitat. A total of 534 acres of white-tailed prairie dog colonies would be overlapped by the 19 miles of utility corridor that would require a plan amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species.

BLM Las Vegas Field Office (Agency Preferred Alternative)

Impacts to special status wildlife species from a 1-mile, one-time exception through the Sunrise Mountain ISA would be the same as those stated above. **Table 4-14** presents the federally listed and candidate wildlife species for the BLM Las Vegas FO.

Table 4-14 Federally Listed and Candidate Wildlife Species Potentially Occurring in the BLM Las Vegas Field Office

Species	Scientific Name	County	State	Federal Status
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	Clark	Nevada	Endangered
Yellow-billed cuckoo (Western)	<i>Coccyzus americanus</i>	Clark	Nevada	Candidate
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Clark	Nevada	Endangered
Relict leopard frog	<i>Rana onca</i>	Clark	Nevada	Candidate
Desert tortoise	<i>Gopherus agassizii</i>	Clark	Nevada	Threatened

Impacts to reptiles (e.g., desert tortoise, banded gila monster) and raptors would be more pronounced within this FO due to available habitat, and sensitivity to disturbance. The area proposed for the one-time exception would affect 33 acres identified as potential habitat for the desert tortoise. Mitigation and monitoring measures would be required for site-specific projects.

4.5.8.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on special status wildlife species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to special status wildlife species from 61 miles of a new utility corridor or aboveground development in portion of a corridor designated as underground would be similar to those stated for Alternative A. A total of 5,793 acres of white-tailed prairie dog colonies would be overlapped by the 61 miles of utility corridor that would require a plan amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species.

BLM Little Snake Field Office

Impacts to special status wildlife species from 37 miles of a new utility corridor would be similar to those stated for Alternative A. However, this alternative would affect more area of greater sage-grouse preliminary priority habitat. A total of 6,749 acres of white-tailed prairie dog colonies would be overlapped by the 37 miles of utility corridor that would require a plan amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species.

BLM White River Field Office

Impacts to special status wildlife species from the expansion and conversion of 38 miles of an underground utility corridor to allow aboveground development would be the same as those stated above. **Table 4-15** presents the federally listed and candidate wildlife species for the BLM White River FO.

Table 4-15 Federally Listed and Candidate Wildlife Species Potentially Occurring in the BLM White River Field Office

Species	Scientific Name	County	State	Federal Status
Black-footed ferret	<i>Mustela nigripes</i>	Rio Blanco	Colorado	Experimental, NEP ¹
Canada lynx	<i>Lynx canadensis</i>	Rio Blanco	Colorado	Threatened
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Rio Blanco	Colorado	Candidate
Yellow-billed cuckoo (Western)	<i>Coccyzus americanus</i>	Rio Blanco	Colorado	Candidate
North American wolverine	<i>Gulo gulo</i>	Rio Blanco	Colorado	Candidate
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	Rio Blanco	Colorado	Threatened

¹ Non-essential Population.

Impacts to greater sage-grouse and raptors would be more pronounced than other species in this BLM FO due to their relative abundance, available habitat, and sensitivity to disturbance. All proposed plan amendment alternatives through the BLM White River Field Office cross raptors nest buffers and greater sage-grouse preliminary general habitat. A total of 814 acres of white-tailed prairie dog colonies would be overlapped by the 38 miles of utility corridor that would require a plan amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species. Mitigation and monitoring measures would be required with site-specific approvals.

BLM Vernal Field Office

Impacts to special status wildlife species from 6 miles of new utility corridor would be similar to those stated for Alternative A. However, this alternative would affect no areas of greater sage grouse preliminary priority habitat and no areas of white-tailed prairie dog.

BLM Price Field Office

Impacts to special status wildlife species from 14 miles of a new utility corridor or possibly widening an existing corridor would be the same as those stated above. **Table 4-16** presents the federally listed and candidate wildlife species for the BLM Price FO.

Table 4-16 Federally Listed and Candidate Wildlife Species Potentially Occurring in the BLM Price Field Office

Species	Scientific Name	County	State	Federal Status
California Condor	<i>Gymnogyps californianus</i>	Grand, Emery	Utah	Experimental, NEP ¹
Yellow-billed cuckoo (Western)	<i>Coccyzus americanus</i>	Grand, Emery	Utah	Candidate
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Grand, Emery	Utah	Candidate
Mexican spotted owl	<i>Strix occidentalis lucida</i>	Grand, Emery	Utah	Threatened
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Grand, Emery	Utah	Endangered

¹ Non-essential Population.

Impacts to raptors would be more pronounced than other wildlife species in this BLM FO due to their relative abundance, available habitat, and sensitivity to disturbance. A total of 584 acres of white-tailed prairie dog colonies would be overlapped by the 14 miles of utility corridor that would require a plan

amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species.

4.5.8.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. The effect these plan amendments would have on special status wildlife species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to special status wildlife species from 27 miles of a new utility corridor or aboveground development in portion of a corridor designated as underground would be similar to those stated for Alternative A. However, this alternative would also cross the greater sage-grouse core area that extends south of I-80 and would overlap a total of 1,112 acres of white-tailed prairie dog colonies by the 27 miles of utility corridor that would require a plan amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species.

BLM White River Field Office

Impacts to special status wildlife species from a 38-mile expansion and conversion of an underground utility corridor to allow aboveground development would be the same as those stated above for Alternative B.

BLM Vernal Field Office

Impacts to special status wildlife species from 6 miles of new utility corridor would be the same as those stated above for Alternative B.

BLM Price Field Office

Impacts to special status wildlife species from 10 miles of a new utility corridor would be similar to those stated above for Alternative B. Exceptions to buffers of white-tailed prairie dog colonies may need to be granted if avoidance or minimization is not possible when siting utilities. A total of 584 acres of white-tailed prairie dog colonies would be overlapped by the 10 miles of utility corridor that would require a plan amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species.

BLM Caliente Field Office

Impacts to special status wildlife species from a 9-mile, one-time exception through the Kane Springs ACEC would be the same as those stated above. **Table 4-17** presents the federally listed and candidate wildlife species for the BLM Caliente FO.

Table 4-17 Federally Listed and Candidate Wildlife Species Potentially Occurring in the BLM Caliente Field Office

Species	Scientific Name	County	State	Federal Status
Yellow-billed cuckoo (Western)	<i>Coccyzus americanus</i>	Lincoln	Nevada	Candidate
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Lincoln	Nevada	Endangered
Desert tortoise	<i>Gopherus agassizii</i>	Lincoln	Nevada	Threatened

Impacts to reptiles (e.g., desert tortoise, banded gila monster) and raptors would be more pronounced within this FO due to available habitat, and sensitivity to disturbance. This proposed plan amendment alternative would cross 276 acres of critical habitat and 3 acres of potential habitat for desert tortoise.

USFS Fishlake National Forest

Impacts to special status wildlife species from 22 miles of a new utility corridor would be the same as those stated above. Impacts to the Utah prairie dog, greater sage-grouse, and raptors would be more pronounced than other species in this national forest due to their relative abundance, available habitat, and sensitivity to disturbance. The proposed plan amendment alternative through the USFS Fishlake National Forest crosses occupied habitat for greater sage-grouse. No special status species critical habitat is overlapped by the 22 miles of utility corridor that would require a plan amendment. Mitigation measures including off-site mitigation may be needed as site-specific projects are proposed.

4.5.8.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on special status wildlife species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office (Agency Preferred Alternative)

Impacts to special status wildlife species from 76 miles of a new utility corridor or aboveground development in portion of a corridor designated as underground would be similar to those stated for Alternative A. A total of 3,343 acres of white-tailed prairie dog colonies would be overlapped by the 76 miles of utility corridor that would require a plan amendment. Concentrating utilities in this area could result in temporary or permanent displacement of this species.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

Impacts to special status wildlife species from 17 miles of new utility corridor would be similar to those stated for Alternative A. However, this alternative would affect less area of greater sage grouse preliminary priority habitat and no areas of white-tailed prairie dog. Concentrating utilities in this area could result in temporary or permanent displacement of special status species.

4.5.8.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. The effect the plan amendment would have on special status wildlife species in the respective area is discussed in the following section.

BLM Vernal Field Office

Impacts to special status wildlife species from 22 miles of new utility corridor would be similar to those stated for Alternative A. This alternative would affect a comparable area of greater sage grouse preliminary priority habitat and 308 areas of white-tailed prairie dog. Concentrating utilities in this area could result in temporary or permanent displacement of special status species.

4.5.8.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect the plan amendments would have on special status plant species in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

Impacts to wildlife from 22 miles of a new utility corridor to accommodate Alternative F would be similar to those stated for Alternative A. This alternative would affect less area of greater sage grouse preliminary priority habitat and no areas of white-tailed prairie dog. Concentrating utilities in this area could result in temporary or permanent displacement of special status species.

BLM Salt Lake Field Office (Agency Preferred Alternative)

Impacts to special status wildlife species from a new utility corridor on public lands would be the same as those stated above. **Table 4-18** presents the federally listed and candidate species for the BLM Salt Lake FO.

Table 4-18 Federally Listed and Candidate Species Potentially Occurring in the BLM Salt Lake Field Office

Species	Scientific Name	County	State	Federal Status
Canada lynx	<i>Lynx canadensis</i>	Utah, Wasatch, Duchesne	Utah	Threatened
Yellow-billed cuckoo (Western)	<i>Coccyzus americanus</i>	Utah, Wasatch, Duchesne	Utah	Candidate
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Utah, Wasatch, Duchesne	Utah	Candidate

The area within the proposed 3-mile utility corridor would not encroach on buffers to protect special status species.

4.5.8.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3-mile utility corridor for the Emma Park Alternative Variation would not encroach on buffers to protect special status species.

4.5.8.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on special status wildlife species in the respective areas is discussed below.

BLM Rawlins Field Office

Designation of new utility corridors for the Baggs (18 miles) and Mexican Flats (9 miles) alternative connectors would overlap with white-tailed prairie dog habitat (61 and 3,112 acres, respectively), and no areas of greater sage grouse core areas. The Fivemile Point North (2 miles) and Fivemile South (2 miles) alternative connectors would not encroach on buffers to protect special status species.

BLM Las Vegas Field Office

Impacts to special status wildlife species from a one-time exception through the Sunrise Mountain ISA would overlap 30 acres of desert tortoise potential habitat. Concentrating utilities in this area could result in temporary or permanent displacement of this species.

4.5.9 Aquatic Biological Resources

Allowing for potential future development of utilities in areas where currently none exist could result in habitat loss or loss of individuals from equipment and vehicles. Habitat also could be affected by changes in water quality from increased sedimentation and potential fuel spills or use of surface water for construction. Additional information on aquatic biological resources is presented in Section 3.9, Aquatic Biological Resources.

4.5.9.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments are not required for national forests under this alternative. Impacts to aquatic biological resources from potential utility crossings or effects to water quality resulting from construction would be the same as stated above. Additional impacts are noted below.

BLM Little Snake Field Office

Impacts to aquatic biological resources from 42 miles of a new utility corridor would be the same as those stated above. This alternative would cross both the Little Snake and Yampa rivers, which could deteriorate aquatic habitat conditions if utilities are concentrated in these areas.

4.5.9.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. Impacts to aquatic biological resources from potential utility crossings or effects to water quality resulting from construction would be the same as stated above. Additional impacts are noted below.

BLM Little Snake Field Office

Impacts to wildlife and fish resources from 37 miles of a new utility corridor would be similar to those stated for Alternative A.

BLM White River Field Office

Impacts to aquatic biological resources from 38 miles of a new utility corridor would be the same as those stated above. This alternative would have multiple stream crossings.

BLM Price Field Office

Impacts to aquatic biological resources from 14 miles of a new utility corridor would be the same as those stated above. This alternative would have a stream crossing.

4.5.9.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. Impacts to aquatic biological resources

from potential utility crossings or effects to water quality resulting from construction would be the same as stated above. Additional impacts are noted below.

BLM Rawlins Field Office

Impacts to aquatic biological resources from 27 miles of a new utility corridor would be the same as those stated above. This alternative would cross Muddy Creek.

BLM White River Field Office

Impacts would be the same as those stated above for Alternative B.

4.5.9.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. Impacts to aquatic biological resources from potential utility crossings or effects to water quality resulting from construction would be the same as stated above. Additional impacts are noted below.

BLM Rawlins Field Office (Agency Preferred Alternative)

Impacts to aquatic biological resources from 76 miles of a new utility corridor would be the same as those stated above. This alternative would have a stream crossing, which could deteriorate aquatic habitat conditions if utilities were concentrated in this area.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

Impacts to aquatic biological resources from 17 miles of a new utility corridor to accommodate Alternative D would be the same as those stated above. This alternative would cross the Argyle Creek, which could deteriorate aquatic habitat conditions if utilities were concentrated in this area.

4.5.9.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. Impacts to aquatic biological resources from potential utility crossings or effects to water quality resulting from construction would be the same as for Alternative A.

4.5.9.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. Impacts to aquatic biological resources from potential utility crossings or effects to water quality resulting from construction would be the same as stated above. Additional impacts area noted below.

BLM Vernal Field Office (Agency Preferred Alternative)

Impacts to aquatic biological resources from 22 miles of a new utility corridor to accommodate Alternative F would be the same as those stated above. This alternative would cross the Argyle Creek, which could deteriorate aquatic habitat conditions if utilities were concentrated in this area.

4.5.9.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. Impacts to aquatic biological resources associated with the 3-mile utility corridor for the Emma Park Alternative Variation from potential utility crossings or effects to water quality resulting from construction would be the same as stated above.

4.5.9.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. Impacts to aquatic biological resources from potential utility crossings or effects to water quality resulting from construction would be the same as stated above. Additional impacts are noted below.

BLM Rawlins Field Office

Impacts to aquatic biological resources from a new utility corridor would be the same as those stated above. The Fivemile Point North and Baggs alternative connectors would have a stream crossing at Muddy Creek, which could deteriorate aquatic habitat conditions if utilities were concentrated in this area.

4.5.10 Special Status Aquatic Species

The expansion or designation of new utility corridors would concentrate future utility development in these areas. Impacts to special status aquatic species would generally be the same as discussed in Section 4.5.9, Aquatic Biological Resources. On BLM- and USFS-managed lands (and private lands in many cases), surveys typically are required in potential or known habitats of threatened, endangered, or otherwise special status species. These surveys would help determine the presence of any special status species or extent of habitat, and protective measures generally would be taken to avoid or minimize direct disturbance in these important areas before any potential future proposed utility projects are permitted. Section 3.10, Special Status Aquatic Species, provides a detailed description of impacts to special status aquatic species within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.10.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on special status aquatic species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to special status aquatic species from the 58-mile expansion of the existing utility corridor along I-80 and designation of a new utility corridor south of I-80 would be the same as those stated above.

Table 4-19 presents the federally listed and candidate aquatic species for the BLM Rawlins FO.

Table 4-19 Federally Listed and Candidate Aquatic Species Potentially Occurring in the BLM Rawlins Field Office

Species	Scientific Name	County	State	Federal Status
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Carbon	Wyoming	Endangered
Bonytail	<i>Gila elegans</i>	Carbon, Sweetwater	Wyoming	Endangered
Colorado Pikeminnow	<i>Ptychocheilus lucius</i>	Carbon, Sweetwater	Wyoming	Endangered

Table 4-19 Federally Listed and Candidate Aquatic Species Potentially Occurring in the BLM Rawlins Field Office

Species	Scientific Name	County	State	Federal Status
Humpback Chub	<i>Gila cypha</i>	Carbon, Sweetwater	Wyoming	Endangered
Razorback Sucker	<i>Xyrauchen texanus</i>	Carbon, Sweetwater	Wyoming	Endangered

The proposed utility corridor would cross one stream near the Colorado state line, which is occupied by Colorado pikeminnow habitat. Overhead utilities could be mitigated to avoid or span occupied habitat; however, buried utilities would be unable to avoid the occupied stream.

BLM Little Snake Field Office

Impacts to special status aquatic species from 42 miles of a new utility corridor would be the same as those stated above. **Table 4-20** presents the federally listed and candidate aquatic species for the BLM Little Snake FO.

Table 4-20 Federally Listed and Candidate Aquatic Species Potentially Occurring in the BLM Little Snake Field Office

Species	Scientific Name	County	State	Federal Status
Humpback chub	<i>Gila cypha</i>	Moffat	Colorado	Endangered
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Moffat	Colorado	Endangered
Bonytail	<i>Gila elegans</i>	Moffat	Colorado	Endangered
Razorback sucker	<i>Xyrauchen texanus</i>	Moffat	Colorado	Endangered

The proposed utility corridor would have two stream crossings, one occupied by Colorado Pikeminnow and one by both the Colorado pikeminnow and razorback sucker. Overhead utilities could be mitigated to avoid or span occupied habitat; however, buried utilities would be unable to avoid the occupied stream.

BLM Vernal Field Office

Impacts to special status aquatic species from 19 miles of a new utility corridor would be the same as those stated above. **Table 4-21** presents the federally listed and candidate aquatic species for the BLM Vernal FO.

Table 4-21 Federally Listed and Candidate Aquatic Species Potentially Occurring in the BLM Vernal Field Office

Species	Scientific Name	County	State	Federal Status
Humpback chub	<i>Gila cypha</i>	Duchesne, Uintah, Daggett	Utah	Endangered
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Duchesne, Uintah, Daggett	Utah	Endangered
Bonytail	<i>Gila elegans</i>	Duchesne, Uintah, Daggett	Utah	Endangered
Razorback sucker	<i>Xyrauchen texanus</i>	Duchesne, Uintah, Daggett	Utah	Endangered

The proposed utility corridor would not cross streams occupied by special status aquatic species.

BLM Las Vegas Field Office (Agency Preferred Alternative)

Impacts to special status aquatic species from a 1-mile, one-time exception through the Sunrise Mountain ISA would be the same as those stated above. **Table 4-22** presents the federally listed and candidate aquatic species for the BLM Las Vegas FO.

Table 4-22 Federally Listed and Candidate Aquatic Species Potentially Occurring in the BLM Las Vegas Field Office

Species	Scientific Name	County	State	Federal Status
Moapa dace	<i>Moapa coriacea</i>	Clark	Nevada	Endangered
Pahrump poolfish	<i>Empetrichthys latos</i>	Clark	Nevada	Endangered
Lahontan cutthroat trout	<i>Oncorhynchus clarkii henshawi</i>	Clark	Nevada	Threatened
Woundfin	<i>Plagopterus argentissimus</i>	Clark	Nevada	Endangered
Bonytail	<i>Gila elegans</i>	Clark	Nevada	Endangered
Virgin River chub	<i>Gila robusta seminuda</i>	Clark	Nevada	Endangered
Razorback sucker	<i>Xyrauchen texanus</i>	Clark	Nevada	Endangered

The proposed one-time exception would not cross streams occupied by special status aquatic species.

4.5.10.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on special status aquatic species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to special status aquatic species from 58 miles of a new utility corridor or aboveground development in portion of a corridor designated as underground would be the same as those stated for Alternative A. The proposed utility corridor would cross one stream near the Colorado state line, which is occupied by the Colorado pikeminnow. Overhead utilities could be mitigated to avoid or span occupied habitat; however, buried utilities would be unable to avoid the occupied stream.

BLM Little Snake Field Office

Impacts to special status aquatic species from 37 miles of a new utility corridor would be the same as those stated for Alternative A. The proposed utility corridor would have two stream crossings; however, no special status aquatic species occur within these streams.

BLM White River Field Office

Impacts to special status aquatic species from expansion and conversion of 38 miles of an underground utility corridor to allow aboveground development would be the same as those stated above. **Table 4-23** presents the federally listed and candidate aquatic species for the BLM White River FO.

Table 4-23 Federally Listed and Candidate Aquatic Species Potentially Occurring in the BLM White River Field Office

Species	Scientific Name	County	State	Federal Status
Humpback chub	<i>Gila cypha</i>	Rio Blanco	Colorado	Endangered
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Rio Blanco	Colorado	Endangered
Bonytail	<i>Gila elegans</i>	Rio Blanco	Colorado	Endangered
Razorback sucker	<i>Xyrauchen texanus</i>	Rio Blanco	Colorado	Endangered

The proposed utility corridor would not cross streams occupied by special status aquatic species.

BLM Vernal Field Office

Impacts to special status species from 6 miles of new utility corridor would not affect any areas occupied by special status aquatic species.

BLM Price Field Office

Impacts to special status aquatic species from 14 miles of a new utility corridor or possibly widening an existing corridor would be the same as those stated above. **Table 4-24** presents the federally listed and candidate aquatic species for the BLM Price FO.

Table 4-24 Federally Listed and Candidate Aquatic Species Potentially Occurring in the BLM Price Field Office

Species	Scientific Name	County	State	Federal Status
Humpback chub	<i>Gila cypha</i>	Grand, Emery	Utah	Endangered
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Grand, Emery	Utah	Endangered
Bonytail	<i>Gila elegans</i>	Grand, Emery	Utah	Endangered
Razorback sucker	<i>Xyrauchen texanus</i>	Grand, Emery	Utah	Endangered

The proposed utility corridor would not cross streams occupied by special status aquatic species.

4.5.10.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. The effect these plan amendments would have on special status aquatic species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Impacts to special status aquatic species from 27 miles of a new utility corridor or aboveground development in portion of a corridor designated as underground would be the same as those stated for Alternative A. The proposed utility corridor would cross one stream; however, it does not contain any special status aquatic species.

BLM White River Field Office

Impacts to special status aquatic species from expansion and conversion of 38 miles of an underground utility corridor to allow aboveground development would be the same as those stated above for Alternative B.

BLM Vernal Field Office

Similar to Alternative B, impacts to special status species from 6 miles of new utility corridor would not affect any areas occupied by special status aquatic species.

BLM Price Field Office

Impacts to special status aquatic species from 10 miles of a new utility corridor would not cross streams occupied by special status aquatic species.

BLM Caliente Field Office

Impacts to special status aquatic species from 9 miles of a one-time exception through the Kane Springs ACEC would be the same as those stated above. **Table 4-25** presents the federally listed and candidate aquatic species for the BLM Caliente FO.

Table 4-25 Federally Listed and Candidate Aquatic Species Potentially Occurring in the BLM Caliente Field Office

Species	Scientific Name	County	State	Federal Status
Pahranagat roundtail chub	<i>Gila robusta jordani</i>	Lincoln	Nevada	Endangered
Big Spring spinedace	<i>Lepidomeda mollispinis pratensis</i>	Lincoln	Nevada	Threatened
Hiko White River springfish	<i>Crenichthys baileyi grandis</i>	Lincoln	Nevada	Endangered
White River springfish	<i>Crenichthys baileyi baileyi</i>	Lincoln	Nevada	Endangered

The proposed utility corridor would not cross streams occupied by special status aquatic species.

USFS Fishlake National Forest

The 23-mile proposed utility corridor would not cross streams occupied by special status aquatic species.

4.5.10.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on special status aquatic species in the respective areas is discussed in the following sections.

BLM Rawlins Field Office (Agency Preferred Alternative)

Impacts to special status aquatic species from 76 miles of a new utility corridor or aboveground development in portion of a corridor designated as underground would be the same as those stated for Alternative A. The proposed utility corridor would cross one stream; however, it does not contain any special status aquatic species.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

Impacts to special status species from 17 miles of new utility corridor would not affect any areas occupied by special status aquatic species.

4.5.10.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. The effect the plan amendment would have on special status aquatic species in the respective area is discussed in the following section.

BLM Vernal Field Office

Impacts to special status species from 6 miles of new utility corridor would not affect any areas occupied by special status aquatic species.

4.5.10.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. Impacts to special status aquatic species from potential utility crossings or effects to water quality resulting from construction would be the same as stated above. Additional impacts area noted below.

BLM Vernal Field Office (Agency Preferred Alternative)

Impacts to special status aquatic species from 22 miles of a new utility corridor to accommodate Alternative F would not affect any areas occupied by special status aquatic species.

BLM Salt Lake Field Office (Agency Preferred Alternative)

Impacts to special status aquatic species from a new utility corridor on public lands would be the same as those stated above. **Table 4-26** presents the federally listed and candidate aquatic species for the BLM Salt Lake FO.

Table 4-26 Federally Listed and Candidate Aquatic Species Potentially Occurring in the BLM Salt Lake Field Office

Species	Scientific Name	County	State	Federal Status
Humpback chub	<i>Gila cypha</i>	Utah, Wasatch, Duchesne	Utah	Endangered
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Utah, Wasatch, Duchesne	Utah	Endangered
Bonytail	<i>Gila elegans</i>	Utah, Wasatch, Duchesne	Utah	Endangered
Least chub	<i>Notichthys phlegethontis</i>	Utah	Utah	Candidate
Razorback sucker	<i>Xyrauchen texanus</i>	Utah, Wasatch, Duchesne	Utah	Endangered
June sucker	<i>Chasmistes liorus</i>	Utah	Utah	Endangered

The proposed utility corridor would not cross streams occupied by special status aquatic species.

4.5.10.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. Impacts to special status aquatic species associated with the 3-mile utility corridor for the Emma Park Alternative Variation would not affect any areas occupied by special status aquatic species.

4.5.10.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on special status aquatic species in the respective areas is discussed below.

BLM Rawlins Field Office

The Baggs (18 miles), Fivemile Point North (2 miles), Fivemile Point south (2 miles), and Mexican Flats (9 miles) alternative connectors would not affect any areas occupied by special status aquatic species.

BLM Las Vegas Field Office

Impacts to special status aquatic species from a 1-mile, one-time exception through the Sunrise Mountain ISA would not affect any areas occupied by special status aquatic species.

4.5.11 Cultural Resources and Native American Concerns

Plan amendments to create new or expand existing utility corridors would influence the ability to locate utilities in areas. These actions in turn have direct impacts on cultural resources, which are analyzed pursuant to NEPA as individual projects are proposed. Cultural properties located in utility corridors would be subject to a potentially higher level of activities that disturb the ground, which would increase the likelihood of unanticipated surface and subsurface discoveries. In addition, utility corridors would be subject to a potentially higher level of visual intrusions from placement of structures and facilities, which would affect cultural resources where setting is an aspect of their integrity. However, all projects proposed in the utility corridors would require SHPO and tribal consultation as well as compliance with Section 106 and 110 of the NHPA. Section 3.11 provides a detailed description of impacts to resources within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.11.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. No national forests require plan amendments under this alternative. The effect these plan amendments would have on the management of cultural resources in the respective FOs is discussed below.

BLM Rawlins Field Office

The newly designated 58-mile corridor would cross one segment of the Cherokee and Overland trails and the Rawlins to Baggs Road Trail and would be within the viewshed of these historic trails as well as the Lincoln Highway Trail. The Cherokee Trail in southwestern Wyoming has been erased and no visible remnants remain. A total of 1 mile of the Cherokee Trail, 2 miles of the Overland Trail, and 2 miles of the Rawlins to Baggs Road would be overlapped by the 58 miles of utility corridor that would require a plan amendment. Disturbance to cultural resource sites and visual impacts to historic properties may be reduced, but not eliminated, through implementation of design features and mitigation measures outlined in the project-specific programmatic agreements and treatment plans. Cultural resource goals and objectives in the RMP would be compromised for historic trails if contributing segments are crossed. It is unknown at this time whether segments of historic trails or roads crossed by the alternatives contribute to

the overall NRHP eligibility of these linear resources. A total of 589 known NHRP eligible sites would be overlapped by the amended area.

BLM Little Snake Field Office

The 42 miles of newly designated corridor would be located to the east of the following cultural resource areas that have been identified as high priority by the BLM: Sand Wash Basin, Vermillion Basin, Irish Canyon, and Cross Mountain. A total of 192 known NHRP eligible sites would be overlapped by the amended area. Effects would be the same as stated above.

BLM Vernal Field Office

The 19 miles of new utility corridor would overlap 41 known NHRP eligible sites. Effects would be the same as stated above.

BLM Las Vegas Field Office (Agency Preferred Alternative)

There are no known culturally sensitive or high priority areas within the new proposed utility corridor location.

4.5.11.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. The effect these plan amendments would have on the management of cultural resources in the respective FOs is discussed below.

BLM Rawlins Field Office

Sixty-one miles of a new utility corridor and above ground designation of an existing corridor would require a plan amendment. The southern portion of Alternative B would be located in a corridor designated as underground-only, which crosses one segment of the Cherokee and Overland trails and one segment of the Rawlins to Baggs Road Trail and would be within the viewshed of these historic trails as well as the Lincoln Highway Trail. A total of 1 mile of the Cherokee Trail, 1 mile of the Overland Trail, and 2 miles of the Rawlins to Baggs Road would be overlapped by the 61 miles of utility corridor that would require a plan amendment. While there are pipelines in the existing corridor, conversion to allow aboveground facilities would enable more effects to the viewshed of cultural resources and historic trails. A total of 498 known NHRP eligible sites would be overlapped by the amended area. Effects to the management of cultural resources would be the same as for Alternative A described above.

BLM Little Snake Field Office

The 37 miles of newly designated corridor would be located to the east of the following cultural resource areas that have been identified as high priority by the BLM: Sand Wash Basin, Vermillion Basin, Irish Canyon, and Cross Mountain. A total of 115 known NHRP eligible sites would be overlapped by the amended area. Effects to the management of cultural resources would be the same as for Alternative A described above.

BLM White River Field Office

Thirty-eight miles of a new utility corridor would require a plan amendment. The closest area of known cultural significance is the Canyon Pintado Historic District, which abuts the northern portion of the corridor. Additionally, the Texas-Missouri-Evacuation Creek area is known to contain cultural resources and would be partially overlapped by the expanded corridor. Both areas are categorized as ROW avoidance in the RMP and future utilities in the expanded corridor should be sited to avoid these areas. While there are pipelines in the existing corridor, conversion to allow aboveground facilities would enable

more effects to the viewshed of cultural resources and these areas of known cultural significance. A total of 835 known NHRP eligible sites would be overlapped by the amended area.

BLM Vernal Field Office

The 6 miles of new utility corridor would overlap with no known NHRP eligible sites.

BLM Price Field Office

Fourteen miles of a new utility corridor would require a plan amendment. Within this area, a total of 72 known NHRP eligible sites would be overlapped by the amended area.

4.5.11.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and Fishlake National Forest. The effect these plan amendments would have on the management of cultural resources in the respective BLM offices and national forest is discussed below.

BLM Rawlins Field Office

The existing designated corridor along Highway 789 crosses one segment of the Cherokee and Overland trails and two segments of the Rawlins to Baggs Road Trail and would be within the viewshed of these historic trails as well as the Lincoln Highway Trail. The 27 miles of expanded utility corridor would include more area crossed by the trail. Two miles of the Cherokee Trail, 1 mile of the Overland Trail, and 5 miles of the Rawlins to Baggs Road would be overlapped by the 27 miles of utility corridor that would require a plan amendment. A total of 272 known NHRP eligible sites would be overlapped by the amended area.

BLM Vernal Field Office

The 6 miles of new utility corridor would overlap with no known NHRP eligible sites.

BLM White River Field Office

Effects to the management of cultural resources as a result of converting to an aboveground corridor would be the same as for Alternative B described above.

BLM Price Field Office

Ten miles of a new utility corridor would require a plan amendment. Within this area, a total of 120 known NHRP eligible sites would be overlapped by the amended area. Effects would be the same as previously described.

BLM Caliente Field Office

Nine miles of a new utility corridor would require a plan amendment. Within this area, one known NHRP eligible site would be overlapped by the amended area. Effects would be the same as previously described.

USFS Fishlake National Forest

Expansion of the existing transportation and utility corridor is unlikely to interfere with the standards and guidelines for the management of cultural resources. While allowing for exceptions to High SIO in the area may introduce elements that contrast with the setting, no areas of cultural significance were identified in this area. However, 108 known NHRP eligible sites would be overlapped by the amended area.

4.5.11.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on the management of cultural resources in the respective BLM offices is discussed below.

BLM Rawlins Field Office (Agency Preferred Alternative)

The 76 miles of newly designated corridor would cross three segments of the Cherokee Trail, one segment of the Overland Trail, and one segment of the Rawlins to Baggs Road Trail and would be within the viewshed of these historic trails as well as the Lincoln Highway Trail. Effects to the management of cultural resources would be the similar to Alternative A described above, but would have potential to impact more of the Cherokee Trail. Eight miles of the Cherokee Trail, 2 miles of the Overland Trail, and 2 miles of the Rawlins to Baggs Road would be overlapped by the 76 miles of utility corridor that would require a plan amendment. A total of 741 known NHRP eligible sites would be overlapped by the amended area.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

The 17 miles of new utility corridor would overlap with 8 known NHRP eligible sites. Effects would be the same as previously described.

4.5.11.5 Alternative E

The Alternative E route would require plan amendments involving one BLM office—Vernal. The effect this plan amendment would have on the management of cultural resources in the respective BLM office is discussed below.

BLM Vernal Field Office

The 6 miles of new utility corridor would overlap with 26 known NHRP eligible sites. Effects would be the same as previously described.

4.5.11.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect these plan amendments would have on the management of cultural resources in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The 22 miles of new utility corridor would overlap with 8 known NHRP eligible sites. Effects would be the same as previously described.

BLM Salt Lake Field Office (Agency Preferred Alternative)

The 3 miles of new utility corridor would overlap with 2 known NHRP eligible sites. Effects would be the same as previously described.

4.5.11.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3 miles of new utility corridor for the Emma Park Alternative Variation would overlap with no known NHRP eligible sites. Effects would be the same as previously described.

4.5.11.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on the management of cultural resources in the respective FOs is discussed below.

BLM Rawlins Field Office

Designation of new utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile South (2 miles), and Mexican Flats (9 miles) alternative connectors would overlap with areas of known NHRP eligible sites. The Baggs Alternative Connector would cross non-contributing segments and be within the viewshed of the Cherokee and Rawlins to Baggs Road Trails, and overlap with 274 known NHRP eligible sites. The Fivemile Point North Alternative Connector would overlap with no known NHRP eligible sites. The Fivemile Point South Alternative Connector would overlap with 12 known NHRP eligible sites. The Mexican Flats Alternative Connector would overlap with 233 known NHRP eligible sites. Effects would be the same as previously described.

BLM Las Vegas Field Office

A 1-mile, one-time exception to allow the Sunrise Mountain Alternative Connector route would overlap with no known NHRP eligible sites.

4.5.12 Visual Resources

Plan amendments to expand an existing corridor or designate a new utility corridor and alter VRM classes would not directly impact visual resources; however, authorization of these amendments would open areas that currently prevent utility development to allow potential future development of energy transmission and other linear ROW projects. Resulting effects to visual resources occur to federal and non-federal lands within and adjacent to areas that are within the viewshed.

Allowing for the potential future development of utilities in areas not previously developed could result in visible landscape altering activities and the permanent addition of overhead transmission structures in predominantly natural landscapes that provide settings for recreation and other uses. Indirect impacts to the scenic qualities of the natural landscapes would occur from visual contrast associated with landscape altering activities and visual intrusions that modify the form, line, color, and texture of the landscape character. Potential future contrasts would alter predominantly natural landscape settings to landscapes that could eventually trend toward an industrialized setting.

Potential future developments proposed in areas where developments do not exist must meet BLM and USFS objectives for visual resource management on federal lands. Since areas of VRM Class I/II on BLM lands and very high/high SIO or preservation/retention VQO are intended to maintain or improve the visual setting, any potential future large-scale or predominantly-located utility developments in these areas could not be reasonably mitigated to meet the visual resource objectives and plan amendments are proposed in these areas. Adequate visual mitigation in the form of standard BMPs from agency plans and guidance would allow some landscape altering activities and visual intrusions that minimize the extent of modification to the form, line, color, and texture of the landscape character and minimize visual contrast with the natural setting to be compatible with VRM Class III on BLM lands and areas of moderate SIO or Partial Retention VQO in national forests. While the objectives for any development that occurs in VRM

Class IV on BLM lands and areas of low/very low SIO or modification/maximum modification in national forests would allow for more landscape altering activities and visual contrast with the natural landscape, every attempt will be made to minimize the impact of potential future development activities through careful location, minimal disturbance, and repeating the basic elements to the extent practical and feasible.

Section 3.12, Visual Resources, provides a detailed description of visual resource impacts within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.12.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. No national forests require plan amendments under this alternative. The effect these plan amendments would have on visual resources in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Expanding an existing utility corridor along I-80 and designating a new corridor south of I-80 for a combined total of 58 miles would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. Potential future projects proposed in the utility corridor would need to conform with the VRM Class III and IV objectives on public lands, including portions of the corridor that are located in sensitive viewpoints of the Continental Divide National Scenic Trail SRMA, the Rawlins to Baggs Road Historic Trail, and the Overland National Historic Trail. Siting utilities in multiple locations along I-80 and near Powder Rim in the corridor would not be able to meet visual quality objectives after mitigation; however, none of the amended areas would be located within VRM Class I or II areas. Visual resource mitigation measures discussed in Section 3.12 would minimize the extent of these impacts.

BLM Little Snake Field Office

A newly designated 43-mile utility corridor in the Little Snake FO to accommodate Alternative A would be located in an area not previously developed for utilities and would allow for additional potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. The new utility corridor would be located in an area that may include recreation and rural land uses that are sensitive to changes in landscape settings. Potential future projects proposed in the new utility corridor would need to conform to VRM Class III objectives on public lands. Part of the corridor is located in close proximity (up to an estimated 1.0 to 1.5 mile distance) to sensitive viewpoints. Depending on project location, these viewpoints could be affected by proposed future developments within the designated corridor. Affected sensitive viewpoints occur within the nearby Sand Wash Basin and the Cross Mountain WSA. Siting utilities in multiple locations in the corridor would not be able to meet visual quality objectives after mitigation. None of the amended areas would be located within VRM Class I or II areas. Visual resource mitigation measures discussed in Section 3.12 would minimize the extent of these impacts.

BLM Vernal Field Office

A 19-mile newly designated utility corridor in the Vernal FO to accommodate Alternative A would be located in an area that generally parallels an existing 345-kV transmission line and would allow for additional potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. Potential future projects proposed in the new utility corridor would need to conform to the VRM Class III and IV objectives on public lands. None of the amended areas would be located within VRM Class I or II areas.

BLM Las Vegas Field Office (Agency Preferred Alternative)

A plan amendment to allow a 1-mile, one-time exception through the Sunrise ISA/Rainbow Gardens ACEC/Sunrise Mountain SRMA that parallels existing high voltage transmission lines would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. The one-time exception would need to conform with VRM Class III objectives on public lands, including portions of the corridor that are located in sensitive viewpoints of the surrounding sensitive areas including the Sunrise Mountain ISA, Rainbow Gardens ACEC, and Sunrise Mountain SRMA. None of the amended areas would be located within VRM Class I or II areas.

4.5.12.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on visual resources in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Expanding the existing corridor along I-80 and converting an existing underground utility corridor for a combined total of 61 miles to allow overhead facilities south of I-80 would allow for additional potential future aboveground linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the utility corridor would need to conform with the VRM Class III and IV objectives on public lands, including portions of the corridor that are located in sensitive viewpoints of the Continental Divide National Scenic Trail SRMA, the Rawlins to Baggs Road Historic Trail, and the Overland National Historic Trail. Siting utilities in multiple locations along I-80 and near Powder Rim in the corridor would not be able to meet visual quality objectives after mitigation.

BLM Little Snake Field Office

A 37-mile newly designated utility corridor in the Little Snake FO would be located in an area not previously developed for utilities and would allow for additional potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the new utility corridor would need to conform to VRM Class III objectives on public lands. Siting utilities in multiple locations in the corridor would not be able to meet visual quality objectives after mitigation.

BLM White River Field Office

Thirty-eight miles of a new utility corridor would require a plan amendment. Alternative B crosses scenic BLM lands managed with VRM Class II objectives in the southwest corner of the FO and would not conform to the objectives for VRM Class II, which accommodates only low levels of change to the landscape to retain the existing natural landscape character and could not be reasonably mitigated to a level that would allow the large-scale aboveground utilities to meet VRM Class II objectives. A total of 1,244 acres of VRM Class I and 8,556 acres of VRM class II viewshed areas would be overlapped by the amended areas. Converting an existing underground utility corridor to allow overhead facilities in the White River FO would allow for additional potential future aboveground linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. Potential future projects proposed in the utility corridor would need to conform with the VRM Class objectives on public lands, including portions of the corridor that are located in

sensitive viewpoints of the Oil Spring Mountain WSA. Siting utilities in multiple locations in the corridor would not be able to meet visual quality objectives after mitigation.

BLM Vernal Field Office

A 6-mile newly designated utility corridor in the Vernal FO to accommodate Alternative B would be located in an area not previously developed for utilities and would allow for potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the new utility corridor would need to conform with VRM Class III objectives on public lands. Siting utilities in multiple locations in the corridor would not be able to meet visual quality objectives after mitigation.

BLM Price Field Office

A 14-mile newly designated utility corridor in the Price FO would be located in an area with no existing transmission lines and would allow for additional potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the new utility corridor would need to conform to the VRM Class III and IV objectives on public lands.

4.5.12.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. The effect these plan amendments would have on visual resources in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

Expanding 27 miles of the existing corridors would allow for additional potential future aboveground linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the utility corridor would need to conform with the VRM Class III and IV objectives on public lands, including portions of the corridor that are located in sensitive viewpoints of the Continental Divide National Scenic Trail SRMA, the Rawlins to Baggs Road Historic Trail, and the Overland National Historic Trail. Siting utilities in multiple locations along I-80 and along Highway 789 in the corridor would not be able to meet visual quality objectives after mitigation.

BLM White River Field Office

Impacts would be the same as the impacts identified for Alternative B.

BLM Vernal Field Office

Impacts would be the same as the impacts identified for Alternative B.

BLM Price Field Office

A 10-mile newly designated utility corridor in the Price FO would be located in an area with no existing transmission lines and would allow for additional potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the new utility corridor would need to conform to the VRM Class III

and IV objectives on public lands. Siting utilities in the corridor would not be able to meet visual quality objectives after mitigation.

Caliente Field Office

A 9-mile, one-time exception to allow another utility through the Kane Springs ACEC would allow for additional potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. One acre of VRM Class I viewshed area would be overlapped by the amended area. Potential future projects proposed in the ROW avoidance area would need to conform with VRM Class III objectives on public lands, including portions of the corridor that are located in sensitive viewpoints of the surrounding sensitive areas including the Delamar Mountains Wilderness.

USFS Fishlake National Forest

Alternative C near I-70 and at the south end of the Canyon Mountains overlaps 5,303 acres managed with a High SIO, which requires the landscape character to appear intact but allows for deviations that must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such a scale that they are not evident. A plan amendment to allow exceptions to the SIO within the expanded utility corridor would allow projects that alter the landscape character with noticeable deviations, but are visually subordinate to the landscape character being viewed.

4.5.12.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on visual resources in the respective areas is discussed in the following sections.

BLM Rawlins Field Office (Agency Preferred Alternative)

Expanding the existing corridor along I-80 and designating a new corridor south of I-80 for a combined total of 76 miles would allow for additional potential future aboveground linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the utility corridor would need to conform with the VRM Class III and IV objectives on public lands, including portions of the corridor that are located in sensitive viewpoints of the Continental Divide National Scenic Trail SRMA, the Rawlins to Baggs Road Historic Trail, and the Overland National Historic Trail. Siting utilities in multiple locations along I-80 and near Powder Rim in the corridor would not be able to meet visual quality objectives after mitigation.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

A 17-mile newly designated utility corridor in the Vernal FO to accommodate Alternative D would be located in an area not previously developed for utilities and would allow for potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. Alternative D crosses 54 acres managed with VRM Class II objectives, which accommodate only low levels of change to the landscape to retain the existing natural character and could not be reasonably mitigated to a level that would allow the large-scale aboveground utilities to meet VRM Class II objectives. Siting utilities in multiple locations in the corridor would not be able to meet visual quality objectives after mitigation.

4.5.12.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. The effect the plan amendment would have on visual resources in the respective area is discussed in the following section.

BLM Vernal Field Office

The 6 miles of new utility corridor in the Vernal FO would be located in an area not previously developed for utilities and would allow for potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the new utility corridor would need to conform with VRM Class III objectives on public lands. Siting utilities in multiple locations in the corridor would not be able to meet visual quality objectives after mitigation.

4.5.12.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect these plan amendments would have on visual resources in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The 22 miles of new utility corridor in the Vernal FO to accommodate Alternative F would be located in an area not previously developed for utilities and would allow for potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. Alternative F crosses 54 acres managed with VRM Class II objectives, which accommodate only low levels of change to the landscape to retain the existing natural character and could not be reasonably mitigated to a level that would allow the large-scale aboveground utilities to meet VRM Class II objectives. Siting utilities in multiple locations in the corridor would not be able to meet visual quality objectives after mitigation.

BLM Salt Lake Field Office (Agency Preferred Alternative)

The 3 miles of new utility corridor in the Salt Lake FO would be located in an area not previously developed for utilities and would allow for potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the new utility corridor would need to conform with VRM Class objectives on public lands. Siting utilities in multiple locations in the corridor would not be able to meet visual quality objectives after mitigation.

4.5.12.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3 miles of new utility corridor for the Emma Park Alternative Variation would be located in an area not previously developed for utilities and would allow for potential future linear projects, which would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the new utility corridor would need to conform with VRM Class objectives on public lands. Siting utilities in multiple locations in the corridor would not be able to meet visual quality objectives after mitigation.

4.5.12.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on visual resources in the respective areas is discussed below.

BLM Rawlins Field Office

Designating new utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile Point South (2 miles), and Mexican Flats (9 miles) alternative connectors would result in impacts to visual resources on public and non-federal lands and adjacent to areas that are within the viewshed, as stated above. None of the amended areas would be located within VRM Class I or II areas. Potential future projects proposed in the utility corridor would need to conform to the VRM Class III and IV objectives on public lands. Siting utilities in multiple locations along the corridor would not be able to meet visual quality objectives after mitigation.

BLM Las Vegas Field Office

The 1-mile, one-time exception for the Sunrise Mountain Alternative Connector through the Sunrise Mountain ISA would not allow for additional future linear projects. Therefore, no additional impacts would be anticipated from future development in this area. None of the amended areas would be located within VRM Class I or II areas.

4.5.13 Recreation Resources

Plan amendments to grant a new or expand an existing transmission line utility corridor, convert an existing underground corridor to aboveground, and alter a ROW exclusion area to an avoidance area, could affect recreation settings and experiences through additional permitted development. Altering the recreation setting would adversely affect visitors' recreation experiences and could lead to the displacement of some visitors to other areas or other parts of affected areas. Changing visitors' recreation experiences also may affect the recreation goals and objectives for certain areas as stated in the RMPs. Recreation impacts focus on SRMAs, Extensive Recreation Management Areas (ERMAs), and developed/undeveloped recreation sites.

Plan amendments to grant a new or expand an existing transmission line utility corridor could affect OHV recreation over time through concentrating additional permitted development that could affect the OHV-related goals and objectives near the corridors. Although ROWs sited within the corridors would likely lead to additional new access, new routes would be available for administrative use only and not for OHV recreation. OHV recreationists could be temporarily or permanently displaced due to the construction and location of the corridor, facilities, and access roads. OHV impacts focus on only OHV-related recreation. Increased access to maintain facilities in the utility corridors could also increase the potential for unauthorized OHV use.

Section 3.13, Recreation Resources, provides a detailed description of impacts to recreation resources within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.13.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on recreation in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

The expanded utility corridor along I-80 overlaps with 44 acres of the Continental Divide National Scenic Trail (CDNST); however, there are multiple utility and transportation facilities in the area. Expanding the utility corridor south of I-80 would alter the recreation setting for dispersed recreation uses that likely occur on undesignated public lands in the Western ERMA, which could displace some visitors.

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor should not be affected. The new utility corridor would not affect the area designation of limited to existing roads and vehicle routes within the checkerboard area; and the limited to designated roads and trails designation between the checkerboard area and the state line. In addition, the RMP OHV management goal and objectives would not be affected by the new utility corridor.

BLM Little Snake Field Office

Providing a 42-mile new utility corridor would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands and recreation uses at Sevenmile Ridge/Sand Wash Basin, which could interfere with access used by visitors to recreate in the area including those interested in viewing wild horses within the Sand Wash Basin. The new utility corridor would not affect the ERMA objectives in the RMP, which include providing direction and destination signing, focusing public land boundary signing on fragmented lands, and using education to further enhance resource protection.

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor should not be affected. The new utility corridor would not affect the area designation of limited to existing roads and trails nor would the transportation and access and travel management goals and objectives be affected.

BLM Vernal Field Office

Providing a 19-mile new utility corridor would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands, which could displace some visitors. The new utility corridor would not affect the goals and objectives for recreational resources as stated in the RMP or management of undesignated lands for dispersed recreation (RMP Management Decision REC-4).

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor should not be affected. The new utility corridor would not affect the area designation of limited to designated roads and trails nor would the travel management of roads and trails goals and objectives be affected.

BLM Las Vegas Field Office (Agency Preferred Alternative)

Allowing a 1-mile, one-time exception to add additional utilities to the existing corridor would further alter the recreation setting for dispersed recreation use that occurs in this area, which could displace some visitors. The one-time exception would conflict with the management of the Sunrise Mountain SRMA for recreation opportunities in concert with sensitive plant, scenic, cultural, and geologic values of the concurrent ACEC, as stated in the RMP. Thirty-three acres of the Sunrise Mountain SRMA would be overlapped by the amended area.

Assuming existing authorized OHV access through the utility corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities should not be affected. The one-time exception would not affect the area designation of limited to designated roads and trails in the Rainbow Gardens

ACEC/Sunrise Mountain ISA south of Highway 147; and limited to existing roads, trails, and dry washes north of Highway 147.

4.5.13.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on recreation in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

The expanded utility corridor along I-80 overlaps with 44 acres of the Continental Divide National Scenic Trail (CDNST) and new utility corridor south of I-80 is within the Western ERMA. Effects would be the same as described for Alternative A. Alternative B would also cross the Adobe Town Dispersed Recreation Use Area (DRUA) that is managed for middle and front country recreation uses with an emphasis on maintaining an undeveloped recreation setting. The new utility corridor designation would conflict with management in eastern portions of the DRUA within middle country settings, which provide for recreational with some isolation from sights and sounds of development.

Expansion and conversion of the utility corridor would not affect the RMP OHV designation of limited to existing roads and vehicle routes within the checkerboard area; and the limited to designated roads and trails designation between the checkerboard area and the state line. Effects to OHV would be the same as discussed for Alternative A.

BLM Little Snake Field Office

The 42-mile new utility corridor would alter the recreation setting for dispersed recreation uses at Sevenmile Ridge/Sand Wash Basin. Effects would be the same as described for Alternative A.

The new utility corridor would not affect the area designation of limited to existing roads and trails. Effects to OHV would be the same as discussed for Alternative A.

BLM White River Field Office

Expanding and converting the 38-mile existing utility corridor to allow overhead utilities would alter the recreation setting for dispersed recreation use on undesignated BLM lands as additional projects are approved within the corridor. The new utility corridor would not affect ERMA management as described in the RMP, which states that the ERMA will be managed custodially to provide an unstructured recreational opportunity.

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor would not be affected. Expansion and conversion of the utility corridor would not affect the area designation of limited to existing roads, ways, and trails on most of the public lands from October 1 through April 30; and the limited to designated roads, trails, and ways designation for the White River ACEC and an area south of Rangely. In addition, the RMP Motorized Vehicle Travel objective should not be affected by the new utility corridor.

BLM Vernal Field Office

Providing a new 6-mile utility corridor would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands, which could displace some visitors. The new utility corridor would not affect the goals and objectives for recreational resources as stated in the RMP or management of undesignated lands for dispersed recreation (RMP Management Decision REC-4).

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor should not be affected. The new utility corridor would not affect the area designation of limited to designated roads and trails nor would the travel management of roads and trails goals and objectives be affected.

BLM Price Field Office

Providing a 14-mile new utility corridor would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands and recreation uses, which could displace some visitors. A new corridor would not substantially affect the management goal for the ERMA to provide opportunities for a wide variety of recreation experiences, activities, and benefits in a manner that protects visitor health and safety, resource protection, and seek to reduce conflicts between other land uses and other recreation user groups due to the size of the ERMA and the variety of experiences provided within the ERMA.

Assuming existing authorized OHV access through the corridor is maintained, the ability of visitors to participate in authorized OHV recreation opportunities in the corridor would not be affected. The new utility corridor would not affect the area designation of limited to designated roads and trails. In addition, the RMP Recreation and OHV and the Transportation goals and objectives should not be affected by the new utility corridor.

4.5.13.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. The effect these plan amendments would have on recreation in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

The expanded utility corridor along I-80 overlaps with 44 acres of the CDNST and the expanded utility corridor along Highway 789 is within the Western ERMA. Effects would be the same as described for Alternative A.

Expansion of the utility corridor would not affect the RMP OHV designation of limited to existing roads and vehicle routes within the checkerboard area; and the limited to designated roads and trails designation between the checkerboard area and the state line. Effects to OHV would be the same as discussed for Alternative A.

BLM White River Field Office

Impacts would be the same as stated above for Alternative B.

BLM Vernal Field Office

Impacts would be the same as stated above for Alternative B.

BLM Price Field Office

Providing a 10-mile new utility corridor would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands and recreation uses, which could displace some visitors. A new corridor would not substantially affect the management goal for the ERMA to provide opportunities for a wide variety of recreation experiences, activities, and benefits in a manner that protects visitor health and safety, resource protection, and seek to reduce conflicts between other land uses and other recreation user groups due to the size of the ERMA and the variety of experiences provided within the ERMA. However, 1,250 acres of the amended area would overlap with the San Rafael Swell SRMA.

The new utility corridor would not affect the RMP OHV designation of limited to designated roads and trails. Effects to OHV would be the same as discussed for Alternative B.

BLM Caliente Field Office

Allowing a 9-mile, one-time exception to add additional utilities to the existing corridor across the Kane Springs ACEC would further alter the recreation setting for dispersed recreation use that occurs in this area, which could displace some visitors. Expanding the corridor would affect the RMP recreation goal of providing quality settings for developed and undeveloped recreation experiences and opportunities while protecting resources.

Assuming existing authorized OHV access through the utility corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities would not be affected. The one-time exception would not affect the areas designation of limited to existing roads and trails. In addition, the RMP Travel Management goals and objective would not be affected.

USFS Fishlake National Forest

Expanding 22 miles of the utility corridor would allow a higher degree of alteration of recreation settings in this area in the future thus potentially altering the recreation setting for dispersed recreation uses, which could displace some visitors. The 22 miles of utility corridor that would require a plan amendment would overlap with areas within the forest that are utilized for various types of recreation. The amended area would overlap with 13,154 acres of roaded natural areas and 14,899 acres of semi-primitive motorized areas. Concentrating utilities in this area could result in decreased recreational experiences within the forest.

Expanding the existing utility corridor would not affect the overall LRMP off-road vehicle or motorized recreation-related goals and would not affect any route designations.

4.5.13.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on recreation in the respective areas is discussed in the following sections.

BLM Rawlins Field Office (Agency Preferred Alternative)

The expanded utility corridor along I-80 overlaps with 44 miles of the CDNST and the new utility corridor south of I-80 is within the Western ERMA. Effects would be the same as described for Alternative A.

Expansion of the utility corridor would not affect the RMP OHV designation of limited to existing roads and vehicle routes within the checkerboard area; and the limited to designated roads and trails designation between the checkerboard area and the state line. Effects to OHV would be the same as discussed for Alternative A.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

Providing a new 17-mile utility corridor would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands, which could displace some visitors. The new utility corridor would not

affect the goals and objectives for recreational resources as stated in the RMP or management of undesignated lands for dispersed recreation (RMP Management Decision REC-4).

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor should not be affected. The new utility corridor would not affect the area designation of limited to designated roads and trails nor would the travel management of roads and trails goals and objectives be affected.

4.5.13.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. The effect the plan amendment would have on recreation in the respective area is discussed in the following section.

BLM Vernal Field Office

Providing a new 6-mile utility corridor would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands, which could displace some visitors. The new utility corridor would not affect the goals and objectives for recreational resources as stated in the RMP or management of undesignated lands for dispersed recreation (RMP Management Decision REC-4).

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor should not be affected. The new utility corridor would not affect the area designation of limited to designated roads and trails nor would the travel management of roads and trails goals and objectives be affected.

4.5.13.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect these plan amendments would have on visual resources in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The 22 miles of new utility corridor in the Vernal FO to accommodate Alternative F would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands, which could displace some visitors. The new utility corridor would not affect the goals and objectives for recreational resources as stated in the RMP or management of undesignated lands for dispersed recreation (RMP Management Decision REC-4).

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor should not be affected. The new utility corridor would not affect the area designation of limited to designated roads and trails nor would the travel management of roads and trails goals and objectives be affected.

BLM Salt Lake Field Office (Agency Preferred Alternative)

The 3 miles of new utility corridor in the Salt Lake FO would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands, which could displace some visitors. The new utility corridor would not affect the unstructured types of recreation activities provided in the ERMA.

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor should not be affected. The new utility corridor would not affect the area designation of open to ORV use.

4.5.13.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3 miles of new utility corridor for the Emma Park Alternative Variation would alter the recreation setting for dispersed recreation uses that likely occur on undesignated lands, which could displace some visitors. The new utility corridor would not affect the unstructured types of recreation activities provided in the ERMA.

Assuming existing authorized OHV access through the corridor is maintained, the ability for visitors to participate in authorized OHV recreation opportunities in the corridor should not be affected. The new utility corridor would not affect the area designation of open to ORV use.

4.5.13.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on recreation in the respective areas is discussed below.

BLM Rawlins Field Office

The new utility corridor south of I-80 for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile Point South (2 miles), and Mexican Flats (9 miles) alternative connectors are within the Western ERMA. Effects would be the same as described for Alternative A.

Expansion of the utility corridor would not affect the RMP OHV designation of limited to existing roads and vehicle routes within the checkerboard area; and the limited to designated roads and trails designation between the checkerboard area and the state line. Effects to OHV would be the same as discussed for Alternative A.

BLM Las Vegas Field Office

Allowing a 1-mile, one-time exception to allow a transmission line would further alter the recreation setting for dispersed recreation use that occurs in this area, which could displace some visitors. The one-time exception would conflict with the management of the Sunrise Mountain SRMA for recreation opportunities in concert with sensitive plant, scenic, cultural, and geologic values of the concurrent ACEC, as stated in the RMP. Thirty acres of the Sunrise Mountain SRMA would be overlapped by the amended area.

The one-time exception would not affect the area designation of limited to designated roads and trails in the Rainbow Gardens ACEC/Sunrise Mountain ISA south of Highway 147; and limited to existing roads, trails, and dry washes north of Highway 147. Effects to OHV would be the same as discussed for Alternative A.

4.5.14 Land Use

Section 3.14 provides a detailed description of impacts to land use within the corridors proposed, plan amendment-specific impacts are addressed in the following sections. This section is subdivided into lands and realty and livestock grazing.

4.5.14.1 Lands and Realty

Plan amendments granting a new or expanded utility corridor or changing an exclusion area to an avoidance area would change the allowed uses and associated consequences for lands and realty as they are managed pursuant to BLM RMPs and USFS LRMPs. In all instances, the plan amendments proposed would lessen the restrictions currently in place, which would permit more flexibility for the

acquisition, disposal, withdrawal and use of public lands. The lands and realty management objectives were reviewed for the affected FOs where amendments are proposed. For some of the older RMPs that do not include lands and realty goals or direction, land management, ROW and/or utility corridor objectives were reviewed instead.

Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments for national forests are not required under this alternative. The effect these plan amendments would have on lands and realty in the respective areas is discussed in the following sections.

BLM Rawlins Field Office

The existing utility corridor proposed for expansion along I-80 currently contains one 115-kV transmission line. Additional high voltage transmission lines are proposed in the same corridor, as discussed in Chapter 5.0, Cumulative Impacts. There are currently no utilities located within the proposed 58 miles of newly designated corridor; however, other transmission projects are analyzing the route for potential siting. Expanding the existing utility corridor would allow for concentration of up to three additional future utilities to a common area; however, separation distances would restrict the amount of new utilities permitted within the corridor. Areas where a new above-ground utility corridor is established would permit up to five other utilities (power lines, communications, and renewable energy facilities) to be located in an area where utilities and existing ROWs currently do not exist, depending on separation distance requirements. The proposed corridor would not conflict with the ROW exclusion areas identified in Section 2.17 of the RMP, Lands and Realty Management Actions. In addition, the plan amendment would not prevent land tenure adjustments identified within the RMP-designated retention and disposal zones.

BLM Little Snake Field Office

Establishing a new 42-mile utility corridor to accommodate Alternative A would permit up to three other above-ground utilities to be located in an area where utilities and existing ROWs currently do not exist, depending on separation distance requirements. The proposed corridor would not conflict with the ROW exclusion areas identified in Section 2.17 of the RMP, Lands and Realty Management Actions. In addition, the plan amendment would not prevent land tenure adjustments identified within the RMP-designated retention and disposal zones.

BLM Vernal Field Office

Alternative A would cross 19 miles of public lands outside of designated WWEC and RMP-designated utility corridors. Utilities and utility corridors exist to the south and north of the new corridor; however, there are no utilities sited in the same location. A new utility corridor to accommodate Alternative A would permit other utilities (up to three additional electric transmission and distribution lines) to be located in an area where utilities and existing ROWs currently do not exist, depending on separation distance requirements. The proposed utility corridor would not be located within ROW exclusion areas or ROW-avoidance areas, which are specifically identified in the Lands and Realty Management chapter of the RMP as being set aside for the protection of natural resources. A new utility corridor would not prevent the sale (disposal) of public lands.

BLM Las Vegas Field Office (Agency Preferred Alternative)

The corridor through the Sunrise ISA/Rainbow Gardens ACEC/Sunrise Mountain SRMA contains high voltage transmission lines. Since the expansion through this area is a 1-mile, one-time exception, there would be no effects via the creation of opportunities for other utilities (powerlines, pipelines, communication sites) to be located within the ISA.

Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. The effect these plan amendments would have on lands and realty in the respective resource management areas is discussed in the following sections.

BLM Rawlins Field Office

A total of 61 miles of utility corridor would require a plan amendment. The southern portion of Alternative B would be located in a designated utility corridor for underground utilities only, pursuant to the Rawlins RMP. There are existing underground pipelines located within the existing utility corridor, but there are no overhead transmission lines. Any high voltage transmission lines would require measures for cathodic protection to minimize impacts to existing underground utilities. Alternative B would not be located within any exclusion areas designated in the Rawlins RMP, or within any WSAs or SD/MAs.

BLM Little Snake Field Office

Establishing 37 miles of a new (aboveground) utility corridor for the Alternative B route would permit other utilities (power lines) to be located in an area where utilities and existing ROWs currently do not exist. The proposed corridor would not conflict with the ROW exclusion areas identified in Section 2.17 of the RMP, Lands and Realty Management Actions. Effects would be the same as described under Alternative A for lands and realty.

BLM White River Field Office

Expanding and converting 38 miles of the existing utility corridor to allow aboveground utilities would allow opportunities for up to four more utilities to be located in the corridor, depending on separation distance requirements. Any high voltage transmission lines would require measures for cathodic protection to minimize impacts to existing underground utilities. These plan amendments would not prevent the acquisition, disposal, withdrawal and use of public lands.

BLM Vernal Field Office

Establishing 6 miles of new utility corridor for the Alternative B route would permit other utilities to be located in an area where utilities and existing ROW currently do not exist. The proposed utility corridor would not be located within ROW exclusion or avoidance areas, which are specifically identified in the Lands and Realty Management chapter of the RMP as being set aside for the protection of natural resources. A new utility corridor would not prevent the sale (disposal) of public lands.

BLM Price Field Office

Alternative B would traverse an area where no utilities currently exist. Establishing 14 miles of a new utility corridor would permit other up to four utilities (power lines, and communication sites) to be located in an area where utilities and existing ROWs currently do not exist, depending on separation distance requirements. These plan amendments would be consistent with Land and Realty management decisions LAR-21, -25 and -26. LAR-21 requires that WSAs are utility corridor exclusion areas; Alternative B does not cross a WSA. LAR-25 and -26 list the avoidance and exclusion areas where new utility corridors cannot be located; none of those listed in the RMP are crossed by Alternative B. Plan amendments would not prevent the acquisition, disposal, withdrawal and use of public lands.

Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. The effect plan amendments would have on lands and realty in the respective resource management areas is discussed in the following sections.

BLM Rawlins Field Office

The southern portion of Alternative C would be located in a designated utility corridor along Highway 789, pursuant to the Rawlins RMP. Expanding 27 miles of the existing utility corridor along Highway 789 would allow opportunities for up to three more utilities to be located in the corridor, depending on separation distance requirements. Alternative C would not be located within any exclusion areas designated in the Rawlins RMP, or within any WSAs or SD/MAs. Effects would be the same as described under Alternative A for lands and realty.

BLM White River Field Office

Effects to lands and realty as a result of converting to an aboveground corridor would be the same as for Alternative B described above.

BLM Vernal Field Office

Effects to lands and realty as a result of establishing a new 6-mile utility corridor would be the same as for Alternative B described above.

BLM Price Field Office

Alternative C would traverse an area where no utilities currently exist. Establishing 10 miles of a new utility corridor in this area would permit up to three other utilities (power lines, pipelines, and communication sites) to be located in an area where utilities and existing ROWs currently do not exist, depending on separation distance requirements. These plan amendments would be consistent with Land and Realty management decisions LAR-21, -25 and -26. Effects would be the same as described under Alternative B for lands and realty.

BLM Caliente Field Office

Alternative C parallels U.S. Highway 93, which contains multiple transmission and pipeline utilities between the National Wildlife Refuge and Delamar Wilderness Area. Since the expansion through this area is a 9-mile, one-time exception, there would be no effects or opportunities for other utilities (powerlines, pipelines, communication sites). The plan amendment would not prevent the acquisition, disposal, withdrawal and use of public lands pursuant to the lands and realty objectives of the RMP.

USFS Fishlake National Forest

The area proposed for expansion parallels I-70 to the north and an existing 345-kV transmission line to the south. Expansion of the 22-mile existing utility corridor would permit up to three other utilities (power lines, pipelines, and communication sites) to be located in an area where utilities and existing ROWs currently do not exist, depending on separation distance requirements. Allowing exceptions to areas of High SIO would reduce land management restrictions for siting linear right-of-way facilities within the national forest. The plan amendment would not conflict with the ROW standard of providing adequate forest access, or the ability of the USFS to acquire or exchange the use of public lands pursuant to other management direction of the Fishlake LRMP.

Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect plan amendments would have on lands and realty in the respective resource management areas is discussed in the following sections.

BLM Rawlins Field Office (Agency Preferred Alternative)

The existing 76-mile utility corridor proposed for expansion along I-80 currently contains a 115-kV transmission line and additional high voltage transmission lines are proposed in the same corridor. There are currently no utilities located within the newly designated corridor; however, other transmission projects are analyzing the route for potential siting, as discussed in Chapter 5.0. Establishing a new utility corridor in this area would permit up to three other utilities (power lines) to be located in an area where utilities and existing ROWs currently do not exist, depending on separation distance requirements. The proposed corridor would not conflict with the ROW exclusion areas identified in Section 2.17 of the RMP, Lands and Realty Management Actions. Effects would be the same as described under Alternative A for lands and realty.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as Alternative B.

BLM Vernal Field Office

Establishing 17 miles of new utility corridor for the Alternative D route would permit other utilities to be located in an area where utilities and existing ROW currently do not exist. The proposed utility corridor would not be located within ROW exclusion or avoidance areas, which are specifically identified in the Lands and Realty Management chapter of the RMP as being set aside for the protection of natural resources. A new utility corridor would not prevent the sale (disposal) of public lands.

Alternative E

The Alternative E route would require plan amendments involving one BLM office—Vernal. The effect plan amendment would have on lands and realty in the respective resource management area is discussed in the following sections.

BLM Vernal Field Office

Establishing 6 miles of new utility corridor for the Alternative E route would permit other utilities to be located in an area where utilities and existing ROW currently do not exist. The proposed utility corridor would not be located within ROW exclusion or avoidance areas, which are specifically identified in the Lands and Realty Management chapter of the RMP as being set aside for the protection of natural resources. A new utility corridor would not prevent the sale (disposal) of public lands.

Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect these plan amendments would have on lands and realty in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The 22 miles of new utility corridor in the Vernal FO to accommodate Alternative F would permit other utilities to be located in an area where utilities and existing ROW currently do not exist. The proposed utility corridor would not be located within ROW exclusion or avoidance areas, which are specifically

identified in the Lands and Realty Management chapter of the RMP as being set aside for the protection of natural resources. A new utility corridor would not prevent the sale (disposal) of public lands.

BLM Salt Lake Field Office (Agency Preferred Alternative)

The 3 miles of new utility corridor in the Salt Lake FO would cross isolated parcels of public land managed under the Pony Express RMP. Providing a new utility corridor with a plan amendment to accommodate Alternative F could permit above-ground utilities to be located in an area where utilities and existing ROWs currently do not exist. The Pony Express RMP does not contain a Lands and Realty program; however, the Lands Program includes priorities for the disposal or exchange of public lands, primarily focused on the disposal of lands for agriculture, mineral development, community/public purposes, or for protection of resources (e.g., national forest, historic sites, military use). Since the proposed utility corridor does not fall within the category of “lands not available for ownership adjustment,” impacts to land management and real estate transactions would be minor.

Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The 3 miles of new utility corridor for the Emma Park Alternative Variation would cross isolated parcels of public land managed under the Pony Express RMP. Providing a new utility corridor with a plan amendment to accommodate Alternative F could permit above-ground utilities to be located in an area where utilities and existing ROWs currently do not exist. The Pony Express RMP does not contain a Lands and Realty program; however, the Lands Program includes priorities for the disposal or exchange of public lands, primarily focused on the disposal of lands for agriculture, mineral development, community/public purposes, or for protection of resources (e.g., national forest, historic sites, military use). Since the proposed utility corridor does not fall within the category of “lands not available for ownership adjustment,” impacts to land management and real estate transactions would be minor.

Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on lands and realty in the respective resource management areas is discussed below.

BLM Rawlins Field Office

New utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile Point South (2 miles), and Mexican Flats (9 miles) alternative connectors are proposed where no utilities currently exist; however, other transmission projects are analyzing the route for potential siting, as discussed in Chapter 5.0. Establishing a new utility corridor in this area would permit up to three other utilities (power lines) to be located in an area where utilities and existing ROWs currently do not exist, depending on separation distance requirements. The proposed corridor would not conflict with the ROW exclusion areas identified in Section 2.17 of the RMP, Lands and Realty Management Actions. Effects would be the same as described under Alternative A for lands and realty.

BLM Las Vegas Field Office

There are no existing utilities through the portion of the Sunrise ISA/Rainbow Gardens ACEC/Sunrise Mountain SRMA. Since the expansion through this area is a 1-mile, one-time exception, there would be no effects or opportunities for other utilities (powerlines, pipelines, communication sites).

4.5.14.2 Livestock Grazing

There would be little or no impacts on livestock grazing from plan amendment decisions. Plan amendments to create new utility or expand existing corridors would influence the ability to locate utilities in areas. These actions in turn have direct impacts on livestock grazing, which are analyzed pursuant to NEPA as individual projects are proposed. Allowing for potential future utilities to be developed in areas where currently none exist could affect the management of livestock on public lands as projects are developed. Short-term impacts would include vegetation removal and loss of AUMs during infrastructure construction; impacts to range improvements or the use of those range improvements such as fences, pipelines, troughs, reservoirs, corrals; generating construction and traffic-related dust; and an increased risk of animal/vehicle collisions from construction-related activities. Long-term impacts would include loss of AUMs from removal of vegetation with the existence of permanent facilities and an increased risk of animal/vehicle collisions from maintenance operations.

Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. No national forests require land use plan amendments under this alternative. Concentrating utilities in the areas as proposed in the plan amendments would affect management of livestock on public lands as discussed above. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

The following allotments would be overlapped by the amended area:

Rawlins FO, WY – Continental –Daley Ranch –Doty Mountain –Echo Springs –Lazy Y S Ranch – Mexican Graves –North Laclede –Pine Grove/Bolten –Powder Rim Rotation –Red Creek –Riner –Rotten Springs –Sand Creek –Sixteen Mile –South Barrel –South Laclede –South Wamsutter

Little Snake FO, CO –Cedar Springs Draw –Cross Mountain Disappointment –East Canyon –East Powder Wash –Grounds –Horse Draw –Lang Spring –Nipple Peak –Nipple Rim –Powder Rim Rotation – Powder Wash –Sand Wash –Shepherd Spring –Snake River

Vernal FO, UT –Powder Wash –Snake John –Split Mountain –Walker Hollow –Ouray Road –Twelve Mile

Las Vegas FO, NV –Sunrise Mountain

Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Concentrating utilities in the areas as proposed in the plan amendments would affect management of livestock on public lands as discussed above. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Rawlins FO, WY –Continental –Daley Ranch –Echo Springs –Lazy Y S Ranch –Mexican Graves –North Barrel –North Laclede –Pine Grove/Bolten –Powder Rim Rotation –Riner –Rotten Springs –Sand Creek – Sixteen Mile –South Laclede –South Wamsutter –Willow Creek

Little Snake FO, CO –Cedar Springs Draw –East Powder Wash –Grounds –Horse Draw –Lang Spring – Nipple Peak –Nipple Rim –Powder Rim Rotation –Powder Wash –Sand Creek –Sand Hills –Sand Wash – Shepherd Spring –Snake River –Suttles Basin

White River FO, CO –Atchee Ridge Amp – Cathedral Bluffs –Douglas Creek –Evacuation Creek –Hall Draw –Hatch Flat –Johnson/Trujillo –Lower Fletcher Draw –Massadona –Raven Park –Red Wash – Spooky Mountain –Spring Creek –Twin Buttes –West Salt Common

Vernal FO, UT –Atchee Ridge Amp, –Evacuation Creek

Price FO, UT –Elmo –Icelandier –Marsing –Mathis Wash –Mounds –Mud Springs –North Olsen Lake – Oviatt –South Olsen Lake –Stalker –Victor –Washboard

Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and Fishlake National Forest. Concentrating utilities in the areas as proposed in the plan amendments would affect management of livestock on public lands as discussed above. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Rawlins FO, WY –Adam’s Ranch –Airheart Pasture –Baggs Subunit –Big Robber –Brimmer Pastures – Cedars –Cherokee –Coal Bank Wash –Cottonwood Hill –Dad –Daley Ranch –Doty Mountain –East Muddy –Echo Springs –George Dew –Grieve Pasture –Lazy Y S Ranch –Little Robber –Mexican Flats – Mexican Graves –North Baggs –North Pine Butte –Pine Grove/Bolten –Riner –Sixteen Mile –South Laclede –South Muddy –South Pasture –South Pine Butte –V Spreaders –Wagon Tongue

White River FO, CO –Atchee Ridge Amp – Cathedral Bluffs –Douglas Creek –Evacuation Creek –Hall Draw –Hatch Flat –Johnson/Trujillo –Lower Fletcher Draw –Massadona –Raven Park –Red Wash – Spooky Mountain –Spring Creek –Twin Buttes –West Salt Common

Vernal FO, UT –Atchee Ridge Amp –Evacuation Creek

Price FO, UT –Chimney Rock Flat, –Little Holes, –Lookoff –Summerville –Trail Springs –Beaver Dams – Browns Hole –Chicken Coop –Flat Top –Meadow Gulch –Moroni Peak –Saleratus

Caliente FO, NV –Delamar –Lower Lake East

Fishlake National Forest –Beaver Dams, –Browns Hole, –Flat Top, –Meadow Gulch, –South Water Hollow

Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. Concentrating utilities in the areas as proposed in the plan amendments would affect management of livestock on public lands as discussed above. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Rawlins FO, WY –Big Robber –Big Robber Spreaders –Cottonwood Hill –Dad –Daley Ranch –Doty Mountain –Echo Springs –Lazy Y S Ranch –Mexican Flats –Mexican Graves –North Laclede – Oppenheimer –Pine Grove/Bolten –Poison Buttes –Powder Rim Rotation –Red Creek –Riner –Rotten Springs –Sand Creek –Sixteen Mile –South Barrel –South Flat Top –South Laclede –South Wamsutter

Little Snake FO, CO –Cedar Springs Draw –East Powder Wash –Grounds –Horse Draw –Lang Spring – Nipple Peak –Nipple Rim –Powder Rim Rotation, –Powder Wash, –Sand Creek –Sand Hills –Sand Wash–Shepherd Spring –Snake River –Suttles Basin

Vernal FO, UT –Argyle Ridge –Big Wash –Currant Canyon –Five Mile –Lears Canyon –Parleys Canyon – Powder Wash –Snake John –Split Mountain –Sulfur Canyon –Water Canyon #2

Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. Concentrating utilities in the areas as proposed in the plan amendments would affect management of livestock on public lands as discussed above. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Vernal FO, UT –Ouray Road –Powder Wash –Snake John –Split Mountain –Twelve Mile –West Fork

Alternative F

The Alternative F route would require a plan amendment involving two BLM offices—Vernal and Salt Lake. Concentrating utilities in the areas as proposed in the plan amendments would affect management of livestock on public lands as discussed above. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Vernal FO, UT –Argyle Ridge –Big Wash –Currant Canyon –Five Mile –Lears Canyon –Parleys Canyon – Powder Wash –Snake John –Split Mountain –Sulfur Canyon –Water Canyon #1 –Water Canyon #2 – West Fork

Salt Lake FO, UT –Iso Tract –Ludlow –Kyune I –West Fork

Alternative Variations

The Emma Park Alternative Variation would require a plan amendment involving one BLM office—Salt Lake. Concentrating utilities in the areas as proposed in the plan amendments would affect management of livestock on public lands as discussed above. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Salt Lake FO, UT –Cherry Creek –Kyune I –West Fork

Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs: Rawlins and Las Vegas. Concentrating utilities in the areas as proposed in the plan amendments would affect management of livestock on public lands as discussed above. However, proposed utilities would have to recognize valid existing rights and work with leaseholders to minimize conflicts.

Baggs Alternative Connector, Rawlins FO, WY –44 Ranch –Brimmer Pastures –Cottonwood Hill – North Baggs –Oppenheimer –Poison Buttes –Powder Rim Rotation –River Bottom

Fivemile Point North Alternative Connector, Rawlins FO, WY –Big Robber –Cottonwood Hill

Fivemile Point South Alternative Connector, Rawlins FO, WY –Cottonwood Hill

Mexican Flats Alternative Connector, Rawlins FO, WY –Adam's Ranch –Doty Mountain – Headquarters Ranch –Mexican Graves –South Laclede

Sunrise Mountain Alternative Connector, Las Vegas FO, NV –Sunrise Mountain

4.5.15 Special Designation and Management Areas

Plan amendments to expand an existing or create a new transmission line utility corridor could affect management objectives for special designations/management areas (SD/MAs). While some of the proposed and alternative corridors currently include portions of Wilderness Study Areas (WSAs) or wilderness areas, utilities would not be allowed in these areas unless Congressional approval is provided. The ROW is adjacent to the following areas:

- Oil Spring Mountain WSA (BLM White River FO, Alternatives B and C)
- Clover Mountains Wilderness (BLM Caliente FO, Alternative B)

The wilderness characteristics in these adjacent wilderness areas and WSAs may be temporarily diminished during construction of potential adjacent utility projects from noise associated with heavy machinery and increased traffic occurring near the wilderness area or WSA boundary. Visitors in adjacent wilderness areas or WSAs might notice a temporary disruption to solitude during construction. However, since all project construction would occur outside the wilderness area or WSA boundaries, no direct (permanent or physical) impacts to these areas are anticipated.

Section 3.15 provides a detailed description of impacts to SD/MAs within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.15.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments are not required for national forests under this alternative. No SD/MAs would be affected by the plan amendments proposed in the following areas: BLM Little Snake FO, and BLM Vernal FO. The proposed plan amendment that may affect SD/MAs is discussed in the following section.

BLM Rawlins Field Office

The 58-mile expanded utility corridor would overlap with 2,161 acres of the Red Rim-Daley WHMA and 880 acres of the Grizzly WHMA, which are ROW avoidance areas. Crossings of the CDNST and historic trails under study for national designation (Overland and Cherokee) would occur. Impacts are discussed in Section 3.15, Special Designation Areas.

BLM Las Vegas Field Office (Agency Preferred Alternative)

The 1-mile, one-time exception for an additional utility line in the existing corridor would affect the Sunrise Mountain ISA and Rainbow Gardens ACEC. According to the RMP, use of areas within the ISA is contingent upon Congressional action releasing the ISA from further wilderness consideration and study. Allowing additional ROWs within the ISA could affect the character of the ISA; however, the ISA was found to be in an unnatural condition and does not offer outstanding opportunities for solitude or primitive and unconfined recreation.

4.5.15.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. No SD/MAs would be affected by the plan amendments proposed in the following areas: BLM Little Snake FO, BLM Vernal FO, and BLM Price FO. The proposed plan amendment that may affect SD/MAs is discussed in the following section.

BLM Rawlins Field Office

The 61-mile expanded utility corridor would overlap with 2,161 acres of the Red Rim-Daley WHMA, which is a ROW avoidance area. Crossings of the CDNST and historic trails under study for national designation (Overland and Cherokee) would occur. Impacts are discussed in Section 3.15, Special Designation Areas.

BLM White River Field Office

The utility corridor is situated within 122 acres of the White River Riparian ACEC, which is a ROW avoidance area. Construction through the ACEC would be contingent upon avoidance of cottonwood communities, maintenance of utility as bald eagle habitat and properly functioning riparian community. Indirect impacts to 1,241 acres of the adjacent Oil Spring Mountain WSA from potential future construction within the utility corridor are discussed above.

4.5.15.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. No SD/MAs would be affected by the plan amendments proposed in the following areas: BLM Vernal FO, BLM Price FO, and USFS Fishlake National Forest. The proposed plan amendment that may affect SD/MAs is discussed in the following section.

BLM Rawlins Field Office

The 27-mile expanded utility corridor would overlap with 2,161 acres of the Red Rim-Daley WHMA and 880 acres of the Grizzly WHMA, which are ROW avoidance areas. Crossings of the CDNST and historic trails under study for national designation (Overland and Cherokee) would occur. Impacts are discussed in Section 3.15, Special Designation Areas.

BLM White River Field Office

The utility corridor is situated within 122 acres of the White River Riparian ACEC, which is a ROW avoidance area. Construction through the ACEC would be contingent upon avoidance of cottonwood communities, maintenance of bald eagle habitat and properly functioning riparian community. Indirect impacts to 1,241 acres of the adjacent Oil Springs Mountain WSA from potential future construction within the utility corridor are discussed above.

BLM Caliente Field Office

A 9-mile, one-time exception to allow an additional utility in the corridor through the Kane Springs ACEC would affect the values of the ACEC. A total of 279 acres of the Kane Springs ACEC would be overlapped by the amended area. According to the RMP, the Kane Springs ACEC will be managed primarily for the recovery of the desert tortoise, which could be affected by additional ROWs through critical habitat within the ACEC. Please see Section 4.5.14 for additional impacts to special status species from the plan amendment. Indirect impacts to the adjacent Delamar Mountains Wilderness Area from potential future construction within the utility corridor are discussed above.

4.5.15.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. No SD/MAs would be affected by the plan amendments proposed in the Little Snake FO.

BLM Rawlins Field Office

The 76-mile utility corridor would overlap with 2,161 acres of the Red Rim-Daley WHMA and 880 acres of the Grizzly WHMA, which are ROW avoidance areas. Crossings of the Continental Divide National Scenic Trail and historic trails under study for national designation (Overland and Cherokee) would occur. Impacts are discussed in Section 3.15, Special Designation Areas.

BLM Vernal Field Office

The 17-mile utility corridor would cross 54 acres of the Lower Green River Corridor ACEC. The area is managed as ROW avoidance area for protection of riparian and special status species habitat and scenic values.

4.5.15.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. No SD/MAs would be affected by the plan amendments proposed in this area.

4.5.15.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect these plan amendments would have on special designations in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The 22 miles of new utility corridor in the Vernal FO to accommodate Alternative F would cross 54 acres of the Lower Green River Corridor ACEC. The area is managed as ROW avoidance area for protection of riparian and special status species habitat and scenic values.

BLM Salt Lake Field Office (Agency Preferred Alternative)

The 3 miles of new utility corridor in the Salt Lake FO would not affect SD/MAs.

4.5.15.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. The three miles of new utility corridor for the Emma Park Alternative Variation would not affect SD/MAs.

4.5.15.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on SD/MAs in the respective areas is discussed below. No SD/MAs would be affected by the plan amendments proposed in the BLM Rawlins FO. The proposed plan amendment that may affect SD/MAs is discussed in the following section.

BLM Las Vegas Field Office

The one-time exception for an additional utility line in the existing corridor would affect the Sunrise Mountain ISA and Rainbow Gardens ACEC. According to the RMP, use of areas within the ISA is contingent upon Congressional action releasing the ISA from further wilderness consideration and study. Allowing additional ROWs within the ISA could affect the character of the ISA; however, the ISA was found to be in an unnatural condition and does not offer outstanding opportunities for solitude or primitive and unconfined recreation.

4.5.16 Transportation and Access

In general, a plan amendment creating a new utility corridor would allow for potential future developments that require new road construction and road upgrades to provide access to utility system alignments, staging areas and related facilities. The new roads would extend from the existing roadway network into areas previously without roads. The road upgrades would increase safety and/or capacity of the existing roads and change maintenance needs and long-term requirements. The new roads and the existing roads would be used by utility construction, operation, maintenance, and decommissioning vehicles during the life cycle of each utility installation. Some new roads would remain in place for maintenance and could be added to the road inventory for the administering agency depending on identified needs. No conflicts with airports or air travel would be expected, except where the new corridors would be located within military operation areas. Section 3.16 provides a detailed description of impacts to transportation and access within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.16.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments for utility corridors could result in effects from potential additional development as stated above. Additional effects are discussed in the following section.

BLM Las Vegas Field Office (Agency Preferred Alternative)

A 1-mile, one-time exception through the Sunrise Mountain ISA could result in indirect effects from potential additional development as stated above. Utilities in the Sunrise Mountain ISA could affect military operations associated with Nellis AFB, the NTTR, and the Nellis Small Arms Range/Jettison Hill boundaries. Potential future aboveground utilities could disrupt military activity and could be damaged by military activity creating financial and system reliability impacts. However, there is an existing aboveground facility in this location through the Sunrise Mountain ISA. In addition, utility repair and maintenance may be prevented by military operations. The presence of utilities also may adversely impact low-level fixed and rotary wing flying operations.

4.5.16.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.16.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. Plan amendments for utility corridors could result in effects from potential additional development as stated above. Additional effects are discussed in the following section.

BLM Caliente Field Office

A 9-mile, one-time exception through the Kane Springs ACEC could result in indirect effects from potential additional development as stated above. Utilities in the Kane Springs ACEC could affect military operations associated with Nellis AFB and the NTTR. Potential future aboveground utilities could disrupt military activity and could be damaged by military activity creating financial and system reliability impacts. However, there is an existing aboveground facility in this location adjacent to the Kane Springs ACEC. In

addition, utility repair and maintenance may be prevented by military operations. The presence of utilities also may adversely impact low-level fixed and rotary wing flying operations.

4.5.16.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.16.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.16.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. Plan amendments for utility corridors could result in effects from potential additional developed as stated above.

4.5.16.7 Alternative Variations

The various alternative variations would require plan amendments involving the following FO—Salt Lake. Plan amendments for a new utility corridor for the Emma Park Alternative Variation could result in effects from potential additional developed as stated above.

4.5.16.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. Plan amendments for utility corridors could result in effects from potential additional development as stated above. Additional effects are discussed in the following section.

BLM Las Vegas Field Office

A 1-mile, one-time exception through the Sunrise Mountain ISA could result in indirect effects from potential additional development as stated above. Utilities in the Sunrise Mountain ISA could affect military operations associated with Nellis Air Force Base (AFB), the Nevada Test and Training Range (NTTR), and the Nellis Small Arms Range (SAR)/Jettison Hill boundaries, as discussed under Alternative A.

4.5.17 Social and Economic Conditions

There would be little or no impacts on socioeconomics from plan amendment decisions. Plan amendments to create new utility or expand existing corridors would influence the ability to locate utilities in areas. These actions in turn have direct impacts on socioeconomics, which are analyzed pursuant to NEPA as individual projects are proposed. Designation of utility corridors would facilitate processing of ROW applications; however, these projects would be proposed whether or not a corridor was designated. Indirect effects to other revenue sources, such as recreation, hunting, and livestock operations, could occur in localized areas if users are displaced as a result of concentrated ROW development. Section 3.17 provides a detailed description of impacts to social and economic conditions within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.17.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.17.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.17.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.17.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.17.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.17.6 Alternative F

The Alternative F route would require plan amendments in two BLM offices—Vernal and Salt Lake. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.17.7 Alternative Variations

The Emma Park Alternative Variation would require a plan amendment in the BLM Salt Lake FO. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.17.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. Plan amendments for utility corridors could result in effects from potential additional development as stated above.

4.5.18 Public Health & Safety

There would be little or no impacts on public health and safety from plan amendment decisions. Plan amendments to create new utility or expand existing corridors would influence the ability to locate utilities in areas. These actions in turn have direct impacts on public health and safety, which are analyzed pursuant to NEPA as individual projects are proposed. Anticipated public health and safety risks from proposed utility projects would include worker accidents, fire, electrocution, exposure to hazardous

materials, exposure to electric fields and magnetic fields (EMF), communication disturbances caused by corona, impacts from stray and induced voltage, and noise. Potential risks from the future proposed utilities in the corridors would be considered minor because previously established requirements for utilities and utility corridors would be expected to remain in place, would be modified as needed if new risks were identified, and the requirements would continue to effectively avoid, minimize and mitigate anticipated public health and safety risks. Section 3.18 provides a detailed description of public health and safety impacts to resources within the corridors proposed, plan amendment-specific impacts are addressed in the following sections.

4.5.18.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. No national forests require plan amendments under this alternative. The proposed plan amendments would have minor and inconsequential effects for all these areas because previously established requirements for utilities and utility corridors would be expected to remain in place for project proposed in the utility corridor as discussed above.

4.5.18.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. Plan amendments are not required for national forests under this alternative. The proposed plan amendments would have minor and inconsequential effects for all these areas because previously established requirements for utilities and utility corridors would be expected to remain in place for project proposed in the utility corridor as discussed above.

4.5.18.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and one national forest—Fishlake. The proposed plan amendments would have minor and inconsequential effects for all these areas because previously established requirements for utilities and utility corridors would be expected to remain in place for project proposed in the utility corridor as discussed above.

4.5.18.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The proposed plan amendments would have minor and inconsequential effects for all these areas because previously established requirements for utilities and utility corridors would be expected to remain in place for project proposed in the utility corridor as discussed above.

4.5.18.5 Alternative E

The Alternative E route would require plan amendments involving one BLM office—Vernal. The proposed plan amendments would have minor and inconsequential effects for this area because previously established requirements for utilities and utility corridors would be expected to remain in place for project proposed in the utility corridor as discussed above.

4.5.18.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The proposed plan amendments would have minor and inconsequential effects for all these areas because previously established requirements for utilities and utility corridors would be expected to remain in place for project proposed in the utility corridor as discussed above.

4.5.18.7 Alternative Variations

The Emma Park Alternative Variation would require a plan amendment in the BLM Salt Lake Office. The proposed plan amendment would have minor and inconsequential effects for this area because previously established requirements for utilities and utility corridors would be expected to remain in place for project proposed in the utility corridor as discussed above.

4.5.18.8 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. The proposed plan amendments would have minor and inconsequential effects for all these areas because previously established requirements for utilities and utility corridors would be expected to remain in place for project proposed in the utility corridor as discussed above.

4.5.19 Wild Horses Management Areas

Allowing for potential future development of utilities in areas where currently none exist could affect the management of wild horses and burros on public lands. Effects to wild horses and burros consist of temporary and permanent displacement of vegetation due to construction of infrastructure, interference with access to water sources, and overall disturbance due to construction noise and human presence (usually only an issue during foaling season). Depending on the location of the overhead power lines they may have a negative effect on BLM's ability to gather excess wild horses in areas where wild horses occupy the landscape.

4.5.19.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. The effect these plan amendments would have on wild horses and burros in the respective FO is discussed below.

BLM Rawlins Field Office

The new utility corridor traverses the Adobe Town HMA. Wild horses may experience increased stress from human presence and noise, and viewers could be displaced. If the location is critical to BLM's ability to gather wild horses, overhead utilities in the corridor could affect BLM's ability to effectively manage horses.

BLM Little Snake Field Office

The new utility corridor traverses the eastern portion of the Sand Wash HMA and would be located directly over a County Road 75, which is a primary route for public wild horse viewing. Wild horses may experience increased stress from human presence and noise, and viewers could be displaced. If the location of the corridor is critical to BLM's ability to gather wild horses, overhead utilities in the corridor could affect BLM's ability to effectively manage wild horses.

BLM Vernal Field Office

The Bonanza HA is located south of the corridor; therefore, there would be no effects to HAs in this FO.

BLM Las Vegas Field Office (Agency Preferred Alternative)

The Muddy Mountains HMA is located east of the corridor; therefore, there would be no effects to HMAs in this FO.

4.5.19.2 Alternative B

The Alternative B route would require plan amendments involving five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. The effect these plan amendments would have on wild horses and burros in the respective FOs is discussed below.

BLM Rawlins Field Office

The Adobe Town HMA is located within the corridor; therefore, impacts would be the same as described in Alternative A.

BLM Little Snake Field Office

The Sand Wash HMA is located to the west of the corridor; therefore, there would be no effects to HMAs in this FO.

BLM White River Field Office

The utility corridor intersects the, Piceance/East Douglas HMA as well as the North Piceance and West Douglas herd areas, which could be affected during construction by the loss of vegetation and cover until reclamation is successful. Wild horses may experience increased stress from human presence and noise. If the location of the corridor is critical to BLM's ability to gather wild horses, overhead utilities in the corridor could affect BLM's ability to effectively manage wild horses.

BLM Vernal Field Office

No HAs are intersected by the corridor; therefore, there would be no effects to this FO.

BLM Price Field Office

No HMAs are intersected by the corridor; therefore, there would be no effects to this FO.

4.5.19.3 Alternative C

The Alternative C route would require plan amendments involving five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and Fishlake National Forest. The effect these plan amendments would have on wild horses and burros in the respective BLM offices and national forest is discussed below.

BLM Rawlins Field Office

The Adobe Town HMA is located west of the corridor; therefore, there would be no effects to HMAs in this FO.

BLM White River Field Office

Effects to wild horses and burros would be the same as for Alternative B described above.

BLM Vernal Field Office

Effects to wild horses and burros would be the same as for Alternative B described above.

BLM Price Field Office

No HMAs are intersected by the corridor; therefore, there would be no effects to this FO.

BLM Caliente Field Office

The Silver King and Eagle HMAs are located approximately ten miles north of the area of the one-time exception; therefore, there would be no effects to HMAs in this FO.

USFS Fishlake National Forest

Wild horses and burros do not exist in the forest; therefore, there would be no effect to wild horses and burros.

4.5.19.4 Alternative D

The Alternative D route would require plan amendments involving three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on wild horses and burros in the respective BLM offices is discussed below.

BLM Rawlins Field Office (Agency Preferred Alternative)

The new utility corridor traverses a small portion of the Adobe Town HMA. Wild horses may experience increased stress from human presence and noise, and viewers could be displaced. If the location is critical to BLM's ability to gather wild horses, overhead utilities in the corridor could affect BLM's ability to effectively manage horses.

BLM Little Snake Field Office

Impacts would be the same as Alternative B.

BLM Vernal Field Office

The Hill Creek HA is located approximately 17 miles east of the area proposed for amendment. Therefore, no effects to HAs from the amendment are anticipated in this FO.

4.5.19.5 Alternative E

The Alternative E route would require a plan amendment involving one BLM office—Vernal. The effect the plan amendment would have on wild horses and burros in the respective BLM office is discussed below.

BLM Vernal Field Office

No HMAs are intersected by the corridor; therefore, there would be no effects to this FO.

4.5.19.6 Alternative F

The Alternative F route would require plan amendments involving two BLM offices—Vernal and Salt Lake. The effect the plan amendment would have on wild horses and burros in the respective BLM office is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

The Hill Creek HA is located approximately 17 miles east of the area proposed for amendment. Therefore, no effects to HAs from the amendment are anticipated in this FO.

BLM Salt Lake Field Office (Agency Preferred Alternative)

No HMAs are intersected by the corridor; therefore, there would be no effects to this FO.

4.5.19.7 Alternative Variations

The Emma Park Alternative Variation would require a plan amendment in the BLM Salt Lake Office. No HMAs are intersected by the corridor; therefore, there would be no effects to this FO.

4.5.19.1 Alternative Connectors

The various alternative connectors would require plan amendments involving the following FOs—Rawlins and Las Vegas. A description of the involved routing variations and the effect the plan amendments would have on wild horses and burros in the respective FOs is discussed below.

BLM Rawlins Field Office

There are no HMAs/HAs affected by the Mexican Flats, Baggs, Fivemile Point North, and Fivemile Point South alternative connectors. The Adobe Town HMA is located west of the corridor; therefore, there would be no effects to HMAs in this FO.

BLM Las Vegas Field Office

The Sunrise Mountain Alternative Connector intersects the Sunrise Mountain ISA, which is an exclusion area. Allowances would have to be made (change the area designation from ROW exclusion to ROW avoidance) to develop a utility ROW through this area. There would be no effects to wild horses and burros as a result of the Sunrise Mountain Alternative Connector.

4.5.20 Lands with Wilderness Characteristics

Establishing utility corridors in areas containing inventory units that are determined to meet criteria for LWC could lead to potential future development of utilities that could affect LWC units and eliminate portions or the entirety of the unit from meeting LWC criteria. Impacts could either result from the loss of wilderness characteristics in areas that the BLM has administratively made a decision to protect or negate the eligibility of the whole inventoried area for consideration in a future planning effort for wilderness character protection.

4.5.20.1 Alternative A

The Alternative A route would require plan amendments involving four BLM offices—Rawlins, Little Snake, Vernal, and Las Vegas. The effect these plan amendments would have on LWC in the respective FO is discussed below.

BLM Rawlins Field Office

No LWC units would be affected by the proposed plan amendment.

BLM Little Snake Field Office

Eight LWC units (290, 291, 318, 332, 351, 353, 364, 409) would be affected by the proposed plan amendment. Depending on the location of utilities as they are developed, part or the entirety of the unit may not meet the LWC criteria for size, solitude, and naturalness.

BLM Vernal Field Office

No LWC units would be affected by the proposed plan amendment.

BLM Las Vegas Field Office (Agency Preferred Alternative)

Alternative A traverses the Sunrise Mountain ISA, but no LWC units would be affected by the proposed plan amendment.

4.5.20.2 Alternative B

The Alternative B route would require plan amendments for five BLM offices—Rawlins, Little Snake, White River, Vernal, and Price. The effect these plan amendments would have on LWC in the respective FO is discussed below.

BLM Rawlins Field Office

One LWC unit (WY-030-13N95W24-2012 – Rotten Springs) would be affected by the proposed plan amendment. Depending on the location of utilities as they are developed, part or the entirety of the unit may not meet the LWC criteria for size, solitude, and naturalness.

BLM Little Snake Field Office

Eight LWC units (290, 291, 318, 353, 364, 406, 407, 409) would be affected by the proposed plan amendment. Depending on the location of utilities as they are developed, part or the entirety of the unit may not meet the LWC criteria for size, solitude, and naturalness.

BLM White River Field Office

Three LWC units (2, 7, 21) would be affected by the proposed plan amendment. Depending on the location of utilities as they are developed, part or the entirety of the unit may not meet the LWC criteria for size, solitude, and naturalness.

BLM Vernal Field Office

One LWC unit (Bitter Creek), which is not managed for wilderness character as determined through the RMP, would be affected by the proposed plan amendment. Depending on the location of utilities as they are developed, part or the entirety of the unit may not meet the LWC criteria for size, solitude, and naturalness.

BLM Price Field Office

One LWC unit (Price River), which is not managed for wilderness character as determined through the RMP, would be affected by the proposed plan amendment. Depending on the location of utilities as they are developed, part of the unit may not meet the LWC criteria for size, solitude, and naturalness.

4.5.20.3 Alternative C

The Alternative C route would require plan amendments for five BLM offices—Rawlins, White River, Vernal, Price, and Caliente—and Fishlake National Forest. The effect these plan amendments would have on LWC in the respective BLM FO is discussed below. There are no LWC units on national forests.

BLM Rawlins Field Office

No LWC units would be affected by the proposed plan amendment.

BLM White River Field Office

Impacts would be the same as discussed for Alternative B.

BLM Vernal Field Office

Impacts would be the same as discussed for Alternative B.

BLM Price Field Office

Three LWC units (Lost Springs Wash, Never Sweat Wash, Sids Mountain), which are not managed for wilderness character as determined through the RMP, would be affected by the proposed plan amendment. Depending on the location of utilities as they are developed, part of the unit may not meet the LWC criteria for size, solitude, and naturalness.

BLM Caliente Field Office

No LWC units would be affected by the proposed plan amendment.

4.5.20.4 Alternative D

The Alternative D route would require plan amendments for three BLM offices—Rawlins, Little Snake, and Vernal. The effect these plan amendments would have on LWC in the respective BLM FO is discussed below.

BLM Rawlins Field Office (Agency Preferred Alternative)

No LWC units would be affected by the proposed plan amendment.

BLM Little Snake Field Office (Agency Preferred Alternative)

Impacts would be the same as discussed for Alternative B.

BLM Vernal Field Office

One LWC unit (Currant Canyon) would be affected by the proposed plan amendment. Depending on the location of utilities as they are developed, part or the entirety of the unit may not meet the LWC criteria for size, solitude, and naturalness.

4.5.20.5 Alternative E

The Alternative E route would require plan amendments for one BLM office—Vernal. The effect these plan amendments would have on LWC in the respective BLM FO is discussed below.

BLM Vernal Field Office

No LWC units would be affected by the proposed plan amendment.

4.5.20.6 Alternative F

The Alternative F route would require plan amendments for two BLM offices—Vernal and Salt Lake. The effect these plan amendments would have on LWC in the respective BLM FO is discussed below.

BLM Vernal Field Office (Agency Preferred Alternative)

One LWC unit (Currant Canyon) would be affected by the proposed plan amendment. Depending on the location of utilities as they are developed, part or the entirety of the unit may not meet the LWC criteria for size, solitude, and naturalness.

BLM Salt Lake Field Office (Agency Preferred Alternative)

No LWC units would be affected by the proposed plan amendment.

4.5.20.7 Alternative Variations

The Emma Park Alternative Variation would require a plan amendment for the BLM Salt Lake FO. No LWC units would be affected by the proposed plan amendment.

4.5.20.8 Alternative Connectors

The various alternative connectors would require plan amendments in the following FOs—Rawlins and Las Vegas. The effect these plan amendments would have on LWC in the respective BLM FO is discussed below.

BLM Rawlins Field Office

Designation of new utility corridors for the Baggs (18 miles), Fivemile Point North (2 miles), Fivemile South (2 miles), and Mexican Flats (9 miles) alternative connectors would not affect any LWC units as a result of the proposed plan amendments.

BLM Las Vegas Field Office

The alternative connector traverses the Sunrise Mountain ISA, but no LWC units would be affected by the proposed plan amendment.

5.0 Cumulative Impacts

NEPA requires an assessment of potential cumulative impacts. Federal regulations (40 CFR 1500-1508) define cumulative impacts as:

“...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

The same resources evaluated for Project effects (Chapter 3.0) are evaluated for cumulative effects. The cumulative impact discussion assumes that all environmental mitigation measures discussed in Chapter 3.0 would be applied to the Project as well as other reasonably foreseeable transmission lines proposed on federal lands in the same alternative corridors. It also is assumed that these and any other projects on federal lands would comply with the applicable BLM Land Use Plans and Forest Service Forest Plans, as well as applicable federal, state, and local regulations and permit requirements.

The structure and content of the cumulative impacts analysis in this EIS follows the guidance contained in the BLM NEPA handbook (BLM 2008) and the CEQ Guidance on Considering Cumulative Effects Under the National Policy Act (CEQ 1997).

5.1 Physical and Temporal Boundaries of Cumulative Impacts

In general, physical boundaries for cumulative impacts analysis vary by resource and would be identical to those analysis areas used in Chapter 3.0 to determine the context of project impacts.

Temporal effects are measured over the length of the effect to the resource, not the Project life. For example, certain desert vegetation communities would require more than 100 years to recover to a similar species composition and cover after surface disturbance as before disturbance. For the purposes of analysis, it was assumed that project operational life would be indefinite with a minimum of 50 years.

5.1.1 Overview of Related Actions

As described in Chapter 2.0, the Project primarily would convey electricity generated from existing and reasonably foreseeable renewable and non-renewable energy sources in central Wyoming to market in Southern Nevada. As a HVDC line, the Project would not interconnect with other electricity suppliers between Wyoming and Nevada. The Project would potentially interconnect with the Gateway West and Gateway South transmission lines near the north terminal.

The Chokecherry Sierra Madre Wind Energy Project Final EIS (BLM 2012a) and the Gateway West Transmission Project Final EIS (BLM 2013) described and evaluated past, present, and foreseeable projects within a region extending from the vicinity of the Medicine Bow River near Hanna (Aeolus substation) south and west to Sinclair and Rawlins, and west along the I-80 corridor to the vicinity of Wamsutter in Carbon and Sweetwater counties, Wyoming. The Project was included in the cumulative impacts section of both documents. Additionally, this Final EIS incorporates by reference their analysis of the cumulative impacts of past, present, and foreseeable actions that would impact the same resources as the Project. Although this Project potentially would transmit power generated by the Chokecherry project, it potentially also would transmit power from other sources. Similarly, in the event that this Project is not approved, the Chokecherry project would use other transmission options. Accordingly, these projects are not connected as either one could proceed without the other.

As a background document for regional energy development and transportation, the Gateway West Final EIS provides an extensive overview of the electrical power generation sources in Wyoming and Idaho, including fossil fuel power plants (coal and natural gas), wind energy, geothermal, and hydroelectric sources. The regional electrical transmission system requirements for transporting wind energy also are discussed. The existing and proposed Wyoming generation sources described in the Gateway West Final EIS (see Sections 4.2.1.4 and 4.2.2.5 of the Gateway West Final EIS) eventually could be potentially served by the Project if the demand arose.

In the Las Vegas region, several transmission lines have been proposed, but none have yet been approved or constructed. The NEPA analyses for these transmission lines were reviewed for project description information and they are discussed under the Region IV discussion below.

5.2 Past and Present, and Reasonably Foreseeable Future Actions

Past and present actions for the Project include existing land development, the results of which are described under the various resources in Chapter 3.0. The past and present actions are discussed in terms of regional distribution of land uses and activities. Maps of linear utilities within each region have been developed to provide the reader with the relative extent of aboveground facility development within the various corridors.

The following sections outline the past and present actions by the Project regions defined for analysis of alternatives, as well as reasonably foreseeable actions that may cause cumulative impacts.

Reasonably foreseeable projects that overlap with the Project in space and time are identified by project alternative and are illustrated on maps. Reasonably foreseeable projects include any projects that are actively proposed or planned and impact the same resources as the Project. The criteria for inclusion of reasonably foreseeable projects in the list for analysis are the following:

- A ROW application and associated preliminary project description have been filed with the BLM or other federal agency, and there is evidence that the project is being actively pursued by the proponent through the NEPA or other permitting process. Project construction activities may or may not overlap with those of the Project.
- The foreseeable project would be located where it would impact the same resources as the Project.

Cumulative impacts are estimated for each resource by Project region. The primary focus of the specific analyses are locations where cumulative projects and actions may conflict with the management of designated areas, private land uses, other industrial surface uses (e.g., oil and gas), and protection of habitats for special status species and other resources. In most cases, these cumulative impacts include past, present, and reasonably foreseeable actions that extend beyond the common corridor of the Project and other transmission lines to include the logical boundaries for a baseline for those resources impacted by the Project.

5.2.1 Region I

5.2.1.1 Past and Present Actions

- **Agriculture.** The majority of the land crossed by all alternatives is used for livestock grazing. Dryland wheat fields and irrigated pasturelands are located north and west of Craig in Moffat County, Colorado (**Figure 3.5-1**).
- **Commercial, Residential, and Industrial Areas.** Incorporated and unincorporated communities in Wyoming (in order of size) include Rawlins, Sinclair, Hanna, Wamsutter, and Baggs; in Colorado, Craig, Maybell, and Dinosaur; and in Utah, Vernal. A coal-fired power plant is located near Craig, and an oil refinery is located in Sinclair.

- **Oil and Gas Field Development.** An extensive area of oil and gas development is located from the vicinity of Rawlins westward to Wamsutter, and southward to the vicinity of Baggs (**Figure 3.2-3**). Example existing large fields include Atlantic Rim, Continental Divide-Creston, and Desolation Flats. These fields are composed of well pads, gathering pipelines, electrical distribution lines, buried pipelines, and access roads. Access roads are subject to daily traffic that includes light and heavy trucks, water trucks, truck and trailer rigs, and motor graders.
- **Minerals.** Active surface and underground coal mines are located north and south of Craig and north of Rangely (**Figure 3.2-3**).
- **Renewable Energy.** No operating renewable energy projects (wind, solar) overlap with Project alternative corridors.
- **Linear Utilities.** **Figure 5-1** provides an overview of the linear utilities associated with Project corridors in this region. The I-80 corridor includes a variety of linear utilities within a few miles of the interstate highway. These include a transcontinental railroad; multiple pipelines (oil, natural gas, natural gas liquids, and refined products); transmission lines; and fiber optic communication lines. Compressor stations and pump stations are associated with individual pipelines, depending on the type of product. Other state and federal highways that also serve as utility corridors include: U.S. Highway 287, and State Highways 30 and 789 in Wyoming, U.S. Highway 40 between Craig and Vernal in Colorado and Utah, and Highway 191 between I-80 in Wyoming and U.S. Highway 40 in Utah.
- **Other Actions.** Other facilities within Project corridors include a Wyoming state prison south of Rawlins.

An estimate of the Region Analysis Areas that have been disturbed from past and present activities was made by mapping historical vegetation conditions using the potential natural vegetation (PNV) dataset from the USFS General Technical Report RMRS-87 *Development of Coarse-Scale Spatial Data for Wildland Fire and Fuel Management*. This PNV dataset from this report is based on the Kuchler dataset developed in the 1960's (Kuchler 1975). This PNV was overlaid with current SWReGAP and NWReGAP land cover data (USGS 2008, 2004) and an estimate was made of the acreage of PNV in the Region I Analysis Area that has been converted to developed areas. A summary of these acreages by vegetation/habitat cover type is provided below in **Table 5-1**. The cumulative qualitative effect of these past actions on existing resources is disclosed through the description of the Affected Environment for each resource (Chapter 3.0 of this Draft EIS). Please note that these numbers differ slightly from the existing affected environment numbers expressed in **Table 5-1** because they were calculated from a different dataset. However, the discrepancy is very small and does not preclude comparison of the numbers in terms of estimating overall cumulative impacts. This is true for the identical information expressed for all of the regions.

Table 5-1 Estimated Cumulative Impacts from Past and Present Actions in the Region I Analysis Area

Vegetation/Habitat Cover Type	Region 1 Currently Disturbed (acres)	Region 1 Historic Vegetation/Habitat	Percent Disturbed from Past and Present Actions
Barren/Sparsely Vegetated	-	-	-
Conifer Forest	8,222	123,241	7
Desert Shrubland	3,292	430,857	<1
Grassland	162	1,979	8
Montane Shrubland	19,625	315,636	6
Open Water	-	771	-

Table 5-1 Estimated Cumulative Impacts from Past and Present Actions in the Region I Analysis Area

Vegetation/Habitat Cover Type	Region 1 Currently Disturbed (acres)	Region 1 Historic Vegetation/Habitat	Percent Disturbed from Past and Present Actions
Pinyon-Juniper	36,496	750,202	5
Sagebrush Shrubland	193,772	3,727,772	5
Total	261,569	5,350,458	5

5.2.1.2 Reasonably Foreseeable Actions

Figure 5-1 illustrates the geographic relationships of the Project alternatives and other RFFAs in Region I. Table 5-2 provides a summary of the types of projects, estimated construction time frames, and their potential cumulative impacts relationships.

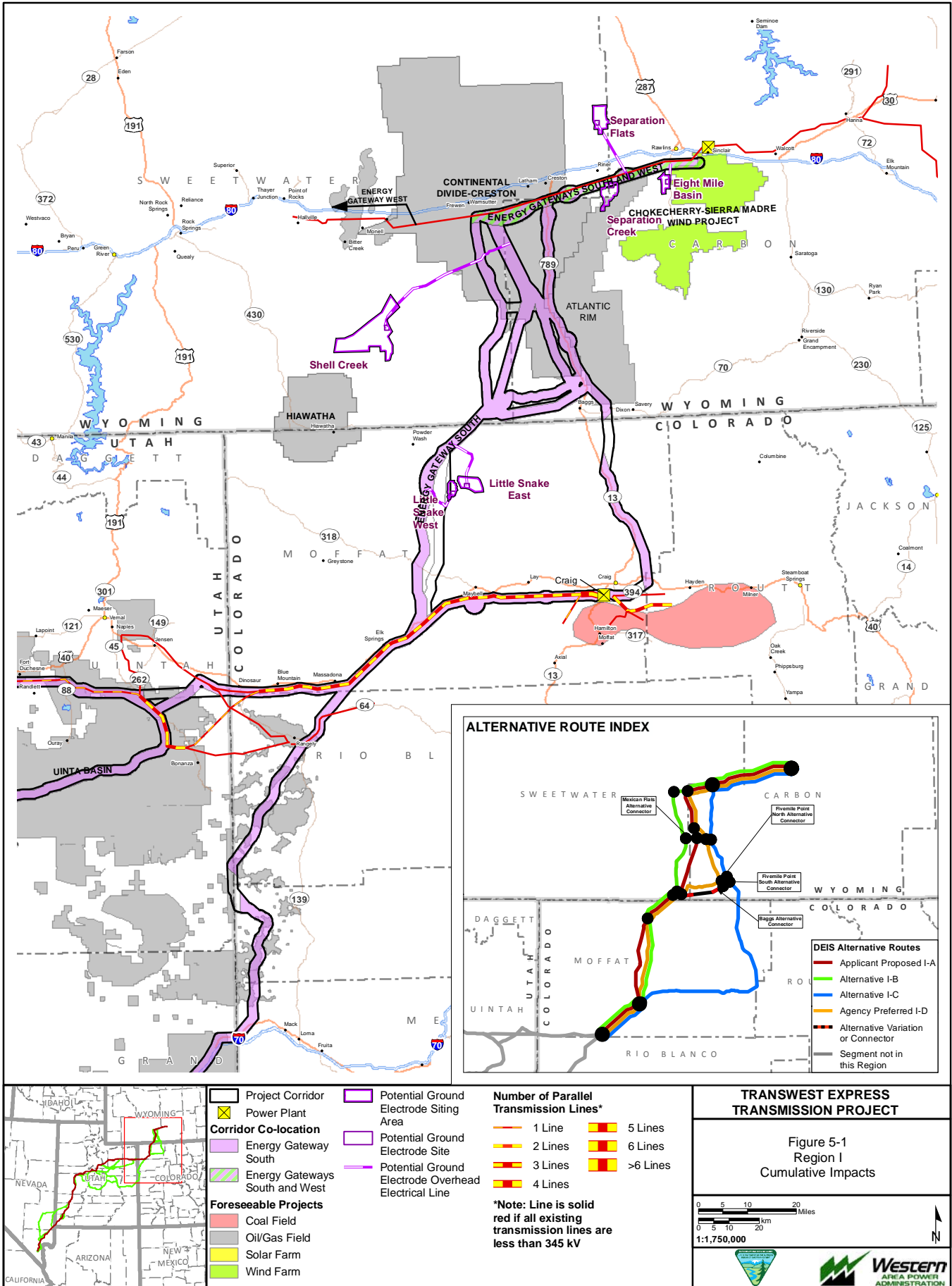
Table 5-2 Reasonably Foreseeable Future Actions in Region I

Type of Project	Construction Time Frame	Project/Description
Transmission Line	2015-2018	PacifiCorp Gateway West – 500-kV AC. Glenrock, Wyoming, to Melba, Idaho.
Transmission Line	2015-2018	PacifiCorp Gateway South – 500-kV AC. Aeolus, Wyoming, to Mona, Utah
Oil and Gas Field Development	2012 Ongoing	Proposed and ongoing development of oil and gas fields including Continental Divide-Creston, Hiawatha, Atlantic Rim, and Catalina Unit
Chokecherry-Sierra Madre Wind Energy Development	2013-2016	Power Company of Wyoming – Potential development of 1,000 wind turbines on private lands and lands managed by the BLM Rawlins.

Figure 5-2 identifies potential cumulative impact constraint areas in Region I, which are identified and discussed in greater detail, by applicable resource, in Sections 5.3.1 through 5.3.19.

A summary of the cumulative effects of RFFAs on the Region I Analysis Area are shown in Table 5-3.

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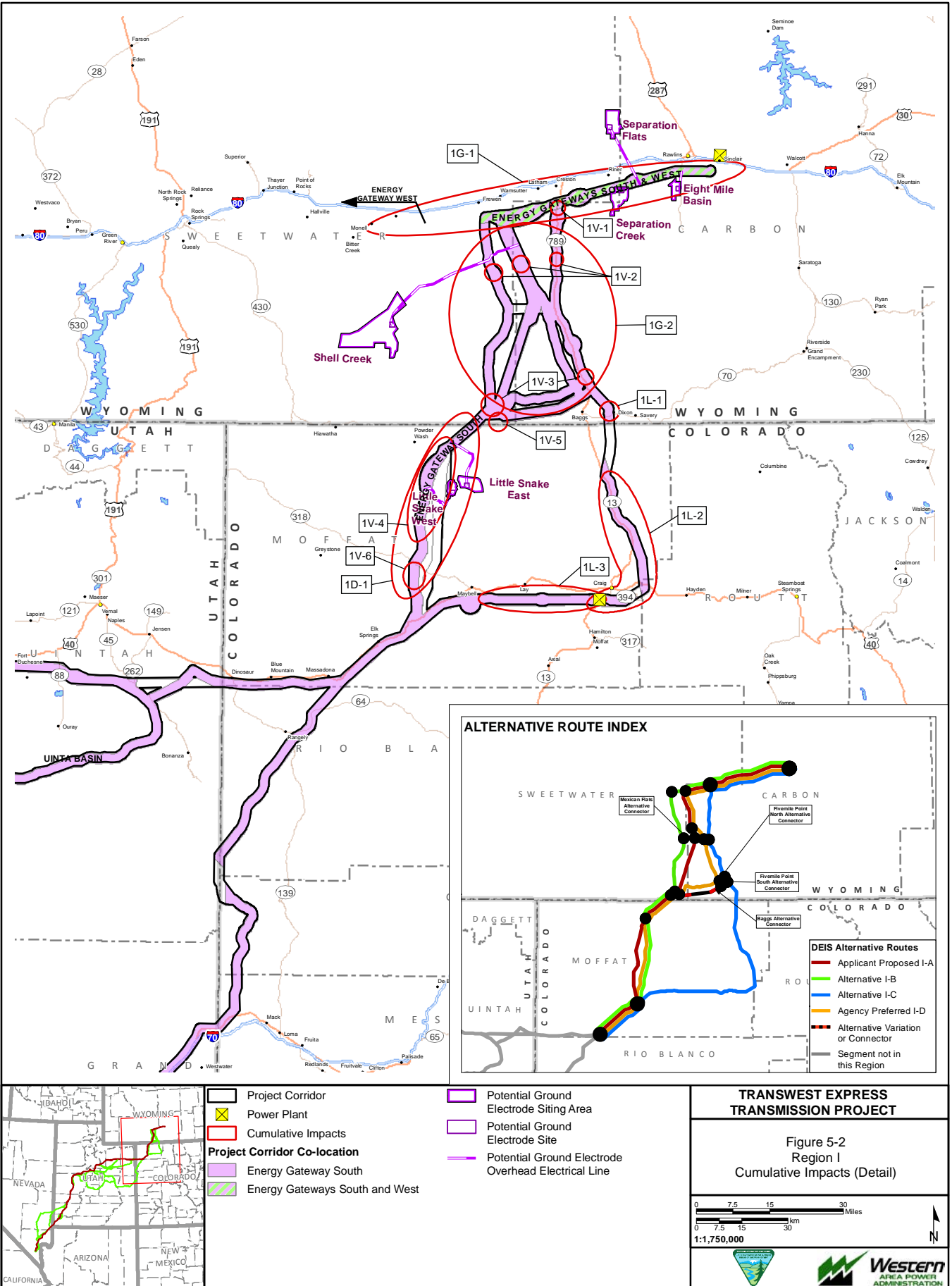


Table 5-3 Estimated Cumulative Impacts from RFFAs in the Region I Analysis Area

Vegetation Cover Type	RFFA Disturbance to Region I Analysis Area	Total Vegetation in Region I Analysis Area (acres)	Percent Cumulative Disturbance from RFFA	Percent Additional Disturbance from Project Alternatives
Agriculture	98	230,482	<1	<1
Aspen Forest and Woodland	-	89,921	-	<1
Barren/Sparsely Vegetated	171	36,819	<1	<1
Cliff/Canyon	95	29,704	<1	<1
Conifer Forest	18	35,190	<1	<1
Deciduous Forest	-	39	-	<1
Desert Shrub	-	-	-	<1
Developed/Disturbed	123	107,794	-	<1
Dunes	685	85,276	1	<1
Grassland	526	210,626	<1	<1
Greasewood Flat	1,250	90,502	1	<1
Herbaceous Wetland	242	25,146	1	<1
Montane Grassland	-	3,788	-	<1
Montane Shrubland	-	117,240	<1	<1
Open Water	11	11,332	<1	<1
Pinyon-Juniper Woodland	111	303,173	<1	<1
Riparian	-	728	-	<1
Sagebrush Shrubland	36,332	3,038,971	1	<1
Saltbush Shrubland	13,461	885,851	2	<1
Tundra	-	-	-	-
Woody Riparian and Wetlands	766	47,858	2	<1
Total	53,889	5,350,440	<1	<1

5.2.2 Region II

5.2.2.1 Past and Present Actions

- **Agriculture.** The majority of the land crossed by all alternatives is used for livestock grazing. Irrigated pasturelands are located along rivers and streams that drain the south flank of the Uinta Mountains in Uintah and Duchesne Counties, Utah. Alternative corridors cross irrigated lands in intermountain valleys near Nephi, Mount Pleasant, Fairview, Salina, Castle Dale, and Delta (**Figure 3.5-2**).
- **Commercial, Residential, and Industrial Areas.** Incorporated and unincorporated communities in Colorado include Dinosaur and Rangely. Communities along U.S. Highway 40 near the Project corridors in the Uinta Basin of Utah include Vernal, Fort Duchesne, Roosevelt, Duchesne, and

Fruitland. Communities along the I-70 corridor include Green River and Salina. Communities located near alternatives extending from the I-70 corridor to Nephi include Castle Dale, Huntington, Mt. Pleasant, Fairview, and Fountain Green. Coal-fired power plants are located near Huntington in Emery County and Delta in Millard County.

- Oil and Gas Field Development. An extensive area of oil and gas development is located in the Uinta Basin from the Colorado/ Utah border to the vicinity of Fruitland. Example existing large fields south of U.S. Highway 40 include Red Wash, Horseshoe Bend, Blue Bell, Monument Butte, and Altamont (**Figure 3.2-8**).
- Minerals. Active underground coal mines are located on the Wasatch Plateau west of Huntington in Emery County and north of Rangely (**Figure 3.2-8**).
- Renewable Energy. No existing operating renewable energy projects (wind, solar) overlap with the Project’s analysis area of potential impacts.
- Linear Utilities. **Figure 5-3** provides an overview of the linear utilities associated with the Project corridors in this region. The U.S. Highway 40 corridor includes a variety of linear utilities. These include multiple pipelines (oil, natural gas) and transmission lines. Other state and federal highways that also serve as utility corridors include: U.S. Highway 6 from Green River to Spanish Fork, and I-70 from the Colorado/Utah border to Salina.

A summary of the cumulative current disturbance from past and present actions in the Region II analysis area is shown in **Table 5-4**. The cumulative effect of these past actions on existing resources is expressed through the baseline description for each resource (Chapter 3.0 of this Draft EIS).

Table 5-4 Estimated Cumulative Impacts from Past and Present Actions in the Region II Analysis Area

Vegetation/Habitat Cover Type	Region II Currently Disturbed (acres)	Region II Historic Vegetation/Habitat	Percent Disturbed from Past and Present Actions
Barren/Sparsely Vegetated	18,704	942,442	2
Conifer Forest	6,214	1,099,061	<1
Desert Shrubland	506,989	3,142,774	16
Grassland	-	877	-
Montane Shrubland	36,213	498,817	7
Open Water	288	5,148	6
Pinyon-Juniper	172,668	4,568,083	4
Sagebrush Shrubland	145,379	863,083	17
Total	886,455	11,120,285	8

5.2.2.2 Reasonably Foreseeable Actions

Figure 5-3 illustrates the geographic relationships of the Project alternatives and other reasonably foreseeable projects in Region II. **Table 5-5** provides a summary of the types of projects, estimated construction time frames, and their potential cumulative impacts relationships.

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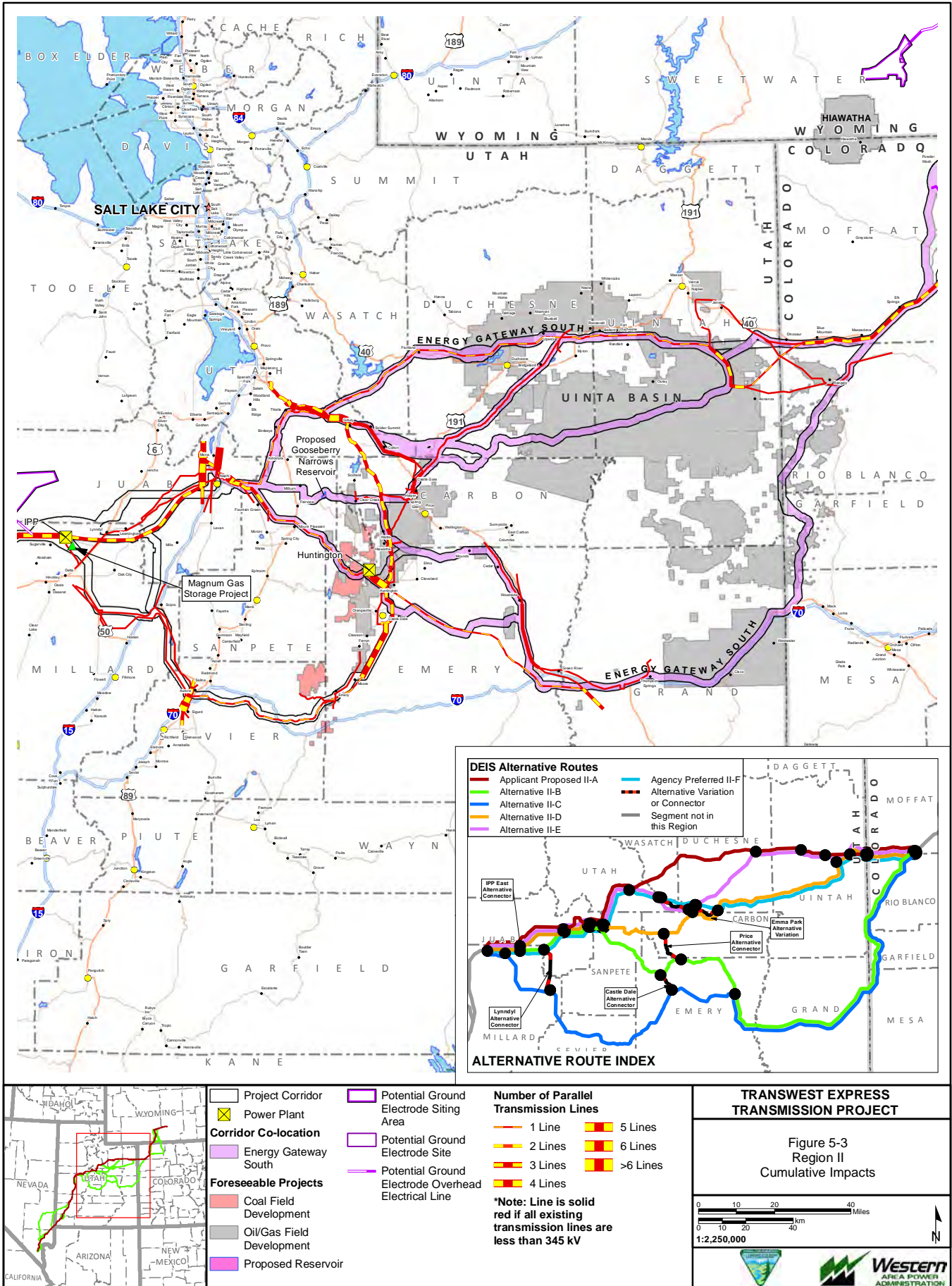


Table 5-5 Reasonably Foreseeable Future Actions in Region II

Type of Project	Construction Time Frame	Project/Description
Transmission Line	2015 – 2018	PacifiCorp Gateway South – 500-kV AC. Aeolus, Wyoming to Mona, Utah
Transmission Line	2011 – 2013	PacifiCorp Mona To Oquirrh – 500/345-kV AC. Mona Substation in Juab County, Utah, to the Oquirrh Substation, the Terminal Substation in Salt Lake County, Utah, and the Clover Substation near Mona, Utah.
Pipeline	2012 – 2013	Mid America Pipeline – 16-inch pipeline from Dragon in Uintah County, Utah, to Thompson Station in Grand County , Utah
Oil and Gas Development	2012 – ongoing	Eleven new and infill natural gas projects located generally south of the White River, and east of the Green River in Uintah County, Utah. One oil field project in the Pariette drainage west of the Green River. Largest projects in terms of surface disturbance and well numbers: KMG Greater Natural Buttes, EOG Greater Chapita Wells, West Tavaputs, Newfield Monument Butte, Gasco Uinta Basin, and the Berry Petroleum Ashley South Unit development on Ashley National Forest.
Underground Coal	2012 – ongoing	There are lease modifications for Cottonwood, Deer Creek II Tracts on Manti-La Sal National Forest. Additionally, there is a submitted application for the Deserado Mine Coal lease.
Vegetation Treatments	2012 – ongoing	Both the USFS and the BLM have numerous fuels treatment and/or prescribed fire projects planned that would affect the same resources as the Project. These include the Pine Springs Fuels Treatment, Bottom Canyon Fuels Reduction, Moonshine Hazardous Fuel Reduction, Shalom Timber Harvest, Uinta Sheep Creek Project, and Millers Flat Timber Harvest.
Water Development	2013	Construction of a 17,000-acre-foot dam and impoundment on Gooseberry Creek in Sanpete County, Utah.

A summary of the disturbance impacts to the Region II Analysis area from the RFFAs described above is given in **Table 5-6**.

Table 5-6 Estimated Cumulative Impacts from RFFAs in the Region II Analysis Area

Vegetation Cover Type	RFFA Disturbance to Region II Analysis Area	Total Vegetation in Region II Analysis Area (acres)	Percent Cumulative Disturbance from RFFA	Percent Additional Disturbance from TWE Alternatives
Agriculture	-	484,528	-	<1
Aspen Forest and Woodland	3,976	544,114	<1	<1
Barren/Sparsely Vegetated	1,045	222,948	<1	<1
Cliff/Canyon	702	565,493	<1	<1
Conifer Forest	19,410	477,815	4	<1
Deciduous Forest	-	13,869	-	<1
Desert Shrub	1,176	125,982	1	<1
Developed/Disturbed	478	459,785	<1	<1
Dunes	428	32,567	1	<1

Table 5-6 Estimated Cumulative Impacts from RFFAs in the Region II Analysis Area

Vegetation Cover Type	RFFA Disturbance to Region II Analysis Area	Total Vegetation in Region II Analysis Area (acres)	Percent Cumulative Disturbance from RFFA	Percent Additional Disturbance from TWE Alternatives
Grassland	2,933	519,056	1	<1
Greasewood Flat	496	511,410	<1	<1
Herbaceous Wetland	122	80,634	<1	<1
Montane Grassland	134	65,241	<1	<1
Montane Shrubland	1,192	570,993	<1	<1
Open Water	-	61,376	-	<1
Pinyon-Juniper Woodland	6,735	2,483,995	<1	<1
Riparian	-	-	-	<1
Sagebrush Shrubland	20,205	2,307,131	1	<1
Saltbush Shrubland	5,869	1,468,576	<1	<1
Tundra	-	13,956	-	<1
Woody Riparian Wetlands	247	110,822	<1	<1
Total	65,148	11,120,291	1	<1

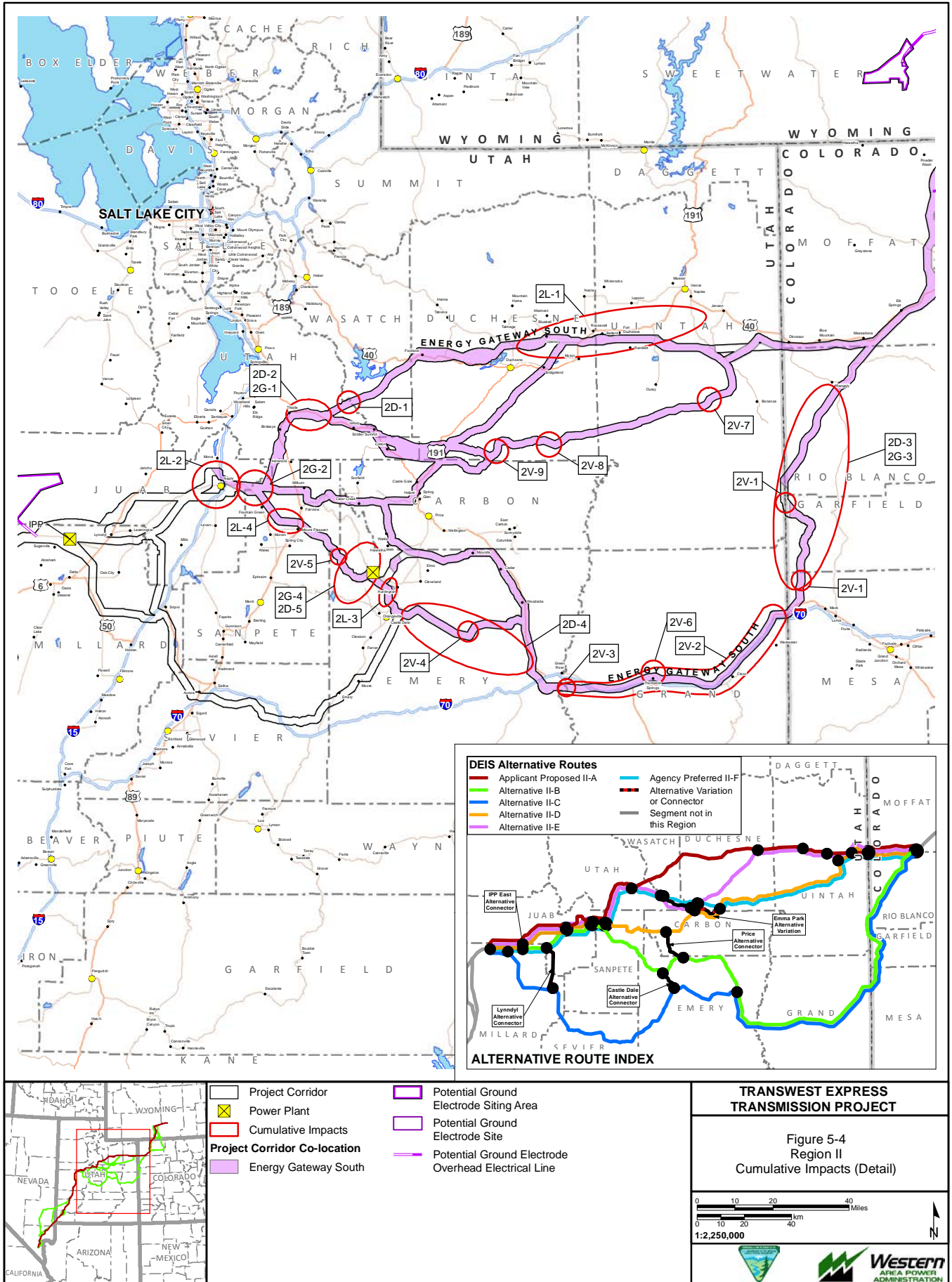
Figure 5-4 identifies potential cumulative impact constraint areas in Region II, which are identified and discussed in greater detail, by applicable resource, in Sections 5.3.1 through 5.3.19

5.2.3 Region III

5.2.3.1 Past and Present Actions

- **Agriculture.** The majority of the land crossed by all alternatives is used for livestock grazing.
- **Commercial, Residential, and Industrial Areas.** Incorporated and unincorporated communities in Utah from north to south include Delta, Milford, Newcastle, Enterprise, and Central. Nevada communities include Caliente and Alamo along the U.S. 93 corridor and Moapa along the I-15 corridor. Coal-fired power plants are located near Delta, Utah, and Moapa, Nevada. An industrial complex located near Apex, northeast of Las Vegas, includes the Harry Allen and Silverhawk natural gas power plants and a cement plant.
- **Renewable Energy.** First Wind's Milford Wind Corridor Project is located north of the community of Milford, in both Beaver and Millard counties, approximately 1 mile east of the Project alternative corridors. Phase I (Beaver County) and Phase II (Millard County) are constructed and operating. Phase III (Millard and Beaver County), which is located on private land, is on hold due to the expiration of production tax credits. Phase IV (Millard County), which is on BLM, private, and state land, currently is on a temporary hold by the Fillmore FO.

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- **Linear Utilities.** **Figure 5-5** provides an overview of the linear utilities associated with Project corridors in this region. From Delta, Utah, to Apex, Nevada, in Clark County, the Proposed Action would follow an existing utility corridor that includes multiple transmission lines, and pipelines. The Kern River natural gas pipeline is located within this corridor; the UNEV refined products pipeline was recently constructed in this corridor segment between Milford and Central. Alternative III-C in Utah (Segment 490) would parallel an active railroad, but no other utilities. From Caliente, Nevada, south to Apex, Nevada, Alternative III-C (Segment 520) would be located in the Lincoln County Conservation Recreation and Development Act (LCCRDA) utility corridor that was designated by the U.S. Congress. This corridor currently contains transmission lines and U.S Highway 93. Lincoln County Power District maintains 138- and 67-kV transmission lines that run parallel with and/or cross portions of the Project alternative corridors.

An estimate of the impacts to the Region III Analysis Area from past and present activities is provided in **Table 5-7**. The cumulative effect of these past actions on existing resources is expressed through the description of the Affected Environment for each resource (Chapter 3.0 of this Draft EIS).

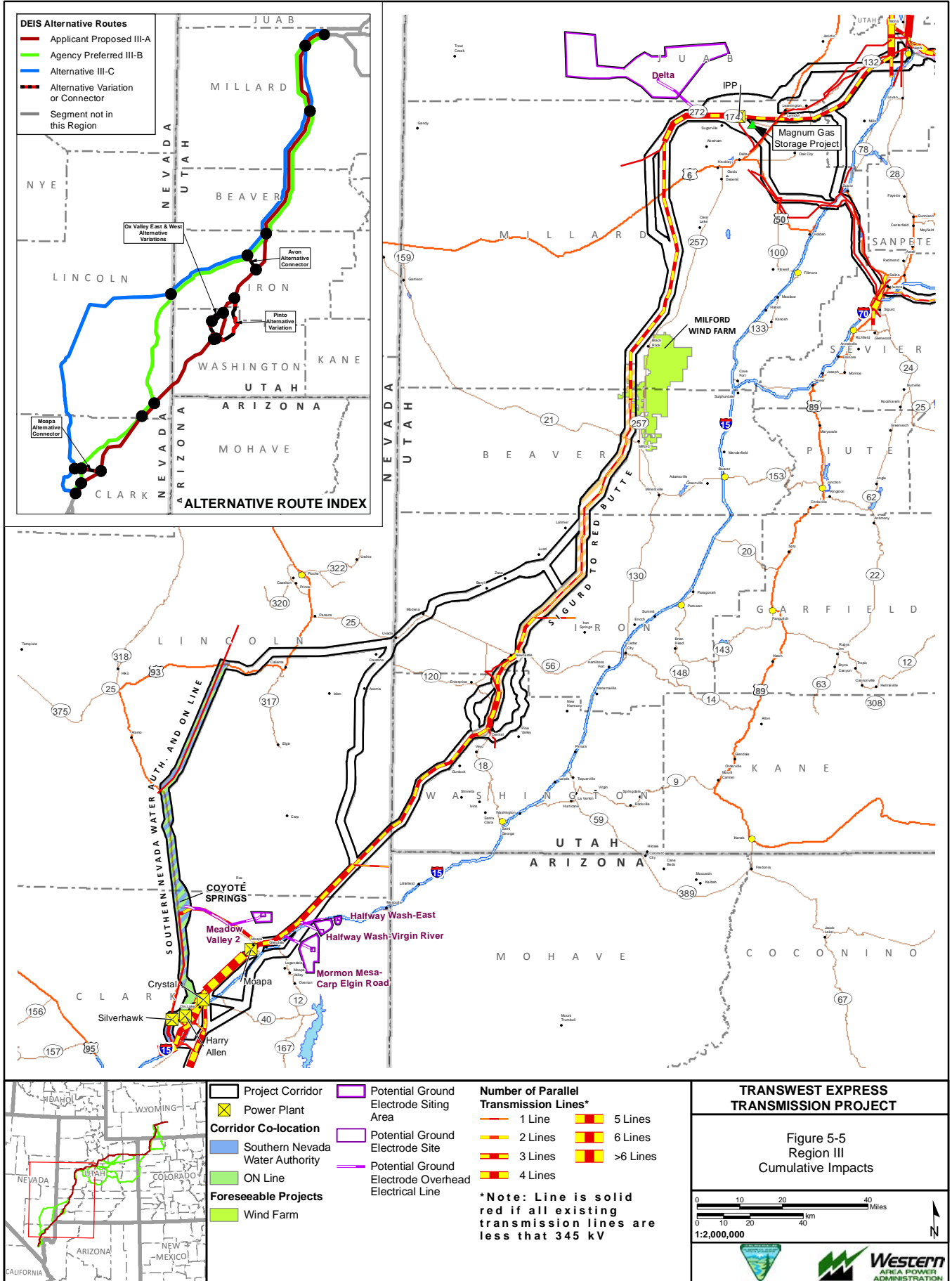
Table 5-7 Estimated Cumulative Impacts from Past and Present Actions in the Region III Analysis Area

Vegetation/Habitat Cover Type	Region III Currently Disturbed (acres)	Region III Historic Vegetation/Habitat	Percent Disturbed from Past and Present Actions
Barren/Sparsely Vegetated	5,065	1,336,583	<1
Conifer Forest	260	35,077	1
Desert Shrubland	115,375	3,047,504	4
Grassland	-	-	-
Montane Shrubland	-	4,946	-
Open Water	15,743	70,614	22
Pinyon-Juniper	17,033	2,086,763	<1
Sagebrush Shrubland	44,334	736,896	6
Total	197,810	7,318,383	3

5.2.3.2 Reasonably Foreseeable Actions

Figure 5-5 illustrates the geographic relationships of the Project alternatives and other reasonably foreseeable projects in Region III. **Table 5-8** provides a summary of the types of projects, estimated construction time frames, and their potential cumulative impacts relationships.

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DEIS Alternative Routes

- Applicant Proposed III-A
- Agency Preferred III-B
- Alternative III-C
- Alternative Variation or Connector
- Segment not in this Region

ALTERNATIVE ROUTE INDEX

Project Corridor

- Power Plant
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line

Corridor Co-location

- Southern Nevada Water Authority
- ON Line

Foreseeable Projects

- Wind Farm

Number of Parallel Transmission Lines*

	1 Line		5 Lines
	2 Lines		6 Lines
	3 Lines		>6 Lines
	4 Lines		

*Note: Line is solid red if all existing transmission lines are less than 345 kV

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 5-5
Region III
Cumulative Impacts

0 10 20 40 Miles

0 10 20 40 km

1:2,000,000

Table 5-8 Reasonably Foreseeable Future Actions in Region III

Type of Project	Construction Time Frame	Project/Description
Transmission Line	2013-2015	PacifiCorp Sigurd to Red Butte 345 kV AC from Sigurd Substation in Sevier County, Utah to Red Butte Substation in Washington County, Utah
Transmission Line	2011-2012	ON 500 kV AC transmission line (under construction in 2011) Southern Idaho to Harry Allen Power Plant near Apex, Nevada.
Transmission Line	2012-2015	K Road Solar. Tie in from solar facility to the BLM administered utility corridor on the Moapa Paiute Reservation to an interconnection at Crystal Substation.
Transmission Line	2012- 2013	Silver State Energy Associates Eastern Nevada Project 230 kV AC. Proposed from U.S 93 Gemmil Substation to Tortoise Substation on Moapa Paiute Reservation.
Water Pipeline and Transmission Line	2013-2050	Southern Nevada Water Authority Clark, Lincoln, and White Pine counties Groundwater Development Project. Proposed groundwater development in five hydrologic basins in Lincoln and White Pine Counties, and a pipeline system to deliver water to the Las Vegas urban area. Project terminates at a water delivery terminal west of Apex.
Natural Gas Storage	2012 - 2014	Magnum Gas Storage Project gas storage facility directly south of IPP. Includes four proposed underground salt caverns to store natural gas, Project also includes required above-ground facilities, including a 36-inch natural gas pipeline from Elberta, Utah to the proposed gas storage site.
Renewable Energy	Unknown	Bright Source Solar Energy Project, Coyote Springs Valley; Millford Wind Corridor Project Phase III (Millard and Beaver County), located on private land, is to be constructed this year. Phase IV (Millard County) is currently on a temporary hold by the Fillmore FO.

A summary of the disturbance impacts to the Region III Analysis area from the RFFAs described above is given in **Table 5-9**. The cumulative effect of these past actions on existing resources is expressed through the description of the Affected Environment for each resource (Chapter 3.0 of this Draft EIS).

Table 5-9 Estimated Cumulative Impacts from RFFAs in the Region III Analysis Area

Vegetation Cover Type	RFFA Disturbance	Total Vegetation in Region III Analysis Area (acres)	Percent Cumulative Disturbance from RFFA	Percent Additional Disturbance from TWE Alternatives
Agriculture	79	69,423	<1	<1
Aspen Forest and Woodland	-	7,448	-	<1
Barren/Sparsely Vegetated	3	29,338	<1	<1
Cliff and Canyon	10	164,119	<1	<1
Conifer Forest	-	26,599	-	<1
Deciduous Forest	1	26	4	<1
Desert Shrub	7,806	2,227,441	<1	<1

Table 5-9 Estimated Cumulative Impacts from RFFAs in the Region III Analysis Area

Vegetation Cover Type	RFFA Disturbance	Total Vegetation in Region III Analysis Area (acres)	Percent Cumulative Disturbance from RFFA	Percent Additional Disturbance from TWE Alternatives
Developed/Disturbed	36	180,970	<1	<1
Dunes	-	15,313	<1	<1
Grassland	535	801,113	<1	<1
Greasewood Flat	75	274,079	<1	<1
Herbaceous Wetland	27	81,741	<1	<1
Montane Grassland	-	1,284	-	<1
Montane Shrubland	32	187,059	<1	<1
Open Water	-	12,281	-	<1
Pinyon-Juniper	534	1,292,483	<1	<1
Riparian	8	65,185	<1	<1
Sagebrush Shrubland	6,762	1,192,955	1	<1
Saltbush Shrubland	3,374	635,456	1	<1
Tundra	-	-	-	<1
Woody Riparian and Wetlands	8	54,368	<1	<1
Total	19,290	7,318,681	<1	<1

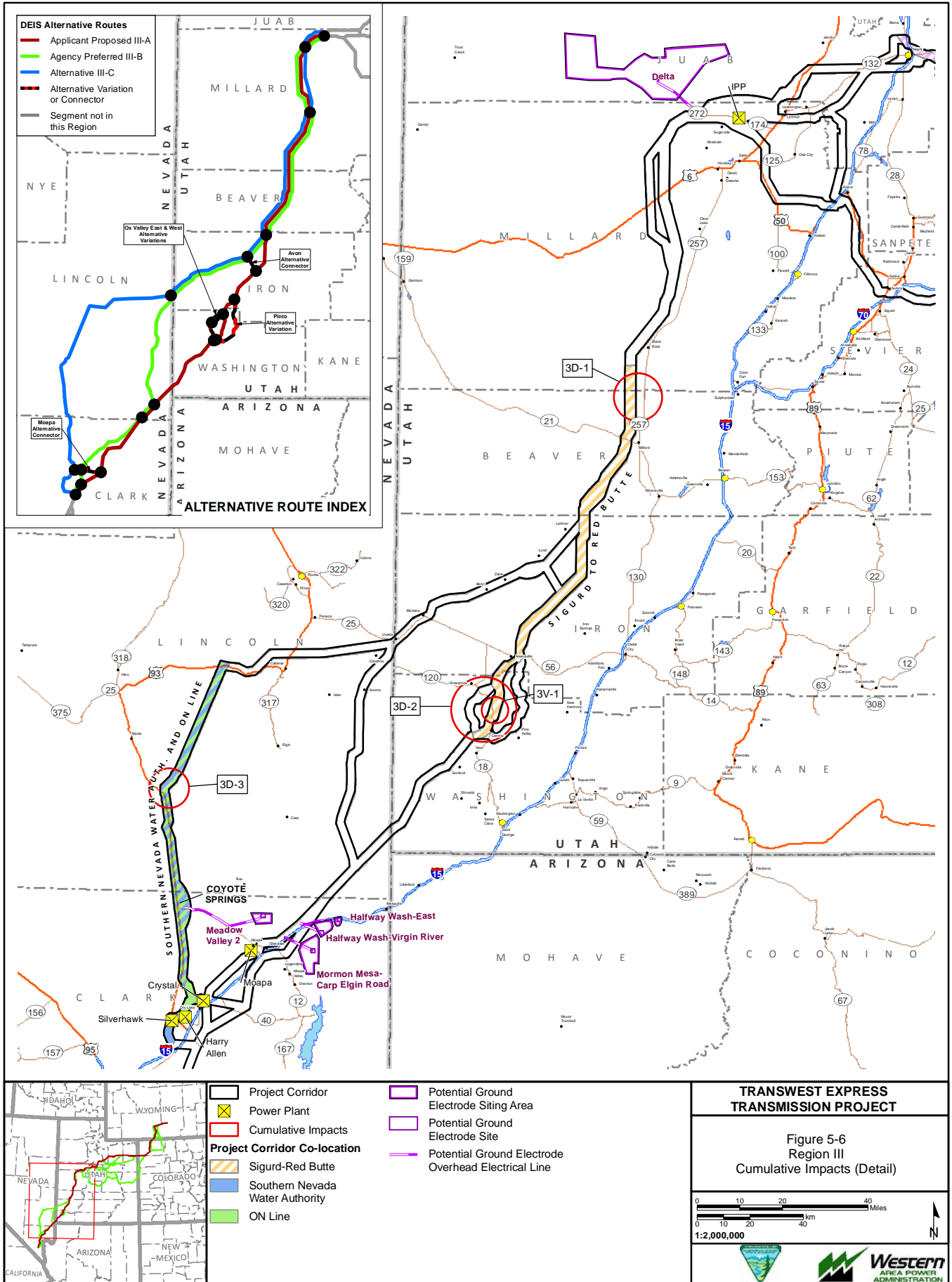
Figure 5-6 identifies potential cumulative impact constraint areas in Region III, which are identified and discussed in greater detail, by applicable resource, in Sections 5.3.1 through 5.3.19.

5.2.4 Region IV

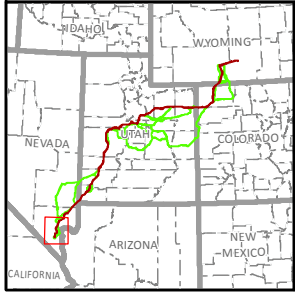
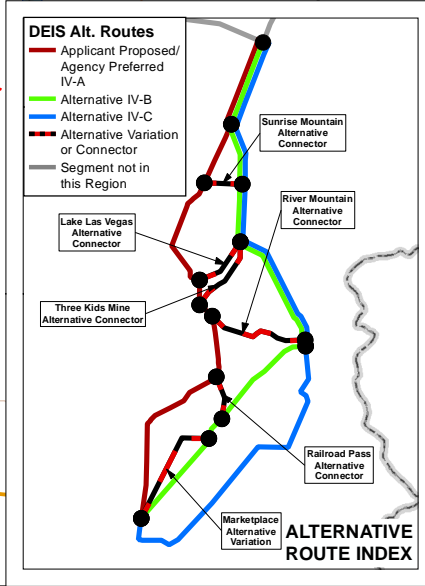
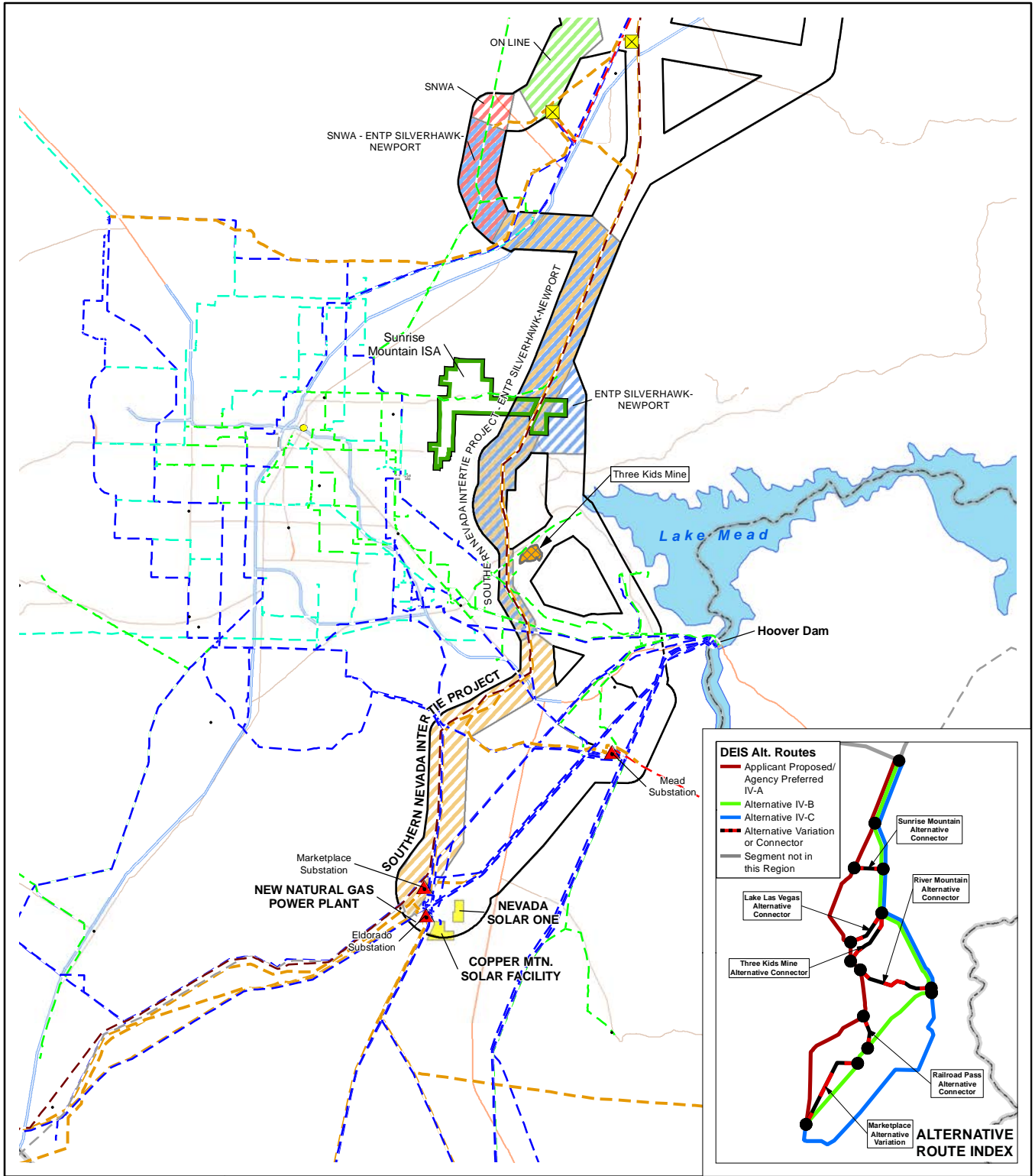
5.2.4.1 Past and Present Actions

- Commercial, Residential, and Industrial Areas. Project alternatives (within existing utility corridors) would pass through and adjacent to residential and commercial areas in Lake Las Vegas and Henderson, Nevada. Other regional alternatives would pass through the Lake Mead National Recreation Area, and would bypass the community of Boulder City. A natural gas power plant is located adjacent to the Marketplace Substation in the Eldorado Valley.
- Renewable Energy. Two solar electric projects are located adjacent to the Marketplace Substation in the Eldorado Valley.
- Linear Utilities. **Figure 5-7** provides an overview of the linear utilities associated with the Project corridors in this region. The Mead, Marketplace, and Eldorado Substations represent major regional hubs for electrical energy distribution in the Southwest U.S. A very wide existing transmission corridor currently traverses the east side of the Las Vegas Valley to the Eldorado Valley. Transmission lines in this corridor primarily deliver power from interstate lines originating in the Rocky Mountain region. A second wide transmission corridor connects the hydropower facilities at Hoover Dam and regional power plants with the Eldorado Valley substations.

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<ul style="list-style-type: none"> Project Corridor ▲ Substation ■ Power Plant Project Corridor Co-location Southern Nevada Intertie Project Southern Nevada Water Authority ENTP Silverhawk-Newport ON Line 	<ul style="list-style-type: none"> Cumulative Projects Solar Farm Existing Transmission 345kV 500kV +/- DC 500kV 230 to 287kV 138 to 161kV 115kV Below 100kV Unknown Voltage
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TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 5-7
Region IV
Cumulative Impacts

0 2.5 5 10 Miles

0 2.5 5 10 km

1:500,000

Table 5-10 Estimated Cumulative Impacts from Past and Present Actions in the Region IV Analysis Area

Vegetation/Habitat Cover Type	Region IV Currently Disturbed (acres)	Region IV Historic Vegetation/Habitat	Percent Disturbed from Past and Present Actions
Barren/Sparsely Vegetated	8,445	793,928	1
Conifer Forest		-	-
Desert Shrubland	26,725	213,968	12
Grassland	-	-	-
Montane Shrubland	-	-	-
Open Water	293	114,412	<1
Pinyon-Juniper	-	12,329	-
Sagebrush Shrubland	-	-	-
Total	35,463	1,134,637	3

5.2.4.2 Reasonably Foreseeable Actions

Figure 5-7 illustrates the geographic relationships of the TWE Project alternatives and other reasonably foreseeable projects in Region IV. Table 5-11 provides a summary of the types of projects, estimated construction time frames, and their potential cumulative impacts relationships.

Table 5-11 Reasonably Foreseeable Future Actions in Region IV

Type of Project	Construction Time Frame	Project/Description
Transmission Line	2012- 2013	Silver State Energy Associates Eastern Nevada Project 230-kV AC. Proposed from Silverhawk Power Plant to Newport Substation south of Henderson.
Transmission Line	2012-2014	Great Basin Transmission/ NV Energy Southern Nevada Interconnection Project
Centennial West Transmission Line	Unknown	Centennial West Clean Line 500-kV DC. New Mexico to California One alternative would interconnect at Marketplace Substation in the Eldorado Valley.
Fiber Optic Line	Unknown	Nevada Hospital Association, Nevada Broadband Telemedicine Initiative proposal to install fiber optic cable on existing Nevada Energy poles.
Renewable Energy	Unknown	Several of Nevada’s Solar Energy Zones (SEZ) impact the same resources as the Project. These include the Dry Lake SEZ, Dry Lake North SEZ, Delamar Valley SEZ, and East Mormon Mountain SEZ. These areas are prioritized for the development of solar energy.

A summary of the disturbance impacts to the Region IV Analysis area from the RFFAs described above is given in Table 5-12.

Table 5-12 Estimated Cumulative Impacts from RFFAs in the Region IV Analysis Area

Vegetation Cover Type	RFFA Disturbance	Total Vegetation in Region IV Analysis Area (acres)	Percent Cumulative Disturbance from RFFA	Percent Additional Disturbance from TWE Alternatives
Agriculture	-	-	-	-
Aspen Forest and Woodland	-	-	-	-
Barren/Sparsely Vegetated	-	32,592	<1	<1
Cliff and Canyon	-	57,076	-	-
Conifer Forest	-	-	-	-
Deciduous Forest	-	-	-	--
Desert Shrub	6,140	720,701	1	<1
Developed/Disturbed	-	239,577	-	-
Dunes	-	-	-	-
Grassland	-	7,121	-	-
Greasewood Flat	-	-	-	-
Herbaceous Wetland	-	719	-	-
Montane Grassland	-	-	-	-
Montane Shrubland	-	-	-	-
Open Water	-	69,401	-	-
Pinyon-Juniper	-	1,888	-	-
Riparian	-	2,576	-	-
Sagebrush Shrubland	-	671	-	-
Saltbush Shrubland	-	1,912	<1	<1
Tundra	-	0	-	-
Woody Riparian and Wetlands	-	1,096	-	-
Total	6,140	1,135,330	<1	<1

Figure 5-8 identifies potential cumulative impact constraint areas in Region IV, which are identified and discussed in greater detail, by applicable resource, in Sections 5.3.1 through 5.3.19.

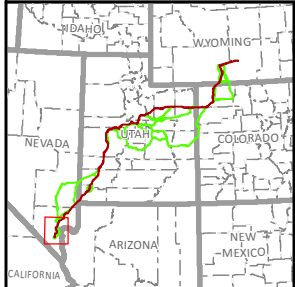
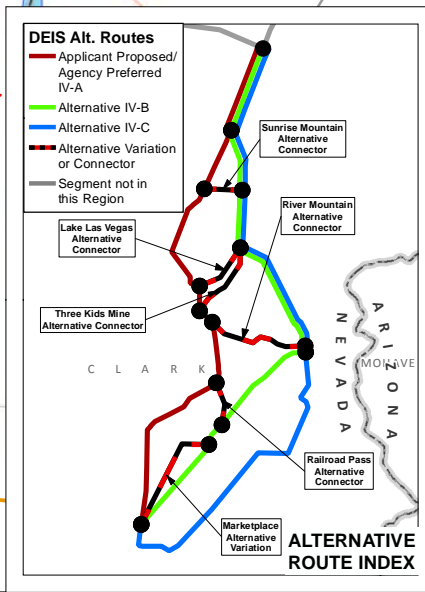
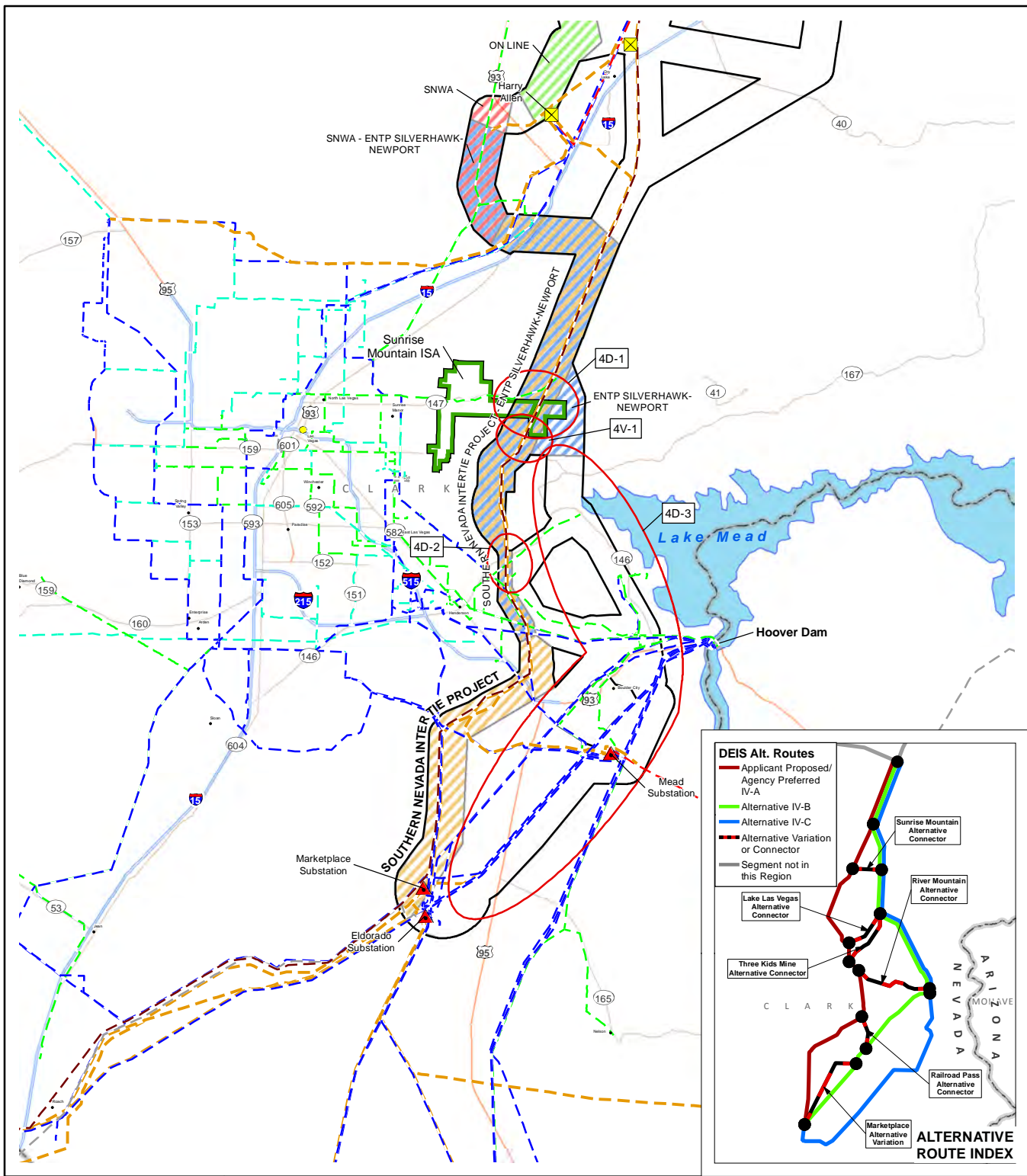
5.2.5 Cumulative Impacts to Project Corridors

Many of the Project alternative corridors have the potential to be shared by reasonably-foreseeable transmission lines that propose similar or identical routes. This possibility for shared corridors was one of the criteria used by the BLM field offices for determining what plan amendments may need to be proposed and analyzed in this EIS. For specific resources where that co-location would result in unique cumulative impacts, those potential areas and/or extent of co-location are discussed below.

5.3 Cumulative Impacts

The following sections discuss the cumulative impacts study area and time frames for each resource; cumulative impacts common to all alternatives, and discussions of cumulative impact issues within regions by alternative.

X:\05\project\12907_003_Transwest_Express\Figures\Document\Figures\2013_DEIS_V3\Cumulative\Fig_5_08_SNV_CumulativeDetail.mxd



Project Corridor	Existing Transmission 345kV	138 to 161kV
Substation	500kV +/- DC	115kV
Power Plant	500kV	Below 100kV
Cumulative Impacts	230 to 287kV	Unknown Voltage
Project Corridor Co-location		
Southern Nevada Intertie Project		
Southern Nevada Water Authority		
ENTP Silverhawk-Newport		
ON Line		

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 5-8
Region IV
Cumulative Impacts (Detail)

0 2.5 5 10 Miles
0 2.5 5 10 km
1:500,000

5.3.1 Air Quality

5.3.1.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – for regulated criteria pollutants – local air sheds (largely defined by surrounding high terrain); for greenhouse gas emissions – global.
- Temporal – Total project construction period (3 years) for construction activities; life of Project indefinite but assumed to be a minimum of 50 years for effects on greenhouse gases.

5.3.1.2 Cumulative Impacts

Criteria Pollutants

Existing regional air quality is in general compliance with NAAQS with the exception of the Las Vegas Valley, where air quality is considered to be nonattainment for ozone (8-hour) and PM₁₀ (24-hour). The Project analysis found that, with implementation of fugitive dust and equipment emissions controls, there would be no predicted violation of ambient air quality standards by Project activities. Project construction activities would extend across a long, linear area over short periods of time (months). Because of differences in construction timing, it is unlikely that the Project emissions would overlap with those of other transmission projects undertaken in the same utility corridor.

Air quality monitoring data show that air quality in northwestern Colorado and northeastern Utah is considered to be in compliance with state and Federal ambient air quality standards. Cumulatively, current and reasonably foreseeable oil and gas development in this area (Regions I and II) creates the greatest potential risk to air quality in the Project analysis area. Cumulative air quality impacts from existing and foreseeable oil and gas development in Region I are unlikely to result in regional violations of NAAQS (see Section 5.1 of the Chokecherry Sierra Madre Wind Farm Final EIS; BLM 2012). Cumulative impacts of oil and gas development to air quality in the Uintah Basin are summarized below in **Table 5-13**.

Table 5-13 Cumulative Impacts of Oil and Gas Development to Air Quality in the Uintah Basin (Region I)

Pollutant	Averaging Time	Background and Existing Source Impacts (µg/m ³)	Cumulative Sources Maximum Predicted Impact plus Background (µg/m ³)	NAAQS (µg/m ³)
NO _x	1-hour	20.0	157.2	188
	Annual	9.0	16.7	100
CO	1-hour	5,325	6,724	40,000
	Annual	3,910	4,161	10,000
SO ₂	1-hour	21.7	24.3	197
	3-hour	16.7	18.6	1,300
	24-hour	5.9	6.8	365
	Annual	1.5	1.6	80
PM ₁₀	24-hour	18.0	22.5	150
PM _{2.5}	24-hour	21.6	26.1	35
	Annual	12.3	13.1	15

Source: Greater Natural Buttes Final EIS (BLM 2012b).

However, based on recent monitoring, it is reasonably foreseeable the continued development in the area would result in future exceedances of NAAQS for certain criteria pollutants. Year-round ozone monitoring in the Uinta Basin have recorded numerous exceedances of the 8-hour ozone standard during the winter months (January through March). The most likely source of ozone precursors in the Uinta Basin are oil and gas operations in the vicinity of the monitors. Additionally, The Utah Division of Air Quality (UDAQ) conducted limited monitoring of PM_{2.5} in Vernal, Utah, in December 2006. During the 2006-2007 winter seasons, PM_{2.5} levels were measured at the Vernal monitoring station that were higher than the PM_{2.5} health standard that became effective in December 2006. The most likely causes of elevated PM_{2.5} at the Vernal monitoring station are probably those common to other areas of the western U.S. (combustion and dust) plus nitrates and organics from oil and gas activities in the Basin.

Air quality monitoring data show that air quality in the Region III analysis area is considered to be in compliance with state and Federal ambient air quality standards. Portions of the Region IV analysis are located in Clark County, where the air quality is considered to be nonattainment for ozone (8-hour) and PM₁₀ (24-hour). The Project would not contribute to existing projects to the extent that it would cause exceedances of either ozone or PM₁₀ (**Table 3.1-18**).

Conclusion

Contributions of the Project alternatives to cumulative emissions from existing and reasonably foreseeable future projects would not lead to exceedance of NAAQS for criteria pollutants.

Greenhouse Gas Emissions and Climate Change

Total greenhouse emissions from the proposed project and alternatives would range from 749 to 833 tons per year during construction. Total construction GHG emissions would be less than 3 percent of what would be considered a major source by USEPA. Although this project's construction would have negligible inputs on the global carbon emissions, it would still be contributing cumulatively in the short term to total global annual GHG emissions, which total an estimated 41 billion metric tons (Emissions Database for Global Atmospheric Research 2012). GHG emissions have been linked with accelerated climate change (National Research Council 2010; IPCC 2007).

Conclusion

Project alternatives short-term negligible contribution to cumulative GHG would be offset in the long-term by the Project's facilitation of the use of renewable energy resources, which would contribute much less long-term operational GHG emissions than conventional non-renewable energy sources such as coal or gas-fired power plants. Assuming the transmission line carries 80 percent renewable energy, there would be a net saving of 3000 megawatts of generation resulting in a savings of about 16,000 GWh of power production from fossil fuels on an annual basis. The USEPA Greenhouse Gas Equivalencies Calculator indicates that this would reduce CO₂e emissions by 12.2 X10⁶ tons per year. Accordingly, in the long term, the Project and alternatives actually would decrease potential contributes to cumulative GHG emissions and global climate change.

5.3.2 Geologic Hazards, Paleontology, and Mineral Resources

5.3.2.1 Physical and Temporal Boundaries of Cumulative Impacts

Geologic Hazards – Landslides

- Physical – boundaries of recent landslide features based on geologic and geotechnical studies.
- Temporal – Indefinite (minimum of 50 years).

Paleontological Resources

- Physical – Extent of high yield fossil deposits within areas of Project surface disturbance.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years) for improved access for unauthorized fossil collections.

Mineral Resources – Oil and Gas Wells and Infrastructure

- Physical – Area of oil and gas fields with economically recoverable reserves.
- Temporal – Indefinite (minimum of 50 years).

Mineral Resources – Surface and Underground Coal or Other Mineral Mines

- Physical – Area of economically recoverable coal or mineral reserves.
- Temporal – Indefinite (minimum of 50 years).

5.3.2.2 Cumulative Impacts

Geologic Hazards. Engineering design to address geologic hazards would be specific to each project. In general, separation requirements between transmission lines (generally 1,500 feet or more) would be adequate to prevent cumulative impacts (one transmission line falling into another) as the result of earthquake ground shaking and soil liquefaction. Construction of access roads and structure foundations for one transmission project could affect slope stability for nearby projects located upslope or down slope. In many locations, resource concerns create the potential for project pinch points where reasonably foreseeable transmission lines may be approved only if they are built closer than 1,500 feet to each other. In some of these cases, it is possible that agencies will require them within 250 feet from each other in the same corridor. In these cases, there is a risk of transmission lines falling into each other if there is a major seismic event. It is not certain where this may occur and would depend on which alternative corridor and what degree of separation the lead federal management agencies would require. Potential pinch point areas include Segments 100, 101.10, 101.20, and 101.30 (all alternatives in Region I); Segments 218, 219.10, 219.50, 219.6, and 217.052 (Alternatives II-E and II-F); Segment 520 (Alternative III-C); and Segments 610, 620, 630, 640, 650, 660, 700, 720, 740 (Alternatives IV-A, IV-B, and IV-C). Also, it is possible that if the USFS approves multiple transmission lines across IRAs, they also may require a closer separation distance than 1,500 feet.

Areas of known landslides have been identified (Section 3.2). Specific areas where access road planning and geotechnical studies may be needed to address landslide hazards for multiple projects within the utility corridor are listed by region and alternative:

- Region II: Alternatives II-A, II-E, and II-F in Utah: Price River valley (U.S. Highway 6) to Nephi. Potential cumulative facilities: Two new parallel transmission lines (TWE, EGS), existing 500-kV transmission line (**Figure 5-4 – Area 2G-1**).
- Region II: Alternative II-B in Utah: Fountain Green to Nephi. Potential cumulative facilities: Two new parallel transmission lines (TWE, EGS), existing 345-kV transmission line (**Figure 5-4 – Area 2G-2**).

Paleontological Resources. Surface disturbance within high yield fossil areas likely would result in some irreversible loss of fossil material, regardless of the monitoring and fossil recovery programs implemented. It is anticipated that each project that would be constructed across high yield fossil areas would incrementally reduce the quantity of near-surface fossil resources as more of the ground surface is disturbed. The quantities of fossils recovered and contributed to scientific collections also would incrementally increase.

The risk of unauthorized collection of fossils would be increased by improved access and more bedrock exposure from construction activities.

Mineral Resources – Oil and Gas Wells. The Project has used a 250-foot offset from existing well pads as a planning criterion for routing the transmission line through active oil and gas fields. Similar offset requirements would be anticipated for other transmission projects traversing the same fields. Since well pad development is typically not regular (well pad site locations are optimized for favorable terrain, access, and interconnection options), the second transmission line must find an independent alignment to avoid existing and planned well pads. The consequence of this requirement is that the second transmission line project cannot maintain a standard distance from the first transmission line, usually resulting in greater separation distances. The well pad offset buffer may change the development pattern of the well field by requiring more directional drilling. In summary, it is unlikely that one or more transmission lines would preclude access to underlying oil and gas resources, but may increase the costs of drilling and production, as well as the transmission line costs because of additional length, and ultimately, a wider utility corridor. Areas where detailed transmission line routing would be required, with potential utility corridor width expansion within active oil and gas fields are listed below:

- Region I: Alternatives I-A, I-B, and I-C: I-80 Corridor, Sinclair to vicinity of Monell. Potential facilities: Three new parallel transmission lines (TWE, EGW, EGS); existing 230-kV transmission line (**Figure 5-2 – Area 1G-1**).
- Region I: Alternatives I-A, I-B, and I-C in Wyoming: I-80 Corridor to Wyoming/Colorado border. Potential facilities: Two new parallel transmission lines (TWE, EGS) (**Figure 5-2 – Area 1G-2**).
- Region II: Alternatives II-B and II-C in Colorado: Rangely to I-70 corridor. Potential facilities: Two new parallel transmission lines (TWE, EGS); existing natural gas liquids pipeline, Baxter Pass road (**Figure 5-4 – Area 2G-3**).

Minerals – Underground Coal Mines. Project alternative corridors would cross the surface of underground coal leases. These areas could experience subsidence from long wall mining in the future. Any other transmission project that crosses the same underground coal leases would likely experience the same subsidence risks. Cumulatively, these transmission lines could restrict access to some of the coal resources underneath the transmission lines, depending on how those resources are mined.

- Region II: Alternative II-B in Utah: Wasatch Plateau, west of Huntington Power Plant. Potential facilities: Two new parallel transmission lines (TWE, EGS); existing 345-kV transmission line (**Figure 5-4 – Area 2G-4**).

Conclusion

Cumulative construction of multiple transmission lines in the same corridor increases the risk to paleontological resources. However, the required mitigation measures associated with potential impacts to paleontological resources required in BLM RMPs would largely preclude those impacts from being significant. Oil and gas development would not experience significant cumulative effects from multiple transmission lines due to the ability to directionally drill to access subsurface resources. Underground coal operations would not be affected by overhead transmission lines; however, those lines could be at risk of subsidence and would need to be planned accordingly. Cumulative addition of multiple transmission lines in coal leases could impact the ability to surface mine those areas in the future.

5.3.3 Soils

5.3.3.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – HUC 10 watersheds impacted by the proposed project.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.3.2 Cumulative Impacts

The majority of the soils crossed by the Project alternatives underlie native rangelands. Many of these soils are erodible by wind and water, and vegetation cover is sparse because of aridity. Existing actions that affect soil stability and quality include livestock grazing, agricultural production on irrigated lands, ROWs for roads, pipelines, oil and gas developments, and vegetation treatments. The most prevalent indicator of cumulative soil loss throughout the analysis area is proportional disturbance to the soils surface. A summary of the total estimated proportional disturbance to soils throughout the HUC 10 watersheds in the analysis area is shown in **Table 5-14**.

Table 5-14 Estimated Cumulative Disturbance to Soils in Analysis Area

Region	Total Acreage of Existing Soils in Analysis Area	Total Acreage of Surface Disturbance from Past and Present Actions	Total Disturbance from RFFAs	Percentage of Analysis Area Disturbed
I	5,350,458	261,550	53,889	5
II	11,120,289	786,455	65,148	8
III	7,318,681	197,809	19,291	3
IV	1,135,330	35,464	6,140	3
Total	24,924,758	1,281,278	144,468	6

Conclusion

Both the BLM and the USFS require soil protection BMPs that would be applicable for all reasonably foreseeable project disturbances that are likely to occur in the analysis area (**Appendix C**). However, cumulative surface disturbance ranging from 3 to 8 percent at the region watershed level, with an average of 6 percent throughout the analysis area, would result in continued soil erosion and loss of soil productivity throughout the project area. Additional disturbance from the Project alternatives would proportionally contribute very little cumulatively to these impacts (<1 percent).

5.3.4 Water Resources

5.3.4.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – Project surface disturbance to HUC10 impaired watersheds impacted by the Project.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.4.2 Cumulative Impacts

As with soil resources, a reliable indicator of potential cumulative impacts to water quality throughout the analysis area is proportional surface disturbance and loss of vegetation cover, particularly in existing impaired watersheds. A summary of the total estimated cumulative loss of vegetation for impaired HUC 10 watersheds in the analysis area is shown below in **Table 5-15**.

Table 5-15 Estimated Cumulative Impacts from RFFA on Impaired Watersheds

Impaired Watershed	Total Impaired Watershed Acreage (acres)	Cumulative Disturbance from Past, and Present Actions	Cumulative Disturbance from RFFA (acres)	Percent of Analysis Area Disturbed
Antelope Creek	127,072	5,097	1,277	5
Upper Muddy Creek	135,362	2,705	3,248	4
Cottonwood Creek	216,237	17,577	14,745	15
Soldier Creek	150,876	5,347	9,054	10
Deception Creek	136,566	12,162	-	9
Spring Creek – Yampa River	212,195	13,992	-	7
Hell's Canyon	242,708	4,742	-	2
Greasewood Gulch – Little Snake River	229,499	5,788	-	3
Outlet Douglas Creek	98,453	2,521	-	3
Evacuation Creek	184,097	2,370	-	1
Pigeon Water Creek – Lake Fork River	123,304	38,350	-	31
Coal Creek	161,019	27,217	-	17
Total	2,017,388	137,868	28,324	8

Conclusion

Disturbance

The impaired watersheds show a wide range of cumulative disturbance from past and present actions (1 to 31 percent). When combined with RFFAs, total disturbance in the impaired watersheds ranges from 5 to 31 percent. The high level of past and present cumulative disturbance in these watersheds presents an existing condition where erosion, sedimentation, and subsequent water quality impacts would continue to occur. The Project would contribute minimally to the disturbance in these watersheds (less than 1 percent).

Both the BLM and the USFS require soil protection BMPs that would be applicable for all reasonably foreseeable project disturbances that are likely to occur on federal lands in the analysis area (**Appendix C**). Additionally, both the BLM and USFS have best management practices and stipulations to address the avoidance and or minimization of impacts to perennial water bodies. These practices are described in detail in **Appendix C**, and the impacts of implementing these practices are summarized in the Section 3.4, Water Resources. Adherence to these BMPs would decrease the long-term contribution of the Project to the cumulative disturbances in these watersheds.

Water Use

TransWest proposes to obtain batch plant and dust control water from municipal or commercial sources, or from existing water rights. The use of existing water rights would avoid water reduction effects on other users, and would not change the surface water diversion pattern already in place. Assuming that other foreseeable transmission line projects in the same utility corridor would apply the same approach to construction water acquisition, no additive cumulative reductions in stream flows are anticipated.

5.3.5 Vegetation

5.3.5.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – Disturbance to vegetation within HUC 10 watersheds impacted by the Project.
- Temporal
 - Construction – Approximately 1 year at any location before re-vegetation can be initiated.
 - Operation – Indefinite (minimum of 50 years).

5.3.5.2 Cumulative Impacts

Native vegetation communities predominate within the Project alternative corridors in all regions (Section 3.5, Vegetation). The majority of these communities are shrublands, with long recovery times after disturbance. Summaries of the cumulative vegetation impacts to the HUC 10 analysis from past, present, and reasonably foreseeable future actions, as well as the proportional additional impact from the Project alternatives, are found in **Tables 5-1, 5-3, 5-4, 5-6, 5-7, 5-9, 5-10, and 5-12.**

Conclusion

Cumulative impacts on RFFAs on vegetation affected by the Project would be relatively low (averaging less than 1 percent disturbance of the analysis area). Past and present disturbance to vegetation is considerably higher, ranging from 3 to 8 percent of the analysis area. All Project alternatives would contribute less than 1 percent of long-term disturbance to this cumulative disturbance. This small proportional amount of cumulative disturbance would have a low impact on overall vegetation composition and health in the analysis area.

5.3.6 Special Status Plants

5.3.6.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – boundary of special status plant species habitat potentially impacted with the Project alternatives' 2-mile corridor.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.6.2 Cumulative Impacts

Suitable habitat has been identified for a variety of federal listed and candidate plant species, as well as BLM and USFS sensitive species for corridors where the Project and other reasonably foreseeable transmission could be constructed. Section 3.6, Special Status Plant Species discloses the acreage of sensitive plant species suitable habitat within the Project 2-mile corridors. It is reasonably foreseeable that there could be up to three transmission lines with 1,500 feet of separation in any one of these Project corridors that include sensitive plant habitat. In that case, total avoidance of that habitat or individual plant species would become very difficult and the acreage of sensitive species habitat disclosed for each region in Section 3.6, Special Status Plant Species, of this Draft EIS would be at risk of disturbance from cumulative disturbance from road construction, ROW clearing, and tower placement activities.

TransWest will conduct surveys for special status plants for any special status plant species habitat that it cannot avoid as outlined in mitigation measure **SS-1**. The results of these surveys would be used to route surface disturbance around plant individuals and populations. Based on mitigation measure **SSP-3**, surface disturbance would be located 300 meters from any special status plant species populations or individuals. It is highly likely that BLM and USFS plan requirements would require that other foreseeable projects within the Project alternative corridors conduct similar surveys. To the extent possible, sensitive plant species

individuals would be avoided on federal lands subject to ROW grant stipulations, including those stipulations required by the respective BLM field offices and USFS forests crossed by the Project (see **Appendix C**). However, in certain areas, the approval of two or more transmission lines in the same corridor would make total avoidance of special status plant habitat virtually impossible. As a result, the following species could be cumulatively impacted through the loss of suitable habitat and/or individuals: Maguire campion, clay phacelia, Ward beardtongue, Uinta Basin hookless cactus, clay reed-mustard, shrubby reed-mustard, Graham’s penstemon, Duchesne greenthread, Goodrich blazingstar, Untermann daisy, Deseret milkvetch, Arizona willow, Elsinore buckwheat, and Sigurd townsendia. The location and extent of these species’ habitats that would be subject to this risk are disclosed in detail in Section 3.6, Special Status Plant Species.

Conclusion

Cumulative disturbance to special status plant populations from multiple transmission lines in project corridors would be minimized through surveys and design and engineering to avoid individuals and populations. BMPs, including erosion controls, timber mats, helicopter-only tower installation (where appropriate), and limited surface travel would likely be required for all foreseeable transmission lines to minimize and prevent indirect impacts to these species. However, for those areas where avoidance is difficult, loss of some sensitive plants is inevitable. The exact location and extent of this loss cannot be ascertained until the lead agencies determine the number and location of transmission lines that would eventually be permitted in the same corridors.

5.3.7 Wildlife

5.3.7.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – Big game – agency-designated habitat impacted by the proposed project; small game and waterfowl – habitat vegetation types with the HUC 10 watershed impacted by the proposed project.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.7.2 Cumulative Impacts

A variety of representative wildlife species have been identified as potentially present within the Project analysis area. The cumulative impacts to these species are summarized in **Tables 5-16** and **5-17**.

Table 5-16 Estimated Cumulative Impacts from RFFA on Big Game Habitat

Big Game Habitat	Cumulative Disturbance from RFFA (acres)	Total Big Game Habitat (acres)	Percent Disturbed from RFFA
Colorado Mule Deer – severe winter	1	856,837	<1
Colorado Pronghorn –severe winter	66	214,084	<1
Colorado Rocky Mtn. Elk – severe winter	-	1,122,742	-
Nevada – Desert Bighorn Sheep	404	822,392	<1
Nevada – Mule Deer	-	250,417	-
Nevada - Pronghorn	3,430	1,512,355	<1
Utah – Desert Bighorn Sheep	-	1,171,482	-
Utah - Moose	28,530	1,319,143	2
Utah – Mule Deer winter crucial	6,525	4,299,439	<1
Utah – Pronghorn year-long crucial	13,983	10,574,061	<1

Table 5-16 Estimated Cumulative Impacts from RFFA on Big Game Habitat

Big Game Habitat	Cumulative Disturbance from RFFA (acres)	Total Big Game Habitat (acres)	Percent Disturbed from RFFA
Utah – Pronghorn year-long substantial	449	935,283	<1
Utah – Rocky Mtn. Bighorn year-long crucial	4,647	1,781,886	<1
Utah – Rocky Mtn. Elk winter crucial	5,192	3,329,852	<1
Wyoming – Mule deer crucial winter	174	56,618	<1
Wyoming – Mule Deer crucial winter/yearlong	4,346	306,210	1
Wyoming – Pronghorn crucial winter/yearlong	5,975	485,710	1
Wyoming – Rocky Mtn. Elk crucial winter/yearlong	2,056	206,076	1
Total	75,778	29,244,587	<1

Table 5-17 Estimated Cumulative Impacts from RFFA on Small Game and Waterfowl Habitat

Habitat	Cumulative Disturbance from RFFA (acres)	Total Habitat (acres)	Percent Disturbed from RFFA
Small Game	143,771	23,782,225	1
Waterfowl	507	625,201	<1
Total	144,278	24,407,426	1

Conclusion

Cumulative impacts to big game, small game, and waterfowl species habitat are low (typically less than 1 percent) throughout the analysis area. This relatively low amount of cumulative impact is unlikely to impact the overall population viability of these species in the analysis area. However, the co-location of two or more transmission lines with 1,500 feet of separation in a given wildlife corridor may affect the ability of wildlife to cross the corridor. The level of impact depends upon the number of transmission lines allowed and the extent of clearing required in that segment. The extent of this impact depends upon the location and number of transmission lines approved.

5.3.8 Special Status Wildlife Species

5.3.8.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – Federal listed, federal candidate, USFS Sensitive, and USFS MIS species – federal or state designated habitat impacted by the proposed project and/or potential habitat within HUC 10 watersheds impacted by the proposed project.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.8.2 Cumulative Impacts

Cumulative impacts for representative special status wildlife species were analyzed based on potential habitat identified through vegetation cover type, modeled habitat, or specific federal or state designated habitat. With the exception of desert tortoise and sage grouse, cumulative impacts to special status species are shown in **Table 5-18**. Desert tortoise and sage grouse cumulative impacts are presented separately in

Tables 5-19 and 5-20, respectively. These latter two species are presented separately because they are analyzed by modeled or designated habitat that varies by state or model type.

Table 5-18 Estimated Cumulative Impacts from RFFA on Special Status Species Habitat

Habitat	Cumulative Disturbance from RFFA (acres)	Total Habitat (acres)	Percent Disturbed from RFFA
Federal Listed Species			
Black-Footed Ferret	3,459	729,682	<1
California Condor	7,819	2,420,898	<1
Canada Lynx	19,428	513,005	4
Gray Wolf	137,729	23,782,226	1
Mexican Spotted Owl	807	729,612	<1
Pygmy Rabbit	63,299	6,539,728	1
Northern Goshawk	23,404	1,181,087	2
Utah Prairie Dog	3,994	801,113	<1
Southwestern Willow Flycatcher	59	166,286	<1
Yellow-Billed Cuckoo	59	166,286	<1
Yuma Clapper Rail	27	82,460	<1
USFS MIS			
Yellow Warbler	35,081	7,928,961	<1
White-Tailed Ptarmigan	-	-	-
Warbling Vireo	12,181	4,937,166	<1
Song Sparrow	104,987	19,234,661	1
Lincoln's Sparrow	35,472	8,117,201	<1
Hairy Woodpecker	16,242	5,735,533	<1
Western Bluebird	58,840	10,875,161	1
MacGillivray's Warbler	35,104	7,942,895	<1
Brewer's Sparrow	63,299	6,539,728	1
Abert's Squirrel	19,454	553,538	4
American Beaver	1,031	368,534	<1
Wild Turkey	54,918	14,825,276	<1
Northern Flicker	12,989	6,463,377	<1
Three-toed Woodpecker	23,404	1,181,087	2
Total	733,086	131,815,501	<1

Table 5-19 Estimated Cumulative Impacts from RFFA on Desert Tortoise Habitat

Desert Tortoise Habitat	Cumulative Disturbance from RFFA (acres)	Total Desert Tortoise Habitat (acres)	Percent Disturbed from RFFA
USFWS Critical Habitat	2,095	958,353	<1
USFWS Potential Habitat (USGS Modeled 0.3)	10,982	2,812,620	<1
USGS Modeled Habitat (0.6 – 1.0)	10,907	2,679,923	<1
Total	23,984	6,450,896	<1

Table 5-20 Estimated Cumulative Impacts from RFFA on Sage Grouse Habitat in Colorado and Utah

Sage Grouse Habitat	Cumulative Disturbance from RFFA (acres)	Total Sage Grouse Habitat (acres)	Percent Disturbed from RFFA
Wyoming Core Habitat	4,599	712,257	<1
Colorado - PGH	507	800,993	<1
Colorado - PPH	374	1,261,030	<1
Utah – brood rearing	5,392	1,387,960	<1
Utah - occupied	6,635	1,708,028	<1
Utah - winter	1,519	992,175	<1
Total	19,026	6,862,443	<1

Cumulative impacts to greater sage grouse are disclosed by state to account for differences in how the BLM and/or state wildlife agencies in each state categorize greater sage grouse habitat. These impacts are summarized in **Table 5-20**.

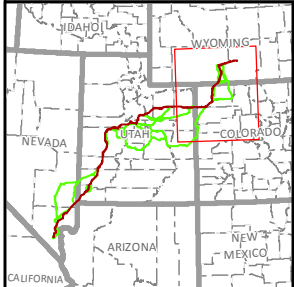
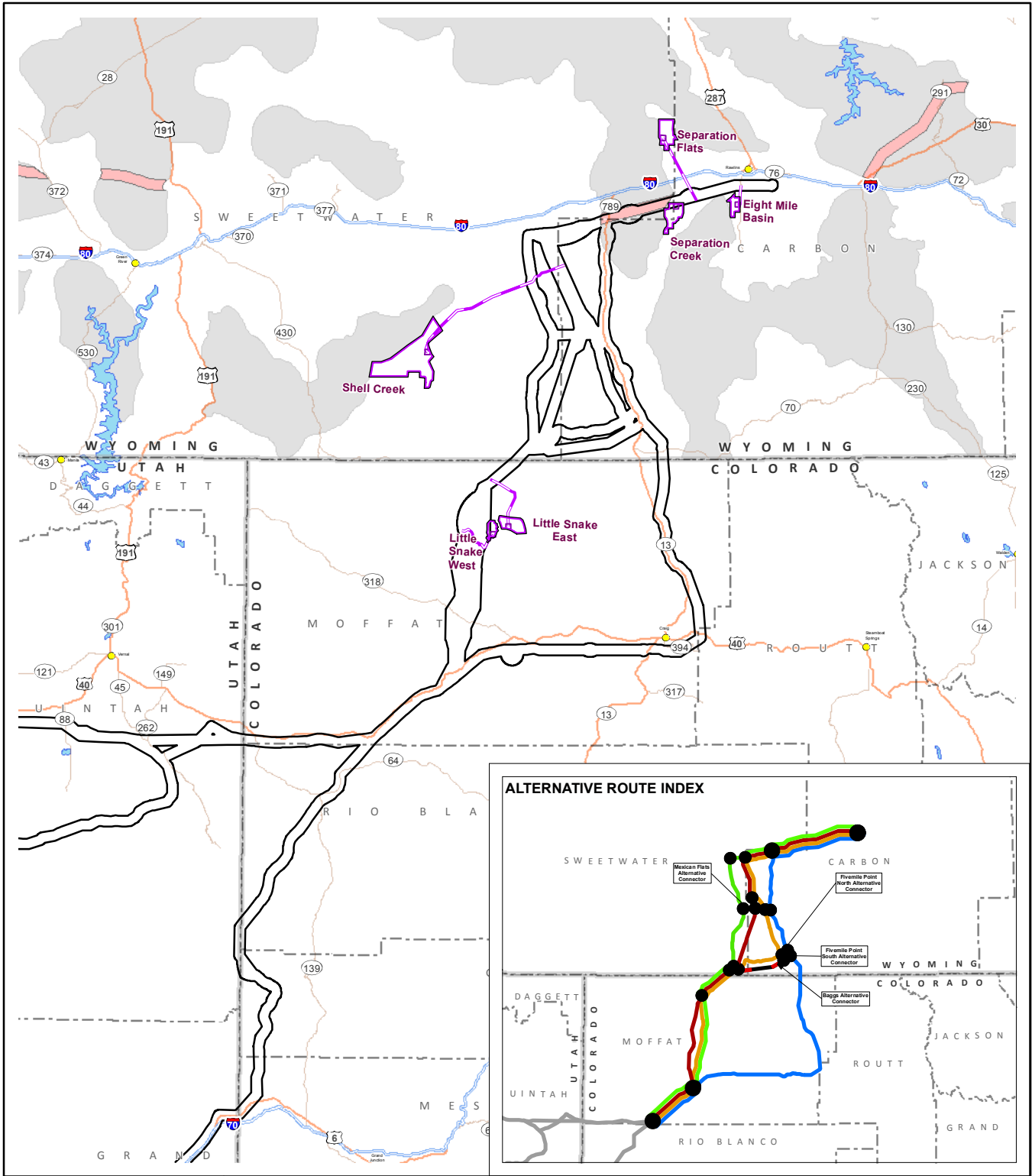
There are a large number of BLM sensitive species that would be cumulatively impacted by RFFAs and the Project. Cumulative impacts to these species are represented by the vegetation impacts for the habitat types they are associated with (see **Tables 5-1, 5-3, 5-4, 5-6, 5-7, 5-9, 5-10, and 5-12**). A description of which habitat types are associated with which species is provided in Section 3.8, Special Status Wildlife Species, **Tables 3.8-25, 3.8-36, 3.8-43, and 3.8-51**.

Conclusion

Cumulative impacts to the majority of the federally listed or candidate species from reasonably foreseeable future actions and the Proposed Action and alternatives are relatively low (less than 1 percent of available habitat) and are unlikely to contribute to a loss in population viability for the species. Note that federally listed species that rely on conifer habitat (i.e., Northern goshawk, Canada lynx, Abert's squirrel) would experience cumulative habitat loss of from 2 to 4 percent. Again, this relatively small amount of habitat loss is unlikely to lead to a loss of population viability for these species; however, it could represent a cumulative risk to populations of that species if that habitat is not restored or replaced over time. The relative contribution of all the Project alternatives to direct long-term impacts to these special status species would be less than 1 percent.

Based on requirements outlined in Wyoming Executive Order 2011-5, an evaluation of cumulative effects to greater sage grouse habitat is required where projects would traverse core area habitats in Wyoming (**Figure 5-9**). This evaluation requires consideration of surface disturbance from existing projects, as well as the Project. As stated in Wyoming Executive Order 2011-5, surface disturbance within core areas is limited to no more than 5 percent of suitable greater sage-grouse habitat per an average of 640 acres and 1 structure per 640 acres. Based on the *Density and Disturbance Calculation Tool (DDCT) Manual* (dated 7-13-11), greater sage-grouse habitat disturbance and density calculations were performed for alternative corridors affecting Wyoming core sage grouse habitat. The methodology for this evaluation is contained in the DDCT Manual. The results of those calculations indicated that for all Project alternatives in area habitat, impacts when considered with present disturbance would have a total cumulative proportional impact on core habitat ranging from approximately 2 to 3 percent and none of the alternatives would result in more than 1 structure per 640 acres.

X:\0\project\12907_003_Transwest_Express\Figures\Document\Figures\2013_DEIS_V3\Cumulative\Fig_5_09_SRL_GSSG_CoreLineCorridors.mxd



Project Corridor	Potential Ground Electrode Siting Area
DEIS Alternative Routes	Potential Ground Electrode Site
Applicant Proposed I-A	Potential Ground Electrode Overhead Electrical Line
Alternative I-B	
Alternative I-C	
Agency Preferred I-D	
Alternative Variation or Connector	
Segment not in this Region	
Core Area	
Core Area Designated Corridor	

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 5-9
Region I
Designated Transmission Corridors
Through Greater Sage-grouse Core Areas

0 5 10 20 Miles

0 5 10 20 km

1:1,750,000

Direct long-term cumulative loss of sage grouse habitat from reasonably-foreseeable future actions and the Proposed Action are relatively low (less than 1 percent of available habitat) and are unlikely to contribute to a loss in population viability for the species. However, past impacts to sage grouse habitat, ranging from 5 to 17 percent in the analysis area, have undoubtedly decreased existing populations. The cumulative impacts of this Project and other RFFAs would continue to contribute cumulatively to these decreases unless effectively mitigated. Additionally, short-term construction noise from multiple transmission lines within alternative corridors, as well as increased long-term perching opportunities for potential raptor predators, would affect up to 20 percent of available sage grouse habitat within the analysis area. While this indirect impact would not remove that habitat, it would have short-term disturbance effects that could decrease occupancy of the area. It is possible that increased perching opportunities may increase predation risk on sage grouse using cumulatively impacted habitat. The requirement for anti-perching devices on proposed transmission structures may decrease this risk.

It is recommended that TransWest conduct pre-construction surveys, avoid habitat removal, and conduct monitoring surveys to reduce habitat loss and loss of individuals from construction activities. Similar measures likely would be required for other foreseeable projects requesting a federal ROW permit. Typically, avoidance of special status species habitat to the extent possible is required for all proposed projects crossing USFS and BLM land. For those instances where absolute avoidance is not possible, plan stipulations are designed to minimize project impacts on these species (**Appendix C**).

5.3.9 Aquatic Biological Resources

5.3.9.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – stream crossing locations within the transmission line construction ROW, and access road system.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.9.2 Cumulative Impacts

The risk of cumulative impacts to aquatic organisms can be assessed based on the total vegetation clearing and associated sedimentation risk disclosed in Section 5.3.4, Water Resources. Additionally, cumulative direct disturbance impacts could occur to a variety of aquatic invertebrate, amphibians, and fish that inhabit streams that would be crossed by the Project alternatives (Section 3.9, Aquatic Biology Resources), as well as other foreseeable transmission lines using the same corridors. These cumulative impacts are summarized below in **Table 5-21**.

Table 5-21 Estimated Cumulative Aquatic Habitat Alteration or Loss from the Project and Other Foreseeable Transmission Lines

Alternatives/Connectors	Habitat Loss (ft ²)
Region I	
I-A	0
I-B	0
I-C	7,200
I-D	0
Region II	
II-A	20,000

Table 5-21 Estimated Cumulative Aquatic Habitat Alteration or Loss from the Project and Other Foreseeable Transmission Lines

Alternatives/Connectors	Habitat Loss (ft ²)
II-B	39,200
II-C	44,000
II-D	14,400
II-E	30,400
II-F	14,400
Region III	
III-A	4,800
III-B	2,400
III-C	800
Region IV	
IV-A	800
IV-B	3,200
IV-C	2,400
Total	175,200

Conclusion

It is anticipated that similar design features and agency BMPs would be applied to the other foreseeable projects that may share the Project corridor. Based on implementation of these BMPs, as well as stream crossing design features, it is anticipated that cumulative impacts from construction and use of project water body crossings would not violate state water quality standards (Section 3.4, Water Resources). The Project proposes to use existing water rights and municipal sources for construction dust control and concrete batch plant water. This commitment would reduce the risk of stream dewatering that could cause short-term reductions in aquatic habitat. It is recommended that equipment cleaning programs be initiated to prevent the movement of aquatic invasive species from one drainage basin to another.

5.3.10 Special Status Aquatic Species

5.3.10.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – stream crossing locations within the transmission line construction ROW, and access road system.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.10.2 Cumulative Impacts

Based on species occurrence and habitat information, it has been estimated that 18 fish, four amphibians, and two invertebrates may occur within areas where Project construction could occur across all alternatives. The federally listed, candidate, and petitioned species include the following Colorado River system fish species: bonytail, Colorado pikeminnow, humpback chub, razorback sucker, and Virgin River chub. The

pallid sturgeon is a Platte River species. The northern leopard frog has been petitioned for listing, but was not found warranted.

The majority of these species have been affected by large-scale changes in flow regimes in the Colorado and Platte river systems as the result of reservoir development and downstream diversions. The northern leopard frog and other amphibians have diminished in abundance because of past development that has reduced habitat and increased disease exposure.

Summaries of the cumulative direct impacts to these species from TWE and other foreseeable transmission lines crossing the same habitat are provided in **Tables 5-22** through **5-24**.

Table 5-22 Cumulative Habitat Alteration or Loss to Special Status Aquatic Species in Region I

Species	Region 1 Alternative Corridor Habitat Loss (ft ²)			
	I-A	I-B	I-C	I-D
Colorado pikeminnow (acres of critical habitat crossed)	2	2	6	2
Colorado River Cutthroat Trout (habitat lost in ft ²)	0	0	1,600	0
Bluehead sucker (habitat lost in ft ²)	0	0	4,000	0
Flannelmouth sucker (habitat lost in ft ²)	0	0	5,600	0
Mountain sucker (habitat lost in ft ²)	0	0	3,200	0
Roundtail chub (habitat lost in ft ²)	0	0	4,000	0
Total (habitat lost in ft²)	0	0	18,400	0

Table 5-23 Cumulative Direct Loss of Habitat for Special Status Aquatic Species in Region II

Species	Region II Alternative Corridors					
	II-A	II-B	II-C	II-D	II-E	II-F
Colorado pikeminnow (acres of critical habitat crossed)	4	8	8	8	4	8
Razorback Sucker (acres of critical habitat crossed)	4	6	6	6	4	6
Northern leopard frog (habitat lost in ft ²)	800	1,600	1,600	0	4,000	4,000
Columbia spotted frog (habitat lost in ft ²)	800	800	0	800	0	0
Boreal toad (habitat lost in ft ²)	1,600	0	0	0	0	
Bonneville cutthroat trout (habitat lost in ft ²)	5,600	2,400	0	2,400	6,400	6,400
Colorado River cutthroat trout (habitat lost in ft ²)	800	800	0	800	0	2,400
Southern leatherside chub (habitat lost in ft ²)	2,400	2,400	5,600	1,600	5,600	3,200
Bluehead sucker (habitat lost in ft ²)	5,600	800	2,400	0	2,400	0
Flannelmouth sucker (habitat lost in ft ²)	5,600	0	3,200	0	2,400	0
Mountain sucker (habitat lost in ft ²)	1,600	2,400	3,200	1,600	4,000	5,600
Roundtail chub (habitat lost in ft ²)	4,000	0	0	0	2,400	0
California floater (habitat lost in ft ²)	800	0	0	0	0	0
Southern Bonneville pyrg. (habitat lost in ft ²)	0	0	0	0	0	0
Total (habitat lost in ft²)	29,600	11,200	16,000	7,200	27,200	21,000

Table 5-24 Cumulative Direct Impacts to Special Status Aquatic Species in Region III

Species	Region III Alternative Corridors		
	III-A	III-B	III-C
Acres of critical habitat crossed for federally listed aquatic species	0	0	0
Virgin River chub (habitat lost in ft ²)	1,200	1,200	0
Virgin River spinedace (habitat lost in ft ²)	3,600	0	0
Bluehead sucker (habitat lost in ft ²)	1,200	0	0
Roundtail chub (habitat lost in ft ²)	1,200	0	0
Meadow Valley Wash desert sucker (habitat lost in ft ²)	1,200	1,200	800
Meadow Valley Wash speckled dace (habitat lost in ft ²)	1,200	1,200	800
Moapa White River springfish (habitat lost in ft ²)	1,200	0	0
Arizona toad (habitat lost in ft ²)	2,400	800	800
Total (habitat lost in ft²)	13,200	4,400	2,400

There would be no direct impacts to federally listed or sensitive aquatic species in Region IV; accordingly, there were no cumulative direct impacts analyzed for these aquatic species in Region IV.

Conclusion

The design features and protection recommendations for stream crossings described in Section 5.3.9 would be applied to any reasonably foreseeable transmission lines affecting special status aquatic species within the Project corridor. Accordingly, cumulative disturbance is unlikely to substantially reduce available habitat for these species within the Project corridors.

The Project plans to utilize existing water rights, thereby avoiding depletions in the Colorado and Platte systems. Other transmission lines, and other foreseeable projects may, or may not, entirely use existing rights, thereby triggering the need for consultation with the USFWS concerning depletion effects on listed fish species in these river systems (see discussion under Water Resources, Section 5.4.4). The potential cumulative impacts of these depletions, if they do occur, cannot be assessed until that consultation is completed.

5.3.11 Cultural Resources and Native American Concerns

5.3.11.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – Archeological resources – Project-caused surface disturbance; Native American Concerns – Existing and foreseeable projects that are, or would be, located in landscapes and viewsheds containing traditional cultural properties, or other areas of concern. These areas typically would be located within 5 miles of a high voltage transmission line, but may extend to greater distances, depending on visibility (see Section 3.12, Visual Resources).
- Temporal
 - Construction – Less than 1 year at any location (disturbance to cultural sites).
 - Operation – Native American Concerns – Indefinite (minimum of 50 years).

5.3.11.2 Cumulative Impacts

Cultural resource file searches have been conducted for the Project alternatives. These searches included both historic and pre-historic sites. No field inventories will be conducted until after the agency preferred alternative is selected. The cultural research has indicated a wide variety of cultural resource features, including prehistoric Native American occupation, historic trails, and historic farmsteads and other structures. Federal agency, state agency, and tribal coordination is ongoing under the provisions of Section 106 of the National Historic Preservation Act. The lead agencies and collaborators are currently drafting a Programmatic Agreement, which will direct the interactions of the agencies and interested parties concerning the discovery and treatment of cultural resources during inventories and construction activities.

The only actions that would cumulatively impact the same cultural resources that the Project would are those reasonably foreseeable transmission line projects that have the potential to share the same corridors as the Project. These other projects would require approximately the same amount of ROW clearing, constructed roads, etc. as the proposed Project. Surface disturbance from these multiple transmission lines is expected to cause a cumulative reduction in the number of cultural resource sites in the area, including sites that are either eligible or not eligible for the National Historic Register.

Conclusion

Construction of one and the addition of more transmission lines across historic trails and other historically significant areas may cumulatively affect the integrity of these features (see Section 5.3.13). Accordingly, their construction and access would present the same direct disturbance impact and the same relative level of risk of indirect impacts (looting, etc.) as this Project. Even though that risk may not occur concurrently with the Project, it still represents a cumulative risk to any cultural resources in the Project corridor. Therefore, cumulative impacts and/or risk to cultural resources in Region I from reasonably foreseeable transmission lines would be approximately two to three times the direct impact or risk of indirect impact described in Section 3.11.6. Total risk of impacts to cultural resources in Region II would be approximately two times the risk described in Section 3.11.6. Total risk to cultural resources in Region III also would be two times the risk of impacts described in Section 3.11.6, with the exception of Alternative III-C, which has a total of four reasonably foreseeable transmission lines, and consequently, four times the risk. All alternatives in Region IV would represent two times the risk to cultural resources. Note that all of these transmission lines requiring ROWs across public lands would be subject to the same regulatory framework and protective actions as the Project.

5.3.12 Visual Resources

5.3.12.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – Viewsheds of the Project reference lines or locations out to 20 miles where aboveground structures and associated ROWs are located in, or cross tree-covered landscapes, and out to 5 miles in shrub, grassland, and cropland landscapes (see Section 3.12).
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.12.2 Cumulative Impacts

The majority of the Project crosses developed landscapes. Forty percent of the lengths of Project alternative reference lines are located within 0.5 mile to mile of one or more existing transmission lines (**Figures 5-1 through 5-8**). Other human-made developments situated in proximity to the Project include agricultural fields and structures, commerce, oil and gas developments, pipeline ROWs, railroads, residences, and roads. A small portion of the Project alternatives traverse natural landscapes in viewsheds that contain no development beyond roads or trails. These include: viewsheds north and northwest of Baggs in Wyoming;

the Sand Wash Basin viewshed north of the Yampa River, the Texas Creek viewshed northeast of Baxter Pass in Colorado, and the areas west, north, east, and southeast of Caliente in Nevada.

The visual analysis for the Project has evaluated project compliance with BLM and USFS visual resource management classes. These findings are summarized in Section 3.13. The analysis determined that the Project would not conform to the visual resource management classes in a number of locations. These non-conformance areas were reviewed to determine if other transmission lines are proposed parallel to the Project in the same viewshed. In general, it was assumed that if the Project did not conform to visual management guidelines, then parallel and nearby transmission lines of similar size would not conform. Therefore, lead agency decision-making has to consider the visual resource impacts of individual projects within a broader utility corridor. **Figures 5-10** through **5-14** provides representative simulated cumulative condition of the three parallel transmission lines – EGS, EGW, and TWE as viewed from the following locations:

- The Outlaw Trail Scenic Highway/SH 789 in Wyoming;
- The Town of Pinto;
- The Town of Thompson;
- The Rainbow Gardens ACEC; and
- The Yampa River.



Figure 5-10 Simulated Cumulative Condition as Seen from the Outlaw Trail Scenic Highway/WY SH 789



Figure 5-11 Simulated Cumulative Condition as seen from Residences in the Town of Pinto across the Valley



Figure 5-12 Simulated Cumulative Condition as Seen from the Town of Thompson toward Sego Canyon



Figure 5-13 Simulated Cumulative Condition as Seen from the Recreational Road in the Rainbow Gardens ACEC



Figure 5-14 Simulated Cumulative Condition as Seen from Recreational County Road 23 Toward the Yampa River and Cross Mountain

Table 5-25 lists locations identified in the TWE Project visual analysis where: 1) the potential for high sensitivity viewers was identified; 2) the alternative would not comply with the applicable visual resource management class; and 3) another transmission line or other foreseeable projects are proposed in the same corridor and viewshed. These locations represent specific areas of concern for cumulative visual impacts.

Table 5-25 Areas of Concern for Cumulative Visual Impacts

Region	Figure/ Area	TWE Alt	Other Projects
Region I			
Outlaw Trail Scenic Highway/WY SH 789	Figure 5-2 Area 1V-1	A and C	EGS, EGW, oil and gas
Overland National Historic Trail	Figure 5-2 Area 1V-2	A, B, C, and D	EGS, EGW, oil and gas
Old Cherokee National Historic Trail	Figure 5-2 Area 1V-3	A, B, C, and D	EGS, oil and gas
Sand Wash Basin	Figure 5-2 Area 1V-4	A, B, and D	EGS
Little Snake River	Figure 5-2 Area 1V-5	A, B, and D	EGS
Yampa River and Cross Mountain Viewshed	Figure 5-2 Area 1V-6	A, B, and D	EGS
Region II			
Baxter Pass	Figure 5-4 Area 2V-1	B and C	EGS
Pony Express Trail	Figure 5-4 Area 2V-2	B and C	EGS
Green River/Crystal Geysers	Figure 5-4 Area 2V-3	B and C	EGS
Indian Creek and Potters Pond Campground	Figure 5-4 Area 2V-5	B	EGS
Skyline Drive Backway	Figure 5-4 Area 2V-5	B	EGS
Sego Canyon	Figure 5-4 Area 2V-6	B and C	EGS
Fantasy Canyon	Figure 5-4 Area 2V-7	D and F	EGS
Ninemile Canyon	Figure 5-4 Area 2V-8	D and F	EGS
Argyle Canyon	Figure 5-4 Area 2V-9	D and F	EGS
Region III			
Mountain Meadow Massacre Site	Figure 5-6 Area 3V-1	A	Sigurd-Red Butte
Region IV			
Rainbow Gardens ACEC	Figure 5-8 Area 4V-1	A	SWIP, ENTTP

Conclusion

The cumulative visual impacts for reasonably foreseeable transmission lines would be very difficult to mitigate for in the aforementioned areas of concern. Cumulatively, each of these visually sensitive areas would have their viewshed unavoidably impacted by two or potentially three transmission lines, with resulting impacts to the visual experience to visitors to these areas. The locations and number of transmission lines would depend on the lead agencies' future decisions on if and where they choose to co-locate these lines.

5.3.13 Recreation Resources

5.3.13.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical Boundary – Developed and dispersed recreation; historic and recreation trails – The defined boundary of designated recreation areas, or the specific locations of historic and recreation trails within the viewsheds defined from visual resources (see 5.3.13).

- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.13.2 Cumulative Impacts

Existing recreation opportunities within the analysis area include dispersed recreation (hunting, fishing, hiking) that can be enjoyed across very large expanses of public land with limited restrictions on access (use of roads designated by the responsible federal and state land management agencies). Developed recreation includes campgrounds, picnic areas, access points for dispersed recreation, and pullouts for historic markers. That being said, the basis for both dispersed and concentrated recreational experience is tied to the relatively undeveloped landscape of the analysis area, which provides opportunities for outdoor recreation that is dependent upon either relatively undeveloped scenery (for non-consumptive recreationists) or intact habitat to support wildlife (for hunters). In both cases, the cumulative loss of native habitat to development provides an overall cumulative estimate of potential loss to recreational opportunity as well. This loss is summarized in **Table 5-26**.

Table 5-26 Cumulative Loss of Natural Habitat and Associated Recreational Opportunity

	Past and Present Development	RFFA Development	Total Available Natural Habitat	Percent of Cumulative Natural Habitat Loss in Analysis Area
Region I	416,881	46,149	7,266,195	6
Region II	797,587	44,442	9,251,491	9
Region III	162,965	26,584	7,136,217	3
Region IV	34,406	6,859	826,360	5

Conclusion

Table 5-26 illustrates a proportional loss in recreational opportunity associated with open undeveloped lands. This impact would not substantively reduce recreational opportunity for typical users on these lands as the proportion of lands still providing those opportunities is high. Additionally, many of those recreational users may not experience a significant loss in recreational experience as a result of this cumulative development (i.e., OHV users and hunters). However, this loss of natural habitat does represent an ongoing decrease in available open space that is being converted to development. This is particularly apparent in areas in Wyoming and Utah (Regions I and II) where large scale renewable and non-renewable energy projects continue to develop open space that is also used by recreationists.

5.3.14 Land Use

5.3.14.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – Areas within the Project corridors; boundaries of irrigated land blocks and associated rural residences; boundaries of affected federal grazing allotments (BLM and USFS).
- Temporal – Indefinite (minimum of 50 years).

5.3.14.2 Cumulative Impacts

Ownership of the majority of the length of the Project alternatives is federal (primarily BLM and USFS). As a consequence, land management programs and designations represent the most important categories of land uses that affect the location of industrial facilities. Most state lands are leased for grazing or agricultural

purposes, or have been set aside as wildlife management areas. Recreational use is common throughout the project corridor with hunting representing the dominant recreational use. Boating, hiking, biking, and sight-seeing are other common recreational uses. Private lands are used for residential and agricultural purposes. The infrastructure support for all land uses includes highways, railroads, airports, water supply and electrical systems. Cumulative potential impacts to land use would be identical to those discussed in Section 3.14, Land Use, with the exception that those impacts would be increased as follows due to the potential for additional reasonably foreseeable other transmission lines to be located in the same corridor:

- Reference segments 20 and 30 for Alternatives I-A, I-B, I-C, and I-D would include the TWE, EGS, and EGW transmission lines (**Figure 5-1**).
- All other segments for Alternatives I-A, I-B, I-C, and I-D have the potential to have both the TWE and EGS transmission lines (**Figure 5-1**).
- All segments for Alternatives II-A, II-B, II-C, II-D, II-E, and II-F have the potential to have both the TWE and EGS transmission lines with the exception of Alternative II-C Segments 330.10 and 410 and the Lynndyl Alternative Connector (**Figure 5-3**).
- Segments 480, 500, 500.02, 500.05, 501, 503, 504, 505, and 506 for Alternatives III-A, III-B, and III-C would have the potential to have both the TWE and SRB transmission lines. Segments of Alternative III-C also potentially could include the SRB, SWIP, and ENTP lines (**Figure 5-6**).
- Segments 610, 620, 630, 640, 650, 660, 700, 720, 740 for Alternatives IV-A, IV-B, and IV-C would have the potential to have both the TWE and either the SWIP or ENTP transmission lines (**Figure 5-7**).

Plan Amendments

An assessment of the need for plan amendments on BLM and USFS-administered lands affected by the Project is included in Chapter 4.0. Key considerations for plan amendments are conformance with existing land use plans and compatibility of the proposed projects with current land management categories. The previous cumulative impact discussions under the individual resources (especially visual resources and special designations under land use) have delineated areas where the additive impacts of past, present, and foreseeable projects (including the Project) may occur. These cumulative impacts will be considered by the land management agencies in developing plan amendments for both the Project and other foreseeable projects if they are approved.

Conclusion

Cumulative impacts on land use are most apparent where there are pinch points where one or more transmission lines would cause intrusion into areas that are managed for uses that may be incompatible with multiple transmission lines. These areas include the area where Segments 100, 101.10, 101.20, and 101.30 cross the Tuttle Conservation Easement. Although it may be possible to fit one transmission line between the Tuttle Easement and the NPS lands for Deerlodge Road to Dinosaur National Monument, placement of more than one transmission line would require that one or the other cross either the NPS lands or the Tuttle Easement. Placement of a transmission line would be inconsistent with the management of either the easement or the NPS lands. Similarly, Segment 219.20 in the Emma Park area of Region II would allow only one transmission line without encroaching on either a USFS IRA or a 4-mile buffer for active sage grouse leks (see Section 3.8, Special Status Wildlife Species, for detailed description on potential impacts to sage grouse and Section 3.15, Special Designation Areas, for a detailed description on potential impacts to the IRA).

5.3.15 Special Designation Areas

5.3.15.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – Area within the Project corridors that would be impacted by other development.
- Temporal – Indefinite (minimum of 50 years).

5.3.15.2 Cumulative Impacts

A detailed description of the SDAs that could be impacted by this project is provided in Section 3.15, Special Designation Areas. Cumulative impacts to the specific areas of these SDAs would be limited to those impacts caused by other potential transmission lines that potentially could share the utility corridor with the Project. These impacts would be similar to those described in Section 3.15, Special Designation Areas, with the exception that they would be proportionally greater based on having two or three transmission lines and associated construction disturbance with the potential to impact the same SDA. For the purposes of this cumulative analysis, it is assumed that there would be a 1,500-foot separation between all reasonably foreseeable transmission lines. Based on current proposals, it is reasonably foreseeable that up to three transmission lines could be placed in any one of these corridors crossing the SDAs. Accordingly, this analysis has estimated that the bulk of the 2-mile corridor would be impacted through clearing and/or visual impacts from the three transmission lines. A summary of SDAs where transmission lines have the potential to be co-located and the acreage of that SDA that would be impacted within that 2-mile corridor is given below in **Tables 5-27 through 5-32**.

Table 5-27 Region I: SDAs Within Shared 2-Mile Transmission Line Corridor

Special Designations Area	Alternative I-A Acres Within Shared 2-mile Corridor	Alternative I-B Acres Within Shared 2-mile Corridor	Alternative I-C Acres Within Shared 2-mile Corridor	Alternative I-D Acres Within Shared 2-mile Corridor
Dinosaur National Monument access road corridor (NPS)	16	90	90	90
Cherokee Divide NST SRMA	181	181	181	181
Total	197	271	271	271

Table 5-28 Region II: SDAs Within Shared 2-mile Transmission Line Corridor

Land Management Agency	Special Designation Area	Alternative II-A Acres Within Shared 2-mile Corridor	Alternative II-B Acres Within Shared 2-mile Corridor	Alternative II-C Acres Within Shared 2-mile Corridor	Alternative II-D Acres Within Shared 2-mile Corridor	Alternative II-E Acres Within Shared 2-mile Corridor	Alternative II-F Acres Within Shared 2-mile Corridor
BLM White River FO	Oil Spring Mountain WSA and ACEC	NA	1,241	1,241	NA	NA	NA
	White River Riparian ACEC	NA	143	143	NA	NA	NA
BLM Grand Junction FO	McInnis Canyons NCA	NA	1,925	1,925	NA	NA	NA
	Badger Wash ACEC	NA	310	310	NA	NA	NA
	Demaree WSA	NA	1,812	1,812	NA	NA	NA
BLM Vernal FO	Lower Green River ACEC	NA	NA	NA	1,239	NA	1,239
	Lower Green River WSR	NA	NA	NA	1,447	NA	1,447
	Lears Canyon ACEC	NA	NA	NA	489	NA	489
	Nine Mile Canyon ACEC	NA	NA	NA	1,453	NA	1,453
NPS	Dinosaur National Monument	3	NA	NA	3	3	3

Table 5-28 Region II: SDAs Within Shared 2-mile Transmission Line Corridor

Land Management Agency	Special Designation Area	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
		Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor
Price FO	San Rafael Canyon ACEC	NA	NA	1,192	NA	NA	NA
	Rock Art ACEC	NA	NA	123	NA	NA	NA
Uinta National Forest	IRA 418008/ Chipman Creek	1,213	NA	NA	NA	NA	NA
	IRA 418009/ Willow Creek	5,605	NA	NA	NA	NA	NA
	IRA 418016/ Diamond Fork	40	NA	NA	NA	29	29
	IRA 418017/ Tie Fork	5,096	NA	NA	NA	2,732	2,732
	IRA 418021/ Hop Creek Ridge	4	NA	NA	4	4	4
	IRA 418028/ Golden Ridge	980	NA	NA	NA	980	980
	IRA 418029/ Nephi	14	NA	NA	4	4	4
	IRA 418015/ Strawberry Ridge	8	NA	NA	NA	NA	NA
Ashley National Forest	IRA 401009	NA	NA	NA	4,113	NA	4,113
	IRA 401010	NA	NA	NA	NA	7,601	NA
	IRA 401011	NA	NA	NA	NA	7,630	18
	IRA 401012	NA	NA	NA	NA	NA	734
	IRA 401013	NA	NA	NA	NA	NA	285
Manti-La Sal National Forest	Boulger-Black Canyon IRA	NA	1,414	NA	NA	NA	NA
	Cedar Knoll IRA	726	NA	NA	NA	726	726
	Coal Hollow IRA	1,713	NA	NA	NA	1,713	1,713
	San Pitch IRA	NA	1,262	NA	19	19	19
	East Mountain IRA	NA	1,902	NA	NA	NA	NA
	Nuck Woodward IRA	NA	NA	NA	51	NA	NA
	Oak Creek IRA	NA	NA	NA	786	NA	NA
Fishlake National Forest	North Pavant IRA	NA	NA	1,257	NA	NA	NA
	Oak Creek IRA	NA	13	NA	NA	NA	13
Total		15,402	10,022	8,003	9,608	21,441	16,001

Table 5-29 Region II: USFS Unroaded/Undeveloped Areas Within Shared 2-mile Transmission Line Corridor

National Forest	Unroaded/Undeveloped Areas	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
		Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor
Ashley	Alkali Canyon	NA	NA	NA	1,856	NA	1,856
	Cottonwood	NA	NA	NA	NA	7,302	NA
	Sowers Canyon East	NA	NA	NA	NA	7,330	NA

Table 5-29 Region II: USFS Unroaded/Undeveloped Areas Within Shared 2-mile Transmission Line Corridor

National Forest	Unroaded/Undeveloped Areas	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E	Alternative II-F
		Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor	Acres Within Shared 2-mile Corridor
Fishlake	Browns Hole	NA	NA	5,230	NA	NA	NA
	Moroni Peak	NA	NA	100	NA	NA	NA
	Mount Terrill	NA	NA	984	NA	NA	NA
	North Pavant	NA	NA	2,054	NA	NA	NA
	Oak Creek	NA	191	NA	NA	NA	191
	Oak Ridge	NA	NA	2,655	NA	NA	NA
	The Rocks	NA	NA	325	NA	NA	NA
	Right Hand Fork	NA	NA	NA	NA	NA	422
	Mill Hollow	NA	NA	NA	NA	NA	172
	First Canyon	NA	NA	NA	NA	NA	NA
Manti-La Sal	Bulger-Black Mountain	NA	875	NA	NA	NA	NA
	East Mountain	NA	1,818	NA	NA	NA	NA
	Nuck Woodward –Gentry Mountain	NA	NA	NA	52	NA	NA
	Coal Hollow	1,754	NA	NA	NA	1,754	1,754
	San Pitch Mountains	66	1,617	NA	241	66	241
Total		1,820	4,501	11,348	2,149	16,452	4,636

Table 5-30 Region III: SDAs Within Shared 2-mile Transmission Line Corridor

Lead Management Agency	Special Designation Area	Alternative III-A Acres Within Shared 2-mile Corridor	Alternative III-B Acres Within Shared 2-mile Corridor	Alternative III-C Acres Within Shared 2-mile Corridor
BLM St. George FO, Utah	Beaver Dam Wash National Conservation Area	7,575	NA	NA
	Beaver Dam Slope ACEC	12,350	NA	NA
BLM Caliente FO, Nevada	Mormon Mesa Ely ACEC (Caliente FO)	10,720	10,615	NA
	Beaver Dam Slope ACEC (Caliente FO)	NA	306	NA
	Clover Mountains Wilderness	NA	545	NA
	Kane Springs ACEC (Caliente FO)	NA	NA	6,340
	Delamar Mountains Wilderness	NA	NA	2,697
BLM Las Vegas FO, Nevada	Mormon Mesa ACEC (LVFO)	6,550	12,580	NA
	Coyote Springs Valley ACEC	NA	NA	24,327
	Arrow Canyon Wilderness	NA	NA	346
	Muddy River WSR	213	81	NA
	Meadow Valley Wash WSR	NA	374	NA

Table 5-30 Region III: SDAs Within Shared 2-mile Transmission Line Corridor

Lead Management Agency	Special Designation Area	Alternative III-A Acres Within Shared 2-mile Corridor	Alternative III-B Acres Within Shared 2-mile Corridor	Alternative III-C Acres Within Shared 2-mile Corridor
Dixie National Forest	Bull Valley IRA	313	NA	NA
	Moody Wash IRA	1,760	NA	NA
	Mogotsu IRA	3,734	NA	NA
	Atchison IRA	3,229	NA	NA
	Gum Hill IRA	NA	NA	NA
	Cove Mountain IRA	5,067	NA	NA
USFWS, Nevada	Desert National Wildlife Refuge	NA	NA	16,524
	Pahranagat National Wildlife Refuge	NA	NA	170
	Fish and Wildlife Proposed Wilderness #1	NA	NA	3,317
	Fish and Wildlife Proposed Wilderness #2	NA	NA	5,313
	Fish and Wildlife Proposed Wilderness #3	NA	NA	5,428
	Unit 2 Las Vegas Range Proposed Wilderness	NA	NA	243
	Unit 3 Sheep Range Proposed Wilderness	NA	NA	4,522
Total		51,511	24,501	69,227

Table 5-31 Region III: URUD Areas Within Shared 2-mile Transmission Line Corridor

Lead Management Agency	Special Designation Area	Alternative III-A Acres Within Shared 2-mile Corridor	Alternative III-B Acres Within Shared 2-mile Corridor	Alternative III-C Acres Within Shared 2-mile Corridor
Dixie National Forest	Bull Valley	436	NA	NA
	Moody Wash/Mogotsu	6,181	NA	NA
	Atchinson	4,217	NA	NA
	Cove Mountain	5,060	NA	NA
Total		15,894	0	0

Table 5-32 Region IV: SDAs Within Shared 2-mile Transmission Line Corridor

Special Designations Area	Alternative IV-A Acres Within Shared 2-mile Corridor	Alternative IV-B Acres Within Shared 2-mile Corridor	Alternative IV-C Acres Within Shared 2-mile Corridor
Sloan Canyon NCA (Las Vegas FO)	2,684	NA	NA
Black Mountain Wilderness (Las Vegas FO)	NA	NA	1,005
Sunrise Mountain ISA (Las Vegas FO)	1,312	532	532
Rainbow Gardens ACEC (Las Vegas FO)	10,563	2,590	2,590
River Mountains ACEC (Las Vegas FO)	3,127	73	NA
Lake Mead NRA (NPS)	25	12,871	14,482
Total	17,711	16,066	18,609

As noted for visual resources, the addition of one or more transmission lines in the same corridor may trigger inconsistencies with approved uses, requiring plan amendments, or other Project adjustments. The siting constraints for the Northern and Southern terminals, discussed individually in Section 3.15, do not impact resources affected by other reasonably foreseeable future actions.

In addition to the cumulative impacts from potential shared corridors disclosed in **Tables 5-27** through **5-32**, key potential cumulative impacts and/or routing concerns related to SDAs include:

- Region III, Alternative III-A in Utah: Milford. Alternative routes for the Project share a corridor that overlaps with the Phase 3 expansion of the Milford Wind Corridor Project. The offset distances between the transmission line projects and the wind farm projects would influence the degree of cumulative impacts on project operations and land commitments (**Figure 5-6 – Area 3D-1**).
- Region III, Alternative III-A in Utah: Mountain Meadows Massacre Site (Enterprise to Central). Both the Project and the Sigurd to Red Butte Project propose alternative routes within an existing corridor that overlaps with the recently designated Mountain Meadows Massacre National Historic Site (**Figure 5-6 – Area 3D-2**). This corridor already contains two existing transmission line corridors, as well as the newly constructed UNEV products pipeline. As a result, the Project has moved its reference line further east of the site, with resulting impacts on a Dixie National Forest IRA (see Section 3.15, Special Designation Areas).
- Region III, Alternative III-C in Nevada: Delamar to Pahranaagat Valley. The Project would share the congressionally mandated 2,640-foot-wide LCCRDA corridor with an existing 230-kV transmission line, the ON Line/SWIP 500-kV transmission line under construction, and the Southern Nevada Water Authority proposed water pipeline and its new 230-kV transmission line in an area of steep terrain between the Delamar and Pahranaagat valleys south of Alamo. This corridor is bounded on the south by the Delamar Mountains Wilderness, which constrains transmission line routing options. The ON transmission line project considered two alternatives outside the LCCRDA corridor in this segment in the Final EIS (BLM 2010). The alternative selected in the ROS includes the segment within the LCCRDA corridor (BLM 2011). The major issues in this area are roadway access to support multiple projects and siting all facilities within the currently defined utility corridor, given the separation requirements for high voltage transmission lines (**Figure 5-6 – Area 3D-3**).
- Region IV, Alternatives IV-A, IV-B, and IV-C in Nevada: Sunrise Mountain Instant Study Area, east of Las Vegas. An approximately 300-foot-wide ROW is available for a future transmission line across this Instant Study Area that was approved by Congress. As indicated in the reasonably foreseeable projects, at a minimum, the proponents that could utilize this remaining corridor width include Great Basin/NV Energy, Silver State Energy Associates, TransWest, and possibly ATC/Duke. Because both AC and DC transmission lines propose to cross the ISA, a major challenge will be to address the needs of both types of projects within the remaining corridor width across the ISA (**Figure 5-8 – Area 4D-1**). A Project alternative has been proposed that would be located at the ISA/ National Recreation Boundary to avoid this constraint.
- Another difficult transmission line siting area, west of the Sunrise Mountain ISA, is the segment from Lake Las Vegas to the outer suburban limits of Henderson. This area is highly congested with existing transmission lines, with limited options for additional transmission lines. Near Lake Las Vegas, the Project proposes to stay north of the existing transmission lines, then cross over Lake Mead Drive and the existing transmission lines, and then stay south of the existing transmission lines to maximize distance from the residential areas (**Figure 5-8 – Area 4D-2**).
- Region IV, Alternatives IV-B and IV-C in Nevada: Lake Mead NRA to Eldorado Valley. These alternatives were developed as options for routing through the constrained Lake Las Vegas/ Henderson area. These alternatives would parallel existing transmission lines within the NRA, as well as areas with no existing transmission lines. As noted previously, the NRA management plan does not allow new high voltage transmission lines within the NRA boundary. These alternatives

also would bypass Boulder City within a wide and congested transmission line corridor across steep terrain until the floor of the Eldorado Valley is reached (**Figure 5-8 – Area 4D-3**).

Conclusion

In Region I, cumulative impacts in shared corridors would be similar and relatively low (less than 300 acres) for all alternative corridors. In Region II, cumulative impacts on special designations from shared corridors would be relatively high for all alternative corridors, ranging from 8,003 acres (II-C corridor) to 16,001 acres (II-F corridor). For Region III, use of the Alternative III-C corridor would have the greatest impact (69,227 acres), followed by III-A (51,511 acres), and III-B (24,501 acres). In Region IV, corridor impacts would be very similar for all alternative corridors, ranging from 17,711 to 18,609 acres. For all regions with the exception of Region I, the cumulative effects of three transmission lines in the alternative corridors would have substantial impacts on SDAs. The consistency of overhead transmission with the existing management of each of these SDAs is discussed in detail in Section 3.15, Special Designation Areas.

There is considerable overlap between USFS IRAs and USFS URUD areas. Consequently, they are not additive and are summarized separately from the other SDAs. There would be no impacts on URUD areas in Regions I and IV. In Region II, cumulative impacts on URUD areas would range from 1,820 acres to 16,452 acres. Transmission lines in Alternatives II-A and II-D corridors would have similar impacts (1,820 and 2,149 acres, respectively). Similarly, II-B and II-F have similar cumulative impacts (4,501 and 4,636 acres, respectively). Alternatives II-C and II-E have the highest cumulative impacts (11,348 and 16,452 acres respectively). In Region III, only the Alternative III-A corridor would have impacts on URUD areas (15,894 acres).

Prohibition on the building of roads in IRAs and URUD areas would greatly reduce the long-term disturbance to those areas. However, it would not eliminate all the cumulative visual impact and loss of vegetation associated with the clearing and placement of multiple transmission lines within a single 2-mile corridor.

5.3.16 Transportation and Access

5.3.16.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – Highway and road ROWs that would be used for Project activities.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.16.2 Cumulative Impacts

Existing actions include federal highways, state highways, and county and secondary roads under the jurisdiction of the BLM and USFS that form a network across all Project regions. Segments of transcontinental railroads traverse the I-80 corridor in Wyoming, and between Salt Lake City and Las Vegas. Major air force bases include the Hill AFB near Salt Lake City, and the Nellis AFB near Las Vegas. Each air force base has designated areas for low-level training flights. The major transportation network is illustrated on **Figures 3.16-1 through 3.16-4**.

The Project would utilize the existing highway and road system to access the ROW for construction. The Project proposes to extend the existing road system to provide access to transmission line structures over the long term. Because of Project location within existing utility corridors in many areas, nearby existing secondary roads could be used in many cases. Cumulative roadway deterioration effects and resultant increased maintenance costs for the responsible agencies likely would be incurred as a result of heavy loads and equipment travel during construction of the Project and other foreseeable projects.

The foreseeable projects likely would utilize the existing road system to the extent possible to minimize the establishment and maintenance of new roads. Because of separation requirements, independent spur roads would be constructed for each project. As a consequence, there would be a cumulative expansion of the existing road system within utility corridors shared by more than one transmission line project and oil and gas development projects.

The Project may require traffic controls at highway and secondary road intersections to manage equipment and material deliveries to the construction ROW. It is expected that the construction spreads for the Project would extend for many miles at one time, limiting the likelihood of concentrations of turning vehicles at intersections. It is unlikely that other foreseeable projects would be constructing their facilities in the same time frame and locations as the Project. Cumulative traffic delays and decreased public safety during construction are not anticipated.

Construction of the Project would add new aboveground facilities that would have to be considered in Nellis and Hill AFB military training areas intercepted by the Project. A BLM plan amendment for Hill AFB may be required; other agreements with Nellis AFB for military operations and potential interference with navigational aids may be needed. Other foreseeable projects that incrementally add to existing transmission line corridors in southwestern Utah and southern Nevada may be subject to similar reviews and approvals. In general, the cumulative effects of new transmission lines would be less in existing transmission line corridors, as compared to new corridors, where adjustments in military training would have to occur.

Conclusion

The amount and extent of existing roads in the overall analysis area indicate that cumulative transportation impacts on the transportation resources affected by the Project would be low. However, cumulative addition of multiple transmission lines in the Alternatives III-C and III-B corridors do present potential cumulative impacts that could affect the scope of training operations from both Nellis and Hill AFBs.

5.3.17 Social and Economic Resources

5.3.17.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical – The counties crossed by TWE alternatives.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.17.2 Cumulative Impacts

Construction schedule and peak work force for the Project may overlap in time with the foreseeable projects such that the cumulative projects would impact housing and services within the counties affected. These projects include concurrent construction of other energy projects, transmission lines and pipelines, as well as those with ongoing oil and gas development that require temporary housing and services for many nonlocal workers, and where there is limited infrastructure to accommodate an influx of new workers. Counties with substantial oil and gas development activity include Carbon County, Wyoming; Rio Blanco, Moffat, and Mesa counties in Colorado; and Uintah and Duchesne counties in Utah. Counties potentially affected by energy projects and transmission line or pipeline construction include Carbon and Sweetwater counties in Wyoming; Moffat, Routt, Rio Blanco, Garfield and Mesa counties in Colorado; Daggett, Uintah, Duchesne, Grand, Emery, Carbon, Wasatch, Utah, Sevier, Sanpete, Juab, Millard, Beaver, Iron, and Washington counties in Utah; and Lincoln and Clark counties in Nevada. The exact extent of that overlap is impossible to predict as it depends upon the timing of construction and operation of many projects, much of which is unknown.

Cumulative fiscal effects, including both additional revenues and increases in public expenditures to serve demand for public facilities and services, also are foreseeable as the Project and other foreseeable projects are constructed, and then operate over their useful life. State and local sales tax revenues (primarily short-term) generally are higher during construction but then decrease, while ad valorem/property (long-term) taxes are primarily a function of the revenue generated from transmission charges once the project is completed and energized. The ad valorem tax revenues associated with transmission line facilities would accrue primarily to counties, school districts, the state and other districts, rather than to the municipalities in which most construction and operations workers live.

The potential for cumulative effects would not arise with all TWE alignment alternatives, but rather would vary depending on the TWE alignment being considered. Furthermore, many of the cumulative effects would be temporary and could be viewed as beneficial by some members of the communities. Challenges in assessing potential cumulative socioeconomic effects also arise in conjunction with the influence of other factors on decisions of whether to proceed, postpone, or continue operations of an activity. Two such factors include uncertainty regarding the timing of necessary regulatory approvals and changing economics of resource development and production in response to market prices. A delay or postponement of a project because of such factors can substantially increase or diminish the potential for cumulative socioeconomic effects with the Project.

Long-term cumulative effects on future land use development patterns could result from the development and operation of multiple linear facilities in close proximity to one another, the results of which could have unknown community and economic development effects on local social and economic conditions.

No adverse human health and environmental effects disproportionately affecting minority and/or low income populations were identified in conjunction with the Proposed Action or action alternatives. Consequently, the project would not contribute to any cumulative environmental justice effects.

Conclusion

In general, cumulative socioeconomic impacts from past, present and reasonably foreseeable development in the analysis area have been beneficial to local communities. All of the proposed project alternatives have the potential to contribute to short-term cumulative impacts on housing availability and existing infrastructure in areas that are already impacted by heavy oil and gas or other energy development in Regions I and II. However, the relative cumulative impact of all the alternatives on these services would be proportionally very small. Cumulative short-term adverse impacts on housing and infrastructure from construction of multiple transmission lines are remote due to the difference in construction timing for the separate lines at any given location.

5.3.18 Public Health and Safety

5.3.18.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical Boundary
 - Construction – Equipment noise – 1 mile on either side of the ROW where equipment is operating; Hazardous materials – 250-foot-wide ROW.
 - Operation – EMF, Corona noise (human hearing), Stray Voltage – 250-foot-wide ROW; corona noise – radio and TV interference within a 2-mile-wide corridor.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.18.2 Cumulative Impacts

The majority of the alternatives would cross rural, undeveloped areas where background noise levels would be in the range of 40 dBA. Background urban noise would be greater in the Las Vegas Valley and near busy highways.

Construction of the Project would require noise-generating equipment that would operate during daylight hours at dispersed locations along the construction ROW. Equipment noise would occur over a short interval (months) at any particular location. The number of residences potentially affected by cumulative noise from construction of this and other reasonably foreseeable future transmission lines in shared corridors is provided in **Table 5-33**.

Table 5-33 Residences within 500 feet of Reference Line for TWE in Shared Corridors

	Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D	
Residences within 500'	0	0	0	0	
	Alternative II-A	Alternative II-B	Alternative II-C	Alternative II-D	Alternative II-E
	53	5	4	6	35
	Alternative III-A	Alternative III-B	Alternative III-C		
	9	2	2		
	Alternative IV-A	Alternative IV-A	Alternative IV-A		
3	2	1			

It is unlikely that other foreseeable projects would be constructing facilities during the same time frame and in the exact same location; therefore, construction noise would not be cumulatively greater as a result of multiple transmission lines in the same corridor. However, the cumulative impact of the multiple transmission lines would be that the overall duration when residences would be periodically subjected to noise would range from 3 to 12 years. Additionally, the short-term periods when noise would be generated near these residences would occur from 2 to 4 times more than from the Project alone.

The generation of EMF, corona noise perceptible to nearby human receptors and stray voltage concerns would be confined to the immediate vicinity (within 300 feet of the centerline) of each transmission line. Consequently, the overall width of the corridor that could be impacted by cumulative corona noise from multiple transmission lines could be from 2 to 4 times greater (600 to 1,200 feet) than that from a single transmission line.

A detailed discussion on potential impacts of both construction and corona noise on humans is found in Section 3.18, Public Health and Safety.

Conclusion

Due to noise attenuation and low number of residences in proximity to the transmission lines, cumulative impacts on public health and safety from multiple transmission lines in Project corridors would be minimal. However, there is a possibility for short-term nuisance noise on these residences, particularly for those corridors where multiple transmission lines will be sited in the same corridor.

5.3.19 Wild Horses

5.3.19.1 Physical and Temporal Boundaries of Cumulative Impacts

- Physical Boundary
 - Construction – It is assumed that construction noise would have no impacts on wild horses as they would be able to easily move away from disturbance.
 - Operation – Loss of habitat from tower and facility construction within designated HMAs impacted by the proposed project.
- Temporal
 - Construction – Less than 1 year at any location.
 - Operation – Indefinite (minimum of 50 years).

5.3.19.2 Cumulative Impacts

The cumulative impact acreage within designated HMAs is summarized in **Table 5-34**.

Table 5-34 Estimated Cumulative Impacts from RFFA on Wild Horse HMAs

HMA	Cumulative Disturbance from RFFA (acres)	Total HMA acreage	Percent Disturbed from RFFA
Adobe Town	19	477,622	<1
Salt Wells Creek	73	1,170,714	<1
Eagle	11	660,700	<1
Hill Creek	1	72,130	<1
Total	104	2,381,166	<1

Conclusion

Cumulative impacts on HMAs would total 104 acres. This represents well under 1 percent of the available habitat for wild horses available in those HMAs. Accordingly, cumulative impacts to wild horses would be negligible. The Proposed Action and alternatives also would contribute negligibly to this permanent loss of habitat. The cumulative effects of the Proposed Action and alternative could restrict the use of helicopters for horse gathers in these HMAs due to safety concerns. However, the relatively low amount of disturbed area would indicate that these restrictions would not substantively impact BLM management of these HMAs.

5.3.20 Lands with Wilderness Characteristics

5.3.20.1 Physical and Temporal Boundaries

- Physical – Boundaries of affected LWCs
- Temporal – Indefinite (minimum of 50 years)

5.3.20.2 Cumulative Impacts

The potential cumulative impacts to LWCs were estimated based on those potential projects affecting the same areas as those affected by the proposed project. These impacts would be similar to those disclosed for the proposed project as they would involve additional transmission lines in the same corridor affecting the same units. These acreages could vary based on which route is picked for which transmission line (see

Section 3.20, Lands with Wilderness Characteristics, for details on impacts of alternative routes). Impacts from past and present actions to LWCs are largely inferred based on the amount of remaining LWCs that is disclosed in Section 3.20, Lands with Wilderness Characteristics. The estimated cumulative impacts on LWCs are summarized in **Table 5-35**.

Table 5-35 Estimated Cumulative Impacts to Lands with Wilderness Characteristics

	Percentage of LWCs Potentially Impacted by RFFAs
Region I	15
Region II	2
Region III	3
Region IV	No LWCs impacted by Project routes shared with other reasonably foreseeable routes

Conclusion

Cumulative impacts to lands with wilderness characteristics by reasonably foreseeable projects occupying the TWE corridor would be relatively low (1 percent or less). This would be true regardless of which alternative route is picked for the proposed project. However, it should be noted that cumulative impacts to LWCs that are not affected by the proposed project but are in the same regional area would continue to occur. Of particular note are potential future impacts to LWCs from widespread oil and gas development in Regions I and II.

6.0 Consultation and Coordination

This EIS was conducted in accordance with NEPA requirements, CEQ regulations, and the USDO and BLM policies and procedures for implementing NEPA. NEPA and the associated laws, regulations, and policies require BLM and Western to seek public input and initiate agency consultation early and throughout the planning process to identify issues and develop a reasonable range of alternatives to ensure that environmental documents appropriately disclose the potential impacts of alternatives considered. Public involvement and agency consultation and coordination, which are at the heart of the process leading to this EIS, were achieved through Federal Register notices, public and informal meetings, individual contacts, media releases, and the Project website.

TransWest and Western are proposing to construct, own, and operate the TWE Project, which would be an EHV DC transmission system that stretches from south-central Wyoming to southern Nevada. Given the distance spanned, public involvement in this Project is critical to the success of the NEPA process. This chapter outlines the consultation and the coordination process for the proposed Project, including the general public as well as Tribal governments, and federal, state, and local agencies and organizations.

6.1 Public Involvement and Scoping

6.1.1 Public Involvement

NEPA requires full disclosure and open public participation in the federal decision making process, including those projects proposed by non-federal proponents that require federal approval. There are two key points during the development of an EIS that the general public is invited to participate in the process: 1) during the scoping period, and 2) during the 90-day public comment period of the Draft EIS.

The BLM and Western accepted written comments throughout all stages of Project development. Summaries of the public comments received during scoping are included in the Scoping Report (BLM and Western 2011), and are available online on the BLM webpage (<http://www.blm.gov/wy/st/en/info/NEPA/documents/hdd/transwest.html>). The issues and concerns identified by the public during the scoping period are summarized in Section 1.8 of the Scoping Report.

The release of this Draft EIS will be followed by a 90-day public comment period. Comments received will be reviewed and substantive comments will receive a response. Substantive comments and corresponding responses will be provided as an appendix to the Final EIS. Comments will be used to modify, clarify, and/or correct the Final EIS as appropriate.

6.1.2 Scoping Period

The following sections describe the pre-scoping and scoping process following TWE's amended 2010 ROW application submission and the publication of the Notice of Intent (NOI) in the Federal Register on January 4, 2011.

The BLM and Western conducted pre-scoping activities following the January 2010 SF 299 ROW application submittal. During the spring of 2010, comments were received from the interdisciplinary team, BLM FOs, Forest Service, and the Cooperating Agencies. These comments were considered in developing the alternative corridors presented to the public during the scoping period.

In addition to the brief summary of scoping found in Section 1.7, this section describes the public scoping process, including techniques used to notify the public about the opportunity to comment at this stage in the NEPA process.

6.1.3 Scoping Announcements

The initial step in the NEPA process is to notify the public, other government agencies, and tribes of the lead agency's intent to prepare an EIS. The scoping period was announced using a variety of tools:

- **Federal Register** – The BLM published the NOI in the Federal Register on January 4, 2011.
- **Newsletters** – a TWE Project newsletter was mailed to approximately 23,000 interested parties including federal, state, and local agencies, and tribes as well as potentially affected landowners within the proposed 2-mile-wide corridors for the proposed and alternative routes.
- **Advertisements** – BLM- and Western-placed display advertisements in local newspapers, and Public Service Announcements (PSAs) were submitted for broadcast on local radio and television announcing the public meetings.
- **Media Releases** – BLM Public Affairs personnel from each of the BLM field offices (FOs) were contacted as a part of the Media Plan to identify the appropriate media outlets and optimum time for conducting a public meeting in their area. The information was compiled and used to schedule the public scoping meetings and media placement for notification.
- **Public Libraries** – The BLM compiled materials and information presented at the scoping meetings into a three-ring binder and distributed it on January 21, 2011 to 23 public libraries located in communities where scoping meetings would be held for public access and review.
- **BLM TransWest Express Transmission Project Web Site** – The BLM established a Project website for the proposed Project. The website was initially used to notify the public of the scoping meetings, provide general Project overview information, as well as information to provide comments to the BLM regarding the proposed Project. The website currently serves as the electronic NEPA-related Project information source for all aspects and stages of the Project's NEPA process.

6.1.3.1 Scoping Meetings

Public scoping meetings offer an opportunity for the public to participate in the Project during the scoping period. The meetings promote information exchange about the proposed Project and to gather public input. The BLM and Western hosted 23 public scoping meetings throughout the Project area with a total attendance of 678 individuals. These meetings were conducted as informal open houses to allow for an open exchange of information and to provide the attendees the opportunity to ask agency personnel, the Project Applicant, and EIS contractor questions about the Project. Once attendees signed in to record their attendance, they were invited to review information about the project and the NEPA process at seven information stations. A list of meeting dates, locations, and attendance is listed below (**Table 6-1**).

Table 6-1 Public Scoping Meeting Dates and Locations

Meeting Location	Meeting Date
Vernal, Utah	Tuesday, January 25, 2011
Craig, Colorado	Wednesday, January 26, 2011
Rangely, Colorado	Thursday, January 27, 2011
Grand Junction, Colorado	Monday, January 31, 2011
Moab, Utah	Tuesday, February 1, 2011
Castle Dale, Utah	Wednesday, February 2, 2011
Duchesne, Utah	Monday, February 7, 2011
Nephi, Utah	Tuesday, February 8, 2011

Table 6-1 Public Scoping Meeting Dates and Locations

Meeting Location	Meeting Date
Delta, Utah	Wednesday, February 9, 2011
Richfield, Utah	Monday, February 14, 2011
Milford, Utah	Tuesday, February 15, 2011
Cedar City, Utah	Wednesday, February 16, 2011
St. George, Utah	Thursday, February 17, 2011
Pine Valley, Utah	Tuesday, February 22, 2011
Central, Utah	Wednesday, February 23, 2011
Enterprise, Utah	Thursday, February 24, 2011
Caliente, Nevada	Monday, February 28, 2011
Overton (Moapa Valley), Nevada	Tuesday, March 1, 2011
Henderson, Nevada	Wednesday, March 2, 2011
Las Vegas, Nevada	Thursday, March 3, 2011
Rawlins, Wyoming	Tuesday, March 8, 2011
Rock Springs, Wyoming	Wednesday, March 9, 2011
Baggs, Wyoming	Thursday, March 10, 2011

During the scoping period, BLM and Western met with representatives of several County Commissions. The meetings were scheduled to coincide with the scoping meeting in their respective county. The meetings provided Project information and explained the EIS process. Packets containing the materials available to the public at the scoping meetings were distributed to the Commissioners. In addition to the County Commissioners, BLM and Western met with the Clark County, Nevada, Conservation Program on March 1, 2011.

6.1.3.2 Scoping Comments

The BLM and Western received a total of 622 comment submittals (e.g., letter, comment form, email) containing 2,319 individual comments during the public scoping period. These comments were electronically submitted at the GIS comment station at the meetings, through the BLM Project website, or by U.S. Mail. Following the close of the public scoping period, comments were compiled and analyzed to identify issues and concerns. Within each comment submittal, individual comments were identified, reviewed, and entered into an electronic database.

6.2 Agency Participation and Coordination

Specific regulations require the BLM to coordinate and consult with federal, state, and local agencies about the potential of the proposed Project and alternatives to affect sensitive environmental and human resources. The BLM initiated these coordination and consultation activities through the scoping process and has maintained them through regular meetings regarding key topics with cooperating agencies throughout the NEPA process.

The BLM and Western invited interested federal, state, and county governments to participate as cooperating agencies for the preparation of the TWE Project EIS. To date, 51 agencies have accepted the

invitation. The coordination and consultation must occur in a timely manner and are required before any final decisions are made. Issues related to agency consultation include biological resources, cultural resources, socioeconomics, and land and water management.

6.2.1 Federal and State Agencies

6.2.1.1 Federal Agencies

The BLM and Western are in contact with the following federal agencies:

- Bureau of Indian Affairs Western Region, representing:
 - Rocky Mountain Region, Billings, MT
 - Southwest Region, Albuquerque, NM
- Bureau of Reclamation, Lower Colorado Region
- National Park Service,
 - Intermountain Region, Lakewood, Colorado
 - Pacific West Region, San Francisco, California
- Navy Region Southwest, San Diego, California
- Nevada Army National Guard
- U.S. Army, Region 8
- U.S. Army Corps of Engineers
 - South Pacific Division
 - Northwestern Division
- U.S. Fish and Wildlife Service representing:
 - Mountain Prairie Region, Lakewood, Colorado
 - Pacific Southwest Region, Sacramento, California
- U.S. Forest Service, Intermountain Region, Ogden, Utah
 - Utah Reclamation Mitigation Conservation Commission

6.2.1.2 State Agencies

The BLM and Western are also coordinating with the following state agencies:

- State of Colorado
 - Colorado Department of Agriculture
 - Colorado Parks and Wildlife
 - Colorado State Land Board
- State of Nevada
 - Nevada Department of Agriculture
 - Nevada Department of Wildlife
 - Nevada Division of State Lands

- State of Utah
 - Utah Department of Agriculture
 - Utah Division of Wildlife Resources
- State of Wyoming
 - Wyoming County Commissioners Association
 - Wyoming Department of Agriculture
 - Wyoming Game and Fish Department

6.2.2 Local Agencies

The BLM and Western are in contact with the following counties:

- Wyoming: Carbon, Sweetwater
- Colorado: Garfield, Mesa, Moffat, Rio Blanco
- Utah: Beaver, Carbon, Dagget, Duchesne, Emery, Grand, Iron, Juab, Millard, Piute, Sanpete, Sevier, Uintah, Utah, Wasatch, Washington
- Nevada: Clark, Lincoln

The BLM and Western are also coordinating with Little Snake River Conservation District, Medicine Bow Conservation District, Douglas Creek Conservation District, Saratoga-Encampment-Rawlins Conservation District, Sweetwater County Conservation District, White River Conservation District, and N-4 State Grazing Board.

6.2.3 Tribal Government-to-Government Consultation

It is the responsibility of all federal agencies to comply with the requirements of Section 106 of the NHPA and the ACHP's regulations when planning and carrying out their undertakings. In doing so, they are required to consult with Native American Tribes, SHPOs, local government entities, and other interested parties, depending on the specifics of the undertaking. Such consultation with Native American Tribes is central to the Section 106 process.

Tribal consultation for the Project began when a certified letter was mailed on July 20, 2010, to all federally recognized Native American Tribes either residing in or with cultural ties to the analysis area. The letter initiated formal government-to-government consultation and informed the Tribes of the proposed undertaking and solicited their concern/comments regarding possible historical and/or traditional ties to the area or the presence of properties of traditional religious and cultural importance. Included in the letters were a Project map, response form, and return address stamped envelope. The response form and return address envelope were enclosed with the letters as a means to inform the BLM and Western if any of the Tribes wish to participate in the consultation efforts or had any concerns associated with the Project.

Seven of the Native American Tribes responded to the initial consultation letter dated July 20, 2010 (Confederated Tribes of the Goshute Reservation, Duckwater Shoshone Tribe of the Duckwater Reservation, Ely Shoshone Tribe of Nevada, Las Vegas Paiute Tribe, Paiute Indian Tribe of Utah, Pueblo of Laguna, and Pueblo of Santo Domingo). A tribal member of the Ely Shoshone Tribe of Nevada requested copies of the Project maps, which were provided via email. The Las Vegas Paiute Tribe and Pueblo of Santo Domingo indicated on the response form that they do not require consultation at this time; however, they may request other opportunities to consult with the BLM and Western in the future. In their response, the Pueblo of Laguna indicated that the Project will not have a significant impact, but requested an opportunity to review any newly discovered archaeological sites and that photographs be taken of the sites.

Face-to-face meetings with the BLM and Western were requested by the remaining three Tribes (Goshute, Duckwater Shoshone, and Paiute Tribe of Utah).

BLM and Western met with the Paiute Tribe of Utah on December 1, 2010, and the Duckwater Shoshone as well as the Ely Shoshone on January 12, 2011. In January of 2011, the Utah BLM contacted the Confederated Tribes of the Goshute Reservation in response to their request for a meeting. During their discussion, the Goshute tribe determined that the Project was “not very close to their tribe,” and therefore, no meeting would be necessary. The Pueblo of Laguna, Pueblo of Santo Domingo, and Las Vegas Paiute returned a response indicating that the information provided in the letter notification was sufficient and no further consultation was necessary. The Ely Shoshone sent a response requesting more information about the Project; the BLM contacted the tribe in August 2010 to discuss the Project. Representatives from the Ely Shoshone attended the meeting on January 12, 2011, with BLM and Western. At this meeting, the Duckwater Shoshone requested large Project maps of the areas where the Project could affect tribal lands. These maps were provided to the Duckwater Shoshone through the Ely, Nevada BLM FO.

In early 2011, follow-up phone calls were made to all the tribes to update tribal contact information. New information was update to the Project’s tribal contact list in preparation for a second letter to be mailed in the fall of 2011. The second letter will request more focused information regarding tribal concerns and sites, provide additional information about the consultation process, development of the PA, and findings from the file search conducted in the winter of 2010/2011.

In late September 2011, a second set of letters was sent to the Native American Tribes listed on **Table 3.11-1** inviting them to participate in development of the draft PA. The letters included details of the Project, a description of historic properties identified through the files search, and information on a subsequent upcoming meeting on October 18, 2011, in Salt Lake City, Utah, to discuss the PA process. Only the Hopi Tribe responded to the second letter. The Hopi are interested in ongoing consultation on the Project, and requested copies of the cultural resources inventory report and any proposed treatment plans for review and comment. In addition, the Hopi requested an ethnographic overview of the Project area.

On April 19, 2012, the BLM and Western held an online conference call to discuss the status of the draft PA. The consulting parties listed in Section 3.11.1.1 and the Native American Tribes listed in **Table 3.11-1** were invited to participate on the conference call. None of the invited Native American Tribes participated on the call.

At the request of the Ute Tribal Council, the BLM and Western attended a Ute Tribal Council Meeting on May 31, 2012, and met with the Ute Mountain Ute Tribe, Southern Ute Tribe, and Ute Indian Tribe of the Uintah and Ouray Reservation to discuss the Project. The BLM and Western gave a presentation of the Project, and answered questions from the Tribes. In general, the questions focused on Project components, tribal consultation, BIA responsibilities, and ROWs on tribal lands. The Ute Mountain Ute are concerned about Project impacts to human remains, cultural landscapes, TCPs, and sacred sites.

Western and the BLM attended another Ute Tribal Council meeting on August 28, 2012. During the meeting, detailed Project maps of the 2-mile-wide transmission line corridors, a Project description, and schedule for completion of the draft EIS were presented to the Council members. As requested by the Council, Western and the BLM also met with the Ute Tribe’s Energy and Minerals Department. Project information, a Project map, and contact information were left with the Council members and the Energy and Minerals Department. At this time, no other meetings have been held with the Ute Tribal Council.

On November 8, 2012, the BLM and Western held an online conference call to discuss the status of the draft PA. The consulting parties listed in Section 3.11.1.1 and the Native American Tribes listed in **Table 3.11-1** and Section 6.3.3 were invited to participate on the conference call. None of the invited Native American Tribes participated on the call.

On November 26, 2012, the BLM and Western sent letters to five additional pueblos as part of the consultation process. The five pueblos included the Pueblo of San Ildefonso, Pueblo of Santa Clara, Pueblo of Sandia, Pueblo of Taos, and Pueblo of Zia. Included in the letters were a Project map, response form, and return address stamped envelope. The letters included information on the Project, APE, PA process, and historic properties identified as a result of the files search. None of the contacted pueblos responded to the letters.

As of this date, no places of traditional religious and cultural importance to the contacted Native American Tribes have been identified in or near the analysis area through the government-to-government consultation efforts. Concerns expressed by the Tribes have been with human remains, TCPs, cultural landscapes, and sacred sites. Opportunities for the identification of locations of possible traditional religious and cultural importance that may be affected by the Project, as well as opportunities for the Tribes to express their concerns would remain open throughout the consultation process, which currently is ongoing and would continue through Project construction.

Consultation with the tribes and pueblos will continue throughout the Project as stipulated under EO 13175, November 6, 2000.

6.3 EIS Distribution List

In an effort to reduce printing costs, individuals on the mailing list receive postcard notifications directing them to download the EIS from the Project website at <http://www.blm.gov/wy/st/en/info/NEPA/documents/hdd/transwest.html>. In addition, the document is available on CD and as a limited number of hardcopy versions available at the locations listed below.

- BLM Wyoming State Office, Cheyenne, Wyoming
- BLM Rawlins FO, Rawlins, Wyoming
- BLM Rock Springs FO, Rock Springs, Wyoming
- BLM Little Snake FO, Craig, Colorado
- BLM White River FO, Meeker, Colorado
- BLM Grand Junction FO, Grand Junction, Colorado
- BLM Cedar City FO, Cedar City, Utah
- BLM Fillmore FO, Fillmore, Utah
- BLM Moab FO, Moab, Utah
- BLM Price FO, Price, Utah
- BLM Richfield FO, Richfield, Utah
- BLM St. George FO, St. George, Utah
- BLM Vernal FO, Vernal, Utah
- BLM Egan FO, Egan, Nevada
- BLM Caliente FO, Caliente, Nevada
- BLM Las Vegas FO, Las Vegas, Nevada
- USFS Dixie National Forest

A list of federal, state, and local agencies and representatives, Indian tribes, organizations, media, libraries, and individuals is being maintained throughout the NEPA process. The initial Project mailing list was developed by the BLM Wyoming State Office and has been supplemented as individuals express interest in

the Project. Individuals are provided with the opportunity to be added to the mailing list either through the Project website, registration at public meetings, or by contacting the BLM Wyoming State Office. A complete distribution list is available in the administrative record.

6.3.1 Federal Agencies and Representatives

6.3.1.1 Department of Interior Agencies

- Bureau of Indian Affairs (BIA)
- Bureau of Land Management (BLM)
- Bureau of Reclamation
- Fish & Wildlife Service
- Geological Survey (USGS)
- Mineral Management Service
- National Interagency Fire Center
- National Park Service

6.3.1.2 Department of Energy Agencies

- Federal Energy Regulatory Commission
- Western Area Power Administration

6.3.1.3 Other Federal Agencies

- Advisory Council on Historic Preservation
- Army Corp of Engineers
- Department of Agriculture (USDA)
- Animal and Plant Health Inspection Service
- Farm Service Agency
- Forest Service
- Natural Resources Conservation Service
- Department of Defense (DOD)
- Army
- Navy
- Air Force
- Department of Energy (DOE)
- Department of Transportation (DOT)
- Federal Aviation Administration (FAA)
- Federal Highway Administration
- Environmental Protection Agency

6.3.1.4 Congressional Delegations

There are 21 federal legislators (US Senate and House of Representatives) on the Project mailing list.

6.3.2 State and Local Agencies and Representatives

- 25 Colorado state divisions and departments.
- 37 Utah state divisions and departments.
- 12 Nevada state divisions and departments.
- 20 Wyoming state divisions and departments.
- 35 conservation districts and regional water districts.
- 77 state legislators (Senators and Congressmen, Governors and Lieutenant Governors)
- 41 counties.
- 111 cities and municipalities.

6.3.3 Indian Tribes

- Eastern Shoshone of the Wind River Reservation
- Winnemucca Indian Colony of Nevada
- Northern Arapaho Tribe of the Wind River Reservation
- Yerington Paiute Tribe of the Yerington Colony & Campbell Ranch
- Southern Ute Indian Tribe of the Southern Ute Reservation
- Yomba-Shoshone Tribe of the Yomba Reservation
- Ute Mountain Tribe of the Ute Mountain Reservation
- Fort Mojave Indian Tribe
- Confederated Tribes of the Goshute Reservation
- Hopi Tribe of Arizona
- Northwestern Band of Shoshone Nation
- Kaibab Paiute Tribe
- Paiute Tribe of Utah
- Navajo Nation
- Skull Valley Band of Goshute Indians of Utah
- San Juan Southern Paiute Tribe
- Ute Indian Tribe of the Uintah and Ouray Reservation
- Jicarilla Apache Tribe
- Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho
- Duckwater Shoshone Tribe of the Duckwater Reservation
- Ely Shoshone Tribe of Nevada
- Fort McDermitt Paiute-Shoshone Tribe of the Fort McDermitt Indian Reservation
- Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony
- Lovelock Paiute Tribe of the Lovelock Indian Colony
- Moapa Band of Paiute Indians of the Moapa River Indian Reservation

- Paiute-Shoshone Tribe of the Fallon Reservation and Colony
- Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation
- Reno-Sparks Indian Colony
- Shoshone-Paiute Tribes of the Duck Valley Reservation
- Summit Lake Paiute Tribe of Nevada
- Te-Moak Tribe of Western Shoshone Indians of Nevada
- Walker River Paiute Tribe of the Walker River Reservation
- Washoe Tribe of Nevada & California
- Pueblo of Acoma
- Pueblo of Cochiti
- Pueblo of Isleta
- Pueblo of Jemez
- Pueblo of Laguna
- Pueblo of Nambe
- Pueblo of Picuris
- Pueblo of Pojoaque
- Pueblo of San Felipe
- Pueblo of San Ildefonso
- Pueblo of San Juan
- Pueblo of Sandia
- Pueblo of Santa Ana
- Pueblo of Santa Clara
- Pueblo of Santo Domingo
- Pueblo of Taos
- Pueblo of Tesuque
- Pueblo of Zia
- Pueblo of Zuni
- Chemehuevi Indian Tribe

6.3.4 Organizations and Individuals

There are over 325 special interest groups and organizations on the Project mailing list. Organizations, individuals, and companies that have added their names to the mailing list during the Project receive notifications and other relevant Project mailings.

6.4 Preparers and Reviewers

As required by NEPA regulations (40 CFR 1502.17), **Tables 6-2** and **6-3** list the people responsible for disseminating and preparing this Draft EIS. The BLM and Western have retained AECOM as a third-party consultant to assist with the preparation of this EIS (**Table 6-4**). AECOM was selected by the lead agencies

to avoid any conflict of interest. AECOM has certified that it does not have any financial or other interest in the decisions to be made pursuant to this EIS.

6.4.1 Bureau of Land Management

Table 6-2 Bureau of Land Management EIS Team

Team Member	Responsibility/Resource
BLM Wyoming State Office	
Sharon Knowlton	Project Manager
Dennis Saville	Wildlife Program Lead
Ranel Capron	Archaeology Lead
Sherry Lahti-Roche	Visuals Lead
Brent Breithaupt	Paleontology
Ken Peacock	NEPA
Bob Means	Forestry
Beverly Gorny	External Affairs Lead
BLM Rawlins FO	
Heather Schultz	POC-RECO Project Manager
BLM Rock Springs FO	
Carol Montgomery	POC-Realty Specialist
BLM Colorado State Office	
Maryanne Kurtinaitis	POC-Realty Specialist
BLM Grand Junction FO	
Bridget Clayton	POC-Asst. Field Mgr
BLM Little Snake FO	
Louise McMinn	POC-Realty Specialist
BLM White River FO	
Janet Doll	POC-Realty Specialist
BLM Colorado River Valley FO	
Monte Senior	POC-Realty Specialist
BLM Utah State Office	
Shauna Derbyshire	POC-Realty Specialist
BLM Cedar City FO	
Brandon Johnson	POC-Realty Specialist
BLM Fillmore FO	
Clara Stevens	POC-Realty Specialist
BLM Moab FO	
Jan Denney	POC-Realty Specialist
BLM Price FO	
Connie Leschin	POC-Realty Specialist

Table 6-2 Bureau of Land Management EIS Team

Team Member	Responsibility/Resource
BLM Richfield FO	
Michael Utley	POC-Realty Specialist
BLM Salt Lake FO	
Dave Watson	POC-Realty Specialist
BLM St. George FO	
Shered Mullins	POC-Realty Specialist
BLM Vernal FO	
Cindy McKee	POC-Realty Specialist
BLM Nevada State Office	
Fredrick Marcell	POC-Realty Specialist
BLM Ely District	
Dan Netcher	POC-Realty Specialist
BLM Southern Nevada District Office	
Philip Rhinehart	POC-Realty Specialist

6.4.2 Western Area Power Administration**Table 6-3 Western Area Power Administration EIS Team**

Team Member	Responsibility/Resources
Steve Blazek	Project Manager
Matt Blevins	Environmental Team Lead
Claire Douthit	NEPA Attorney
John Bremer	Lead Attorney
Ree Rodgers	Archaeology
Stephen Tromly	Archaeology
Misty Kae Sporer	Biology
Carey Ashton	Realty
Jay Braileigh	Biology
Steve Webber	Realty

6.4.3 AECOM

Table 6-4 AECOM EIS Team (Third-Party Consultant) List

AECOM Team Member	Responsibility/Resource	Degree/Certification	Experience (years)
Mark Raming	Project Director	B.A. Zoology and Ecology M.L.A. Landscape Architecture and Environmental Planning	37
Matt Petersen	Project Manager, Cumulative Impact Analysis	B.S. Fisheries M.S. Aquatic Ecology	18
Melanie Martin	Assistant Project Manager, Land Use Plan Amendments Lead, Lands with Wilderness Characteristics	M.S. Environmental Policy and Natural Resource Management Certificate, Advanced Study in Natural Resource Management B.S. Agriculture	15
David Fetter	Project Coordinator, Water Resources	B.S. Watershed Science	10
Julie Barraza	Wildlife Biology	B.S. Wildlife Biology	5
Bill Berg	Geology, Paleontology, Minerals	M.S. Geology B.S. Geology	24
Erin Bergquist	Vegetation, Special Status Plants	M.S. Ecology B.S. Rangeland Ecosystem Science B.S. Soil and Crop Science B.S. Environmental Studies and Economics	9
Rollin Daggett	Aquatic Species, Special Status Aquatic Species	M.S. Freshwater and Marine Biology B.S. Zoology	36
Chris Dunne	Resource Specialist, Land Use	B.S. Natural Resources Management	15
Ron Dutton Sammons & Dutton, LLC	Socioeconomics	M.S. Economics with specializations in Regional Economics and Public Utility Economics B.S. Economics	25
Scott Ellis	Senior Technical Advisor	B.A. Biology B.A. English	36
Anne Ferguson	Recreation	B.S. Natural Resource Recreation M.S. Environmental Sustainability LEED Accredited Professional	10
Steve Graber	Public Health and Safety	B.S. Natural Resources Management B.A. Economics	8
Allie Grow	Vegetation, Special Status Plants	B.S. Rangeland Ecosystem Science B.S. Soil and Crop Science	12
Janet Guinn	Public Involvement, Consultation and Coordination, Land Use, Special Designations, Recreation, Wild Horses	B.S. Magna Cum Laude, Psychology/ Anthropology	10

Table 6-4 AECOM EIS Team (Third-Party Consultant) List

AECOM Team Member	Responsibility/Resource	Degree/Certification	Experience (years)
Michael Heugh	Transportation	M.E. Transportation Engineering B.S. Mathematical Sciences	6
Brian Kennedy	Transportation	B.A. Special Major, Environmental Planning and Design	29
Spencer Martin	Biological Task Lead	M.E.M. Resource Ecology/Conservation Biology B.A. Biology	24
Terra Mascarenas	Soils	B.S. Soil and Crop Science, Concentration in Environmental Science Certificate of Technology	15
Kim Munson	Cultural Resources	M.A. Anthropology B.A. Anthropology	16
Andrew Newman	Wildlife Biology Lead	M.S. Natural Resource Management B.S. Conservation Biology	10
Merlyn Paulson	Visual Resources	M.L.A. Landscape Architecture B.L.A. Landscape Architecture and Environmental Planning	36
Nicole Peters	Resource Specialist	B.S. Natural Resources Management Minor in Business Administration	2
Brent Read	GIS	M.S. Watershed Science B.S. Forestry, Concentration in Forest Fire Science Minor in Spatial Information Management Systems	11
Vince Scheetz	Air Quality	M.S. Systems Management B.S. Mathematics B.S. Atmospheric Science	44
Jamie Schlangen	Wildlife Biology	M.S. Applied Ecology M.P.A. Natural Resource Management and Environmental Policy B.S. Wildlife Ecology	19
Brian Taylor	GIS	B.A. Geography, Emphasis in GIS Minor, Earth Sciences	5
Jason Thoene	GIS Lead	M.S. Geographic Information Systems B.A. Geology	12
Debbie Thompson	Document Production	A.A.S. Business Secretary	28
Ruth Idler	Document Production-Appendix I	General Business Education	25

Glossary

600-kV DC transmission line	A transmission line with a capacity of approximately 600-kilovolts of direct-current electricity.
100-year floodplain	The area that would be inundated by a flood with a recurrence interval of once in 100 years, on average. This can also be stated as areas that have a 1 percent chance of being flooded in a given year. (See Floodplain .)
Access road	Roads constructed to each structure site first to build the tower and line, and later to maintain and repair it. Access roads are built where no roads exist. Where county roads or other access is already established, access roads are built as track roads to the structure site (see track roads). Access roads are maintained even after construction, except where they pass through cultivated land. There, the road is restored for crop production after construction is completed.
Advisory Council on Historic Preservation	Established by the National Historic Preservation Act in 1966, the Advisory Council on Historic Preservation is an independent Federal agency that promotes the preservation, enhancement, and productive use of the nation's historic resources. It serves as the primary advisory agency for the president and congress on historic preservation policy.
Aerial photography	Used to identify and verify land uses within the project corridors and right-of-ways.
Agriculture	A habitat type characterized by land planted and kept in crops.
Albedo	The amount of solar radiation reflected from an object or surface, often expressed as a percentage (USEPA 2012).
All-American Road	To be designated as an All-American Road, the road or highway should meet the criteria for at least two of the Intrinsic Qualities that are nationally significant. The road or highway should also be considered a destination unto itself (DOT 2008).
Alluvium	Deposits left by flowing water, usually clay, silt, sand, or gravel.

Alternating current/direct current (AC/DC)	An alternating current (AC) power line alternates as a rate of 50 to 60 times a second (Hz), while a direct current (DC) power line produces a static electric field that does not alternate.
Alternative/Alternate	Options that a federal agency considers to address the significant issues and meet the purpose of and need for a proposed project in an environmental analysis. Also used to describe other routes under consideration.
Alternative Connectors	Locations where routes have been proposed that connect separate alternative routes in response to scoping comments and/or to avoid areas of identified major environmental, political, or engineering constraints. Many of the alternative connectors are bi-directional; e.g. they can be used to go from Alt. A to Alt. B, or vice-versa from Alt. B to Alt. A.
Alternative Routes	Multiple individual transmission line routes that each traverse from point A to point B in a separate and distinct way. The lead agencies are identifying and comparing three to six alternative routes within each of the four geographic regions: Region I - Northern Terminal to northwest Colorado near Rangely, Colorado; Region II – northwest Colorado to Intermountain Power Plant (IPP); Region III - IPP to northern Las Vegas area; and Region IV - northern Las Vegas area to Southern Terminal. For the purposes of the DEIS analysis, three to six alternative routes (Alternatives A, B, C, D, E, F) are identified in each region, and the impacts expected from each alternative route within each region will be analyzed based on the transmission reference lines, 250-foot ROWs, and transmission line corridors.
Alternative Variations	Locations where the alternative routes have an additional option available that is not a complete route in itself. Alternative variations provide an additional path around identified major environmental, political, or engineering constraints along an alternative route. For the purposes of the DEIS, the potential impacts from these variations will be compared from the portions of the alternative route they would replace, which diverge from the same beginning and ending points.
Ampere (A)	A unit of measurement of electric current, which is the rate that electrons flow in a wire; one ampere is 6.023×10^{23} electrons per second. The measurement is similar to gallons per minute of water in a pipe.
Animal Unit Month (AUM)	The quantity of forage typically consumed by a cow-calf pair over a month-long period.

Annual Average Daily Traffic	The total volume of traffic passing a point or segment of a roadway facility in both directions for 1 year divided by the number of days in the year.
Anthropogenic	Made by people or resulting from human activities (USEPA 2012).
Aquatic	Occurring in, or closely associated with, water.
Area of Critical Environmental Concern (ACEC)	An area where special management attention is required to protect and prevent irreparable damage to important cultural, historic, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.
Area of Potential Effect (APE)	The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. Additionally, the APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16[d]).
Attainment Area	An area considered to have air quality as good as or better than the National Ambient Air Quality standards as defined in the Clean Air Act.
Back Country Byway	Provides an “off-the-beaten-path” adventure through landscape settings as diverse as the West itself. Most Byways traverse remote country, providing solitude and spectacular scenery in landscape settings ranging from soaring mountains and alpine meadows to sagebrush prairies and saguaro cactus deserts. They are classified by four types (Type I through IV) (BLM No Date 1).
Bald and Golden Eagle Protection Act	A law that prohibits the take, possession, selling, purchasing, bartering, or transporting of live or dead bald or golden eagles, or any parts, nests, or eggs of these birds.
Bedrock	Solid rock beneath the soil and superficial rock.
Best Management Practices (BMPs)	A practice or combination of practices that are the most effective and practical means of preventing or reducing the amount of environmental impact, including but not limited to, pollution generated by nonpoint sources to a level compatible with water quality goals.
Big game	Large animals that may be taken by hunters, pursuant to local government restrictions and regulations.

Biological Assessment	Information prepared by, or under the direction of, a Federal agency to determine whether a proposed action is likely to: (1) adversely affect listed species or designated critical habitat; (2) jeopardize the continued existence of species that are proposed for listing; or (3) adversely modify proposed critical habitat. Biological assessments must be prepared for "major construction activities." See 50 CFR §402.02. The outcome of this biological assessment determines whether formal consultation or a conference is necessary. [50 CFR §402.02, 50 CFR §402.12]
Biological Opinion	Document which includes: (1) the opinion of the Fish and Wildlife Service or the National Marine Fisheries Service as to whether or not a Federal action is likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of designated critical habitat; (2) a summary of the information on which the opinion is based; and (3) a detailed discussion of the effects of the action on listed species or designated critical habitat. [50 CFR §402.02, 50 CFR §402.14(h)]
Blading	Use of a bulldozer, grader, or other construction equipment to level or shape a travel surface.
Border Zone	A zone on each side of the wire zone to the edge of the ROW, maintained to exclude vegetation more than 25 feet tall.
Bureau of Land Management (BLM)	A federal agency under the U.S. Department of the Interior that is responsible for carrying out a variety of programs for the management and conservation of resources on 258 million acres. The BLM manages multiple resources and uses, including energy and minerals, timber, forage, recreation, wild horse and burro herds, fish and wildlife habitat, wilderness areas, and archaeological, paleontological and historical sites. The BLM has been designated as a joint-lead federal agency for the environmental review of the TransWest Express Transmission Line Project.
Bureau of Indian Affairs (BIA)	Established in 1824, the Bureau of Indian Affairs is responsible for the administration and management of 55 million surface acres and 57 million acres of subsurface minerals estates held in trust by the United States of American Indian, Indian tribes, and Alaska Natives (BIA 2012).
Bureau of Reclamation	Established in 1902, the Bureau of Reclamation manages, develops, and protects water and related resources in an environmentally and economically sound manner in the interest of the American public (BOR 2011).

Candidate species	Plant and animal taxa considered for possible addition to the List of Endangered and Threatened Species. These are taxa for which the Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions. [61 FR 7596-7613 (February 28, 1996)]
Capacity	Refers to the amount of power a transmission facility (line, transformer, etc.) can reliably deliver. Capacity is measured in megawatts and is limited by the current (in amperes) that the facility can carry or the minimum voltage levels present at a substation (under either steady-state or outage conditions).
Carbon dioxide equivalent (CDE)	A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). Carbon dioxide equivalents are commonly expressed as “million metric tons of carbon dioxide equivalents (MMTCO ₂ Eq).” The carbon dioxide for a gas is derived by multiplying the tons of the gas by the associated GWP (USEPA 2012).
Carbon monoxide (CO)	An odorless and colorless gas formed from one atom of carbon and one atom of oxygen.
Center pivot irrigation system	A system for watering crops where water is pumped from a central location through a pipe supported on wheels that spins and distributes the water in a large, circular pattern.
Centerline	A line on a map or flagged on the ground that indicates the location of a linear feature such as a road or a transmission line. The linear feature is further defined by its total width, either for construction or operation, which is bisected into two equal parts by the centerline.
Checkerboard	In this document, “checkerboard” refers to a pattern of land ownership (jurisdiction) that resembles a checkerboard game surface, where federal and private ownership generally alternate every other square mile.
Circuit	An electrical device that provides a path for electrical current to flow, or along which an electrical current can be carried. In the case of high-voltage transmission, a set of wires energized at transmission voltages extending beyond a substation which has its own protection zone and set of breakers for isolation.
Class III (Pedestrian) Inventory	A Class III intensive field inventory to locate and record cultural resources and places of traditional, cultural, and religious importance to Native Americans.

Clean Air Act (CAA)	The federal law that defines the Environmental Protection Agency's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. The last major change in the law, the Clean Air Act Amendments of 1990, was enacted by Congress in 1990. Legislation passed since then has made several minor changes. The Clean Air Act was incorporated into the United States Code as Title 42, Chapter 85.
Clean Water Act	The framework that regulates water quality standards and pollutant discharges into waters of the United States. Sections 303d and 305b require that water quality of streams, rivers, and lakes are assessed on a regular basis, that waters found to be in violation of water quality standards are listed as impaired, and that priorities be set for actions to improve the water quality.
Colluvium	Rock fragments, sand, etc., that accumulate on steep slopes or at the foot of cliffs.
Conditional Use Permit (CUP)	A CUP is given to certain classes of land use that are not permitted by right in some or all zones of a county, but are nevertheless recognized as being desirable to the full function of the county under appropriate circumstances. The purpose is to provide a means whereby proposals for such land uses may be examined on a case by case basis to determine whether, and under what conditions, these uses may be approved at a given site (Thurston County Permitting and Land Use 2011).
Conductor	The wire cable strung between transmission towers through which electric current flows.
Conservation agreement	A formal, written document agreed to by the FWS and/or NMFS or another Federal agency, State agency, local government, or the private sector to achieve the conservation of Bureau sensitive species and federally proposed, listed, and candidate species through voluntary cooperation. It documents the specific actions and responsibilities for which each party agrees to be accountable. The objective of a conservation agreement or strategy is to reduce threats to a Bureau sensitive species and federally proposed and listed species or its habitat. An effective conservation agreement or strategy may lower species' listing priority or eliminate the need for listing (BLM 2008).
Constraint	A resource or condition that potentially limits transmission line routes, including areas that are closed by regulations (e.g. municipal airports) or where impacts would be very difficult or impossible due to resource protection and other legal requirements.

Cooperating agency	A federal, state, or local government agency that has accepted an invitation to participate in the NEPA process by the lead federal agency. The invitation is generally formal and accompanied by the signing of a Memorandum of Understanding. Typically, a cooperating agency has jurisdiction by law or special expertise with respect to any environmental issue which will be addressed by the NEPA analysis EISs (40 CFR 1508).
Corona	Corona occurs in regions of high electric field strength on conductors, insulators, and hardware when sufficient energy is imparted to charged particles to cause ionization (molecular breakdown) of the air.
Council on Environmental Quality (CEQ)	Coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives. CEQ was established within the Executive Office of the President by Congress as part of the National Environmental Policy Act of 1969 (NEPA) and additional responsibilities were provided by the Environmental Quality Improvement Act of 1970.
Critical habitat	For ESA-listed species consists of: (1) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Act on which are found those physical or biological features (constituent elements) (a) essential to the conservation of the species and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species. [ESA §3 (5)(A)] Designated critical habitats are described in 50 CFR §17 and 226.
Crucial range	Can describe any particular seasonal range or habitat component (often winter or winter/yearlong range in Wyoming) but describes that component which has been documented as the determining factor in a population's ability to maintain itself at a certain level (theoretically at or above the WGFD population objective) over the long term. [<i>Report on Standardized Definitions for Seasonal Wildlife Ranges</i> , Wyoming Chapter of the Wildlife Society, July 1990]
Cultural Property	A definite location of past human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence (BLM 2004).

Cultural Resources	The term “cultural resource” includes all landscapes, buildings, sites, districts, structures, or objects that have been created by or associated with humans and are considered to have historical or cultural value. Cultural resources also include Traditional Cultural Properties .
Culvert	A corrugated metal or concrete pipe used to carry or divert runoff water from a drainage; usually installed under roads to prevent washouts and erosion.
Cumulative effects	Effects that result when the effects of an action are added to or interact with other effects in a particular place and within a particular time. Such impacts may individually have minor impacts, but collectively may have significant impacts.
Current	The amount of electrical charge flowing through a conductor (as compared to voltage, which is the force that drives the electrical charge), which is measured in amperes or amps.
dB(A)	Used to measure sound level via a logarithmic unit used to describe a ratio.
Debris flow	Rapid movement of water-charged mixtures of soil, rock, and organic debris down steep stream channels.
Decibel	A decibel is a unit for expressing relative difference in power, usually between acoustic signals, equal to 10 times the common logarithm of the ratio of two levels.
Decommissioning	Removal of Project facilities at the end of the operational life of the transmission line.
Demand	1) The rate at which electric energy is delivered to or by a system or part of a system, generally expressed in kilowatts or megawatts, at a given instant or averaged over any designated interval of time. 2) The rate at which energy is being used by the customer.
Design Features	The specific measures the proponent has committed to using to decrease environmental impacts through the Project planning documents such as the POD. These have commonly been referred to as applicant committed measures in the past.
Design Options	Alternative transmission configurations, which may have the potential to meet the TWE Project purpose and need, depending on future energy market conditions and permitting decisions for other regional transmission systems. Three design options are described in the PDTR.
Dewatering	The elimination of water from waterways so that excavation can occur.

Direct effects	Direct effects are those caused by the Project at the same time and place as the impact, such as soil disturbance.
Distribution line	The structures, insulators, conductors, and other equipment used to deliver electricity directly to the customer, including commercial facilities, small factories, or residences.
Double-circuit transmission line	A transmission line composed of six electrical phases (two independent circuits of three phases each) and two lightning protection shield wires. One of the lightning protection shield wires is a steel overhead ground wire (OHGW), and the other is an optical ground wire (OPGW).
Early successional (or early seral)	An immature forest often characterized by a single-age class and open canopies; stands are between 1 and 30 years old.
Easement	A grant of certain rights to the use of a piece of land. A grant of easement across a private parcel for a transmission line typically includes the right to enter the easement area to build, maintain, and repair transmission facilities, including access roads. Permission for these activities is included in the negotiation process for acquiring easements over private land. The land itself remains in private ownership.
Ecoregion	Area where the ecosystems, and the type, quality, and quantity of environmental resources are generally similar as defined by the analysis of patterns and composition of biotic and abiotic phenomena including geology, physiography, vegetation, climate, soils, land use, wildlife, and hydrology (Bryce et al. 1999; Omernik 1987, 1995; Wiken 1986).
Edge effect	Changes in vegetation and animal communities that are caused by one habitat type being immediately adjacent to a different habitat type. Edge effects can include changes in temperature, humidity, and plant and wildlife species present in the area.
Electric and magnetic fields (EMF)	Fields describing properties of a location or point in space and its electrical environment, including the forces that would be experienced by a charged body in that space by virtue of its charge or the movement of charges. The voltage, which is the "pressure," produces an electric field that moves the electricity through wires. The current produces a magnetic field, which is a measure of how much electricity is flowing. Thus, wherever there is electric current flowing (including through any type of wiring), there is both an electric and a magnetic field.
Emergent	Plants that have their bases submerged in water.

Eminent Domain	When a utility company acquires property for public use through a court action, in which a court decides that the proposed subsequent use is in the public interest and also determines the compensation to be paid to the owner.
Encroachment Permit	Written permission from a landowner to enter a parcel of private property for the purposes of temporary activity, such as surveying, conducting environmental data gathering, etc.
Endangered species	Any species officially listed by the U.S. Fish and Wildlife Service or NOAA Fisheries as being in danger of extinction throughout all or a significant portion of their range.
Endangered Species Act of 1973 (ESA)	A law establishing a regulatory system to protect species that are at risk of extinction. NOAA Fisheries and the U.S. Fish and Wildlife Service decide whether to list species as Threatened or Endangered. Under the Act, federal agencies must avoid jeopardy to and aid the recovery of listed species.
Energy	In the electric utility industry, it represents the amount of power used or transmitted over a given amount of time.
Engineered Alignment	An engineered route, which will be prepared for the Agency Preferred Alternative. The Project Alignment will be based on engineering and design of the transmission line including specific structure locations. The Agency Preferred Alternative will be determined by the lead agencies, following the public review period on the DEIS, and in consultation with federal, state, and local cooperating agencies.
Environmental Impact Statement (EIS)	Part of compliance with the National Environmental Policy Act (NEPA), an EIS is a comprehensive public document that analyzes the impacts of a major federal action that may significantly affect the quality of the human environment. When complete, it is a tool for decision making as the EIS describes the positive and negative environmental effects of a proposed action, describes alternative actions and provides an analysis of environmental impacts and ways to mitigate such impacts across all alternatives considered in detail. An EIS examines physical and biological resources, resource uses, fire management, special designations, and social and economic conditions.
Environmental justice	A concept disproportionately high and adverse human health or environmental effects of a federal agency's programs, policies, and activities on minority or low-income populations.

Environmental Protection Measures	Environmental protection measures have been developed by the Companies to maintain environmental quality and meet requirements of various land management plans. These measures apply project-wide unless modified through negotiations with individual landowners or superseded by permits granted by federal, state, or local agencies.
Ephemeral stream	One that flows only in direct response to precipitation and whose channel is at all times above the water table.
Essential habitat	Those areas possessing the same characteristics as critical habitat for Threatened and Endangered but not species declared critical habitat by the Secretary of the Interior or Commerce (Wyoming Chapter of the Wildlife Society 1990).
Exclusion criteria	Categories assigned as exclusion criteria include locations with the highest level of sensitivity, such as areas with protective regulatory or legislative designations, or extreme physical constraints not compatible with transmission line construction or operation.
Extra-High Voltage Transmission Lines (230kV; 345 kV; 500kV)	Used for transmitting electrical energy over great distances. <ul style="list-style-type: none">• Higher voltage lines are more efficient than lower voltage lines. A higher voltage transmission line will result in fewer losses than a transmission line with a lower voltage.• Higher voltage lines often have “bundled” conductors, meaning that multiple wires are hung from the same insulator. This increases the amount of power that can be carried on a single circuit.
Fault	An event occurring on an electrical system such as a short circuit, a broken wire, or an intermittent connection.
Feasible	Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, regulatory, technical, and safety factors.
Federally-listed	Species listed as Threatened or Endangered by the U.S. Fish and Wildlife Service.
Files Search	A records and files search conducted through the State Historic Preservation Office to identify all previously conducted cultural resources investigations and previously recorded cultural resources within a defined distance on either side of proposed rights-of-way, roads, and other project facilities.

Fire regime	A general description of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (Agee 1993; Brown 1995).
Fire Regime Condition Class (FRCC)	A discrete metric that describes how similar a landscape's fire regime is to its natural or historical state. FRCC quantifies the amount that current vegetation has departed from the simulated historical vegetation reference conditions (Barrett et al. 2010; Hann and Bunnell 2001; Hardy et al 2001; Holsinger et al. 2006). There are three condition classes (FRCC 1-3).
Floodplain	That portion of a river valley adjacent to the stream channel which is covered with water when the stream overflows its banks during flood stage.
Federal Land Policy Management Act of 1976 (FLPMA)	Public Law 94-579 of October 21, 1976. This law is often referred to as the Bureau of Land Management's Organic Act, which provides the majority of the Bureau of Land Management's legislative authority, direction, policy, and basic management guidance.
Fly yard	A Project-material staging area used specifically to support helicopter use.
Forb	An herbaceous plant that is not a grass or not grasslike.
Forest/Woodland	A habitat type characterized by being dominated by trees. Forests are densely covered by trees and have a continuous or nearly continuous canopy and little shade reaching the forest floor. In a woodland, trees are more widely scattered and sunlight reaches the floor, often supporting an understory of shrubs, grasses, and/or forbs.
Fragmentation	The breaking up of contiguous areas of vegetation/habitat into smaller patches.
Fugitive dust	Visible emissions released from sources other than stacks; for instance, dust blown from storage piles, road dust, emission leaking from sides of buildings or open areas in buildings.
Game species	Species of animals that are hunted or fished, for purposes of sport, recreation, and food capture (Coral Reef Info 2008).
Gauss	A unit of magnetic induction.

General Land Office (GLO)	The GLO was created in 1812 as an independent agency to oversee the surveying and sale of public lands and was charged with maintaining land survey data for the entire United States and its territories. The agency was later placed under the authority of the Department of the Interior and eventually merged with the Grazing Service to form the BLM. The BLM facilitates public access to GLO data through its website in the form of digital images of federal land patent and survey maps produced between 1820 and 1908.
Geographical Information System (GIS)	A computer representation of data that is geographically distributed in three dimensions. These data can be generated and displayed to show their physical location. Each data set with a certain type of information constitutes a "layer" in the GIS. GIS layers can be superimposed to show the spatial relationships of different items.
Gigawatt	A gigawatt is one billion watts, or one thousand megawatts; an electrical unit of power.
Grasslands	Habitat types dominated by grasses (family Poaceae) with little woody vegetation or other forbs. In the Analysis Area, most grasslands are dominated by introduced grass species, though some native grasslands are present.
Grazing allotments	Grazing allotments are categorized into one of three management categories: Improve (I), Maintain (M), or Custodial (C). These categories are based on present conditions, potential for improvement, other resource conflicts, and opportunities for positive economic return on public investments.
Greenfield	A piece of usually semi-rural property that is undeveloped except for agricultural use, especially one considered as a site for expanding urban development.
Greenhouse gas (GHG)	Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include, but are not limited to, carbon dioxide, methane, nitrous oxide, and ozone (USEPA 2012).
Ground electrode facility	Built to establish and maintain electrical current continuity during normal operations, and immediately following an unexpected outage of one of the two poles (or circuits) of the ± 600 -kV DC terminal or converter station equipment.
Habitat types	Communities of plants that typically occur together.
Hertz (Hz)	The unit of frequency in cycles per second; power systems in the U.S. operate with a frequency of 60 Hz.

High voltage	Lines with 230 kV or above electrical capacity.
Historic	Period wherein non-native cultural activities took place, based primarily upon European roots, having no origin in the traditional Native American culture(s).
Historic property	Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior.
Hydrology	The science of dealing with the properties, distribution, and circulation of water.
Improved roads	Actions taken physically by people to keep the road open to vehicle traffic (BLM 2012c).
Instant Study Area (ISA)	One of the 55 primitive and natural areas formally identified by the BLM through a final action published in the Federal Register before November 1, 1975. FLPMA required an accelerated wilderness review of these Wilderness Study Areas (BLM 2012d).
Indian tribe	An Indian tribe, band, nation, or other organized group or community, including a native village, regional corporation, or village corporation, as those terms are defined in section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602), which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians. Government-to-government consultation is required for any project between the federal government and the government of any potentially impacted tribe.
Indirect effects	Effects caused by the action that are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
Insulator	A ceramic or other non-conducting material used to keep electrical circuits from jumping over to ground.
Intermittent or seasonal stream	One which flows only at certain times of the year when it receives water from springs or from some surface source such as melting snow in mountainous areas.
Intermountain West	The region of North American lying west of the Rocky Mountains and east of the Cascade Mountains of Washington and Oregon and the Sierra Nevada Mountains of California.

Invasive species	A species that is not native to the habitat under consideration and whose introduction causes, or is likely to cause, economic or environmental harm (Executive Order 13112). Invasive plants are typically adaptable, aggressive, and have a high reproductive capacity.
Invertebrates	Animals that lack a back bone and are represented by a wide variety of taxonomic groups in freshwater environments.
Key Observation Point (KOP)	Viewing locations chosen to be generally representative of visually sensitive areas where it can be assumed that viewers may be affected by a change in the landscape setting from the Project. Views from KOPs are described by distance zones and are based on perception thresholds (changes in form, line, color, and texture).
Kilovolt (kV)	One thousand volts (see volt).
Lands with Wilderness Characteristics (LWC)	Lands with wilderness characteristics are those lands that have been inventoried and determined by the BLM to contain wilderness characteristics as defined in section 2(c) of the Wilderness Act (see Wilderness Characteristics) (BLM 2012c).
Landslide	Any mass-movement process characterized by downslope transport of soil and rock, under gravitational stress, by sliding over a discrete failure surface; or the resultant landform. Can also include other forms of mass wasting not involving sliding (rockfall, etc.).
Large wood debris (LWD)	Any piece of downed wood larger than 4 inches in diameter and 6 feet long.
Lattice tower	A freestanding steel framework tower that is often used to support electrical transmission lines with voltages above 100 kilovolts.
Lead Agency	The agency or agencies preparing, or having taken primary responsibility for preparing an environmental document as required by NEPA. For the TransWest Express Transmission Project, the BLM and Western Area Power Administration are joint-lead agencies.
Lithic landscape	An area or region where aboriginal people habitually tested and procured tool stone and lithic materials.
Lithic scatter	Consists of stone material that has been left behind or dropped and can include stone tools such as projectile points, knives, or simply debris from stone tool manufacture or lithic procurement activities.

Load	The amount of electrical power or energy delivered or required at any specified point or points on a system. Load originates primarily at the energy-consuming equipment of customers.
Management Areas	Units of federal land having different management emphasis or direction.
Mass wasting	The slow downward slope of rock debris.
Megawatts (MW)	A megawatt is one million watts, or one thousand kilowatts; an electrical unit of power.
Micro-siting option	Micro-siting options are adjustments of the reference line that have been proposed to mitigate specific resource concerns. The adjustment remains within the 2-mile transmission line corridor.
Migratory bird	A bird that moves seasonally to different ranges to maximize breeding and feeding opportunities.
Migratory Bird Treaty Act	A law enacted in 1918 that prohibits pursuing, hunting, taking, capturing, killing, possessing, selling, bartering, purchasing, delivering, transporting, and receiving any migratory birds, parts, nests, or eggs.
MilliGaus (mG)	A unit used to measure magnetic field strength; one-thousandth of a gauss .
Mitigation	1) Avoiding or reducing possible adverse impacts to a resource by limiting the timing, location, or magnitude of an action and its implementation; 2) rectifying possible adverse impact by repairing, rehabilitating or restoring the affected environment or resource; 3) reducing or eliminating adverse impacts by preservation and maintenance operations during the life of an action.
National Ambient Air Quality Standards (NAAQS)	Established by the USEPA, the NAAQS represent maximum acceptable concentrations that generally may not be exceeded more than once per year, except the annual standards, which may never be exceeded (40 CFR 50).
National Conservation Area (NCA)	Area designated by Congress, generally, to conserve, protect, enhance, and properly manage the resources and values for which it was designated for the benefit and enjoyment of present and future generations (BLM 2012a).

National Environmental Policy Act of 1970 (NEPA)	Federal statute, signed into law on January 1, 1970, that contains procedures to ensure that federal agency decision makers take environmental factors into account. The two major purposes of the NEPA process are citizen involvement and better informed decisions. The Act establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment, and it provides a process for implementing these goals within the federal agencies. The Act also establishes the Council on Environmental Quality (CEQ) and requires an environmental impact statement on all major Federal actions significantly affecting the quality of the human environment. [42 U.S.C. 4332 2(2)(C).]
National Historic Landmark (NHL)	A historic property that the Secretary of the Interior has designated a National Historic Landmark.
National Historic Preservation Act (NHPA) of 1966, as amended	Act directing federal agencies to consider the effects of their programs and projects on properties listed or eligible for listing on the National Register of Historic Places. If a proposed action might impact any archaeological, historical, or architectural resource, this act mandates consultation with the proper agencies.
National Historic Trails (NHTs)	A congressionally designated trail that is an extended, long-distance trail, not necessarily managed as continuous, that follows as closely as possible and practicable the original trails or routes of travel of national historic significance (BLM 2012e).
National Historic Trails System Act	This Act (P.L. 90-543, as amended through P.L. 111-11, March 30, 2009) was passed in 1968 to establish a national trails system, including recreational, scenic, and historic trails. The Act specifies that the Secretary of the Interior and/or the Secretary of Agriculture is responsible for developing and administering the trails system.
National Park Service (NPS)	Established in 1916, the purpose of the National Park Service is to “conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS 2011).
National Register of Historic Places (NRHP)	The official register of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture, established by the National Historic Preservation Act of 1966, as amended, and maintained by the National Park Service on behalf of the Secretary of the Interior.

National Scenic Byway	To be designated as a National Scenic Byway, a road should have at least one of six scenic byway intrinsic qualities (archaeological, cultural, historic, natural, recreational, and scenic) that is regionally significant (DOT 2008).
National Scenic Byway (NSB) Program	The National Scenic Byways (NSB) Program was established under the Intermodal Surface Transportation Efficiency Act of 1991, and reauthorized in 1998 under the Transportation Equity Act for the 21st Century. Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. There are 150 such designated Byways in 46 states. The Federal Highway Administration promotes the collection as the America's Byways® (DOT No Date).
National Scenic Trails (NSTs)	A congressionally designated trail that is a continuous and uninterrupted extended, long-distance trail so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant resources, qualities, values, and associated settings and the primary use or uses of the areas through which such trails may pass (BLM 2012e).
National Wild and Scenic Rivers System	A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values and are preserved in a free-flowing condition (BLM 2012b).
Native American Graves Protection and Repatriation Act (NAGPRA)	NAGPRA was established in 1990 to provide a means for museums and curation facilities to return certain collected items to Native American and Native Hawaiian groups. The act pertains to the repatriation of human remains, funerary objects, sacred objects, and objects of cultural patrimony. Federal grants are awarded to indigenous groups and institutions holding collections under the act to assist in the repatriation process, which is overseen by the Native American Graves Protection and Repatriation Review Committee.
Naturalness	The degree to which an area generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable (BLM 2012c).
Nitrogen oxides	A group of compounds consisting of various combinations of nitrogen and oxygen atoms.

No Action Alternative	The predicted result of the denial of the applications for Right-of-Way Grant and Special Use Permit. Under the No Action Alternative, the TransWest Express Transmission Project would not be constructed (i.e., no new transmission line, terminal converter stations and substations, or electrode bed systems).
NOAA Fisheries	The federal agency that oversees threatened and endangered anadromous fish species.
Nonattainment area	An area that does not meet air quality standards set by the Clean Air Act for specified localities and periods.
Northern Tier Transmission Group	A group of transmission providers and customers actively involved in the sale and purchase of transmission capacity that delivers electricity in the Pacific Northwest and mountain states.
Notice of Intent (NOI)	A public notice, published in the <i>Federal Register</i> , that an environmental impact statement will be prepared and considered in the decision making for a proposed action. It also provides background information on the proposed project in preparation for the scoping process.
Notice to Proceed (NTP)	Letter from a principal (client or owner) to a contractor stating the date the contractor can begin work subject to the conditions of the contract. The performance time of the contract starts from the NTP date.
Noxious weed	A legal term, meaning any plant officially designated by a federal, state, or local agency as injurious to public health, agriculture, recreation, wildlife, or property.
Off-highway vehicle (OHV)	Land vehicles mostly used for recreation purposes on public or private trails, beaches or fields, or in the woods; usually not legal to operate on public highways, streets or roads. Examples are all terrain vehicles (ATVs), off road motorcycles or dirt bikes, snow mobiles and four wheel drive vehicles such as jeeps and trucks.
Old growth	A forest type at least 200 years of age with moderate to low canopy closure; a multi-layered, multi-species canopy dominated by large overstory trees; numerous large snags; heavy accumulations of fallen wood; smaller trees in various age classes, as well as shrubs and herbaceous vegetation in the understory and on the forest floor.
Open camps or habitation sites	Defined minimally by the presence of one or more hearth features.
Opportunity	A resource or condition that can accommodate a transmission line route, including existing utility or transportation corridors.

Outage	Events caused by a disturbance on the electrical system that requires the provider to remove a piece of equipment or a portion or all of a line from service. The disturbances can be either natural or human-caused.
Overstory	Layer of foliage in a forest canopy including the trees in a timber stand. Tall mature trees that rise above the shorter understory trees (Conway 1973).
Ozone	Associated with the corona discharge of high-voltage transmission lines. Rapidly recombines back to O ₂ .
PacifiCorp (Rocky Mountain Power)	Rocky Mountain Power is the trade name under which PacifiCorp delivers electricity to more than 955,000 customers in the Rocky Mountain Power service area, which includes portions of Utah, Wyoming, and Idaho. It transmits electricity via a grid of transmission lines throughout a six-state region. PacifiCorp serves 1.7 million retail customers through its distribution system. Rocky Mountain Power operates under oversight and regulatory controls of the public utility commissions of Wyoming, Utah, and Idaho. PacifiCorp is a public utility under the jurisdiction of the FERC.
Palustrine	Northwest Wetland Inventory system that includes wetlands dominated by trees, shrubs, and persistent emergent plants associated with water bodies that cover less than 20 acres or with water less than 6.6 feet deep.
Parturition areas	Areas where habitat is appropriate for female big game animals to seclude themselves while giving birth to young in late spring or early summer. Such areas are usually characterized by ample hiding cover and forage.
Peak Hour	The hour of the day that observes the highest traffic volumes for a roadway or intersection. Typically 2 hours are reported, one in the AM and one in the PM.
Perennial Stream	One that flows with water present continuously during an average water year.
Petitioned species	A species for which a formal request is made to the U.S. Fish and Wildlife Service to give Endangered Species Act protection as either threatened or endangered. The Service reviews the information contained in the petition and other scientific information in their files to determine if further analysis is needed.
Physiographic	Pertaining to the features and phenomena of nature.

Plan of Development (POD)	A complete description of and design for the proposed project. It includes but is not limited to proposed plans, specifications, construction methods, schedules, restoration practices, and other information pertinent to the proposal; the plan becomes a part of the ROW grant. The plan can include sections for construction maintenance, and termination. The content of the plan will vary with the complexity of the proposal (BLM No Date 2).
Power	The rate at which work is done. The basic unit of measure for power is the watt (w).
Prevention of Significant Deterioration (review)	Federal pre-construction review for affected sources located in attainment areas for air quality. It is intended to prevent a new source from causing air quality to deteriorate beyond acceptable levels.
Prime farmland	A land use classification used by the USDA (7 CFR §657.5) where a favorable growing season, adequate precipitation or irrigation source, and soil characteristics result provide good to excellent crop production.
Project Alignment	The TWE Project alignment is defined as an engineered route, which will be prepared for the Agency Preferred Alternative. The Project Alignment will be based on engineering and design of the transmission line including specific structure locations. The Agency Preferred Alternative will be determined by the lead agencies, following the public review period on the DEIS, and in consultation with federal, state, and local cooperating agencies.
Project Description Technical Report (PDTR)	The PDTR provides a description of the TWE Project for the lead agencies' use in preparing Chapter 2 (Project Description and Alternatives) of the DEIS. The PDTR addresses the proposed TWE Project and alternatives presented by the lead agencies during public scoping. The PDTR also contains detailed design, construction, operation, and maintenance information for the agencies' use in the analyses of environmental impacts and mitigation measures adopted by the Applicant for the proposed TWE Project and Draft EIS alternatives.
Programmatic Agreement (PA)	A document that records the terms and conditions agreed upon to resolve the potential adverse effects of a federal agency program, complex undertaking, or other situations in accordance with 36 CFR § 800.14(b).
Proponent	TransWest Express LLC.

Proposed Action	The Proposed Action for the federal agencies is to consider whether to issue right-of-way grants across various parcels of public lands to allow the construction and operation of a new ± 600 -kV DC transmission line that would be located on federally managed lands between south-central Wyoming and southern Nevada. A 250 foot wide ROW will generally be required for the ± 600 -kV DC transmission line.
Proposed Route	The route of the proposed Project as sited and proposed by TransWest Express LLC and presented to the federal agencies for their consideration in applications for right-of-way grants.
Purpose and Need (NEPA)	Under the National Environmental Policy Act of 1969 (NEPA), the need to take an action may be something the agency identifies itself, or it may be a need to make a decision on a proposal brought to it by someone outside of the agency, for example, an applicant for a permit. Alternatives are measured against how well they meet the underlying need and best achieve the purposes to be attained.
Purpose and Need (project proponent)	As identified by an applicant or proponent of a project, the purpose and need describes the intended outcome of the project and the compelling reason why it is being proposed. Alternatives are measured against how well they meet the underlying need and best achieve the purposes to be attained.
Raptor	A bird of prey that feeds upon smaller animals.
Record of Decision (ROD)	The document that is prepared to substantiate a decision based on an EIS. The Record of Decision (ROD) is the final step for the BLM and USFS in the EIS process. The ROD states the final agency decisions, identifies the alternatives considered and discusses mitigation, enforcement and monitoring commitments.
Reclamation	Returning disturbed lands to a form and productivity that will be ecologically balanced.
Recreation Opportunity Spectrum (ROS)	Forest Service classification system that uses a scale ranging from primitive to urban for the purpose of planning and managing recreational resources.

Reference Line Segments	Reference lines (see Transmission Reference Lines) are divided into “segments,” which are identified by a nomenclature of letters and/or numbers. The letters correspond to the state in which they are located. The segments will be used to identify alternative end-to-end routes for the transmission line and to quantify and compare potential impacts resulting from these alternative routes. For the TWE Project DEIS analysis a series of reference line segments have been combined and follow a potential alternative route between common geographic points for analysis in the EIS.
Regeneration station	A station amplifying the signals between substations or regeneration stations when the distance between exceeds 55 miles. Regeneration stations consist of a building 12 by 32 by 9 feet tall, a fenced yard, access road, and distribution power supply from the local distribution system. They are typically built very near the transmission line and have the fiber optic cable entry and exit runs to connect to the overhead ground fiber optic cables along the transmission line.
Reliability	Transmission systems must be built with sufficient levels of redundancy to enable the transmission system to reliably operate in the event of the loss of any single element (i.e., transmission line segment or substation element). Following loss of any single element, the transmission operator has 20 minutes to readjust system flows, thereby bringing flows on lines and transformers to within normal ratings, in preparation for the next facility outage.
Revegetation	The reestablishment and development of self-sustaining plant cover. On disturbed sites, this normally requires human assistance, such as reseeding.
Right-of-way (ROW)	Refers to the area, generally centered on a specified centerline, requested by the Proponents of BLM and of other landowners and managers for the construction, operation, and maintenance of a linear feature such as a road, electric transmission line, or pipeline.
Right-of-way (ROW) grant	An authorization to use or occupy a specific piece of public land for a certain project, such as a road, pipeline, transmission line, or communication site. A ROW grant authorizes rights and privileges for a specific use of the land for a specific period of time. For a transmission line, this includes the construction, operation, maintenance, and termination of the Project. Generally, a ROW is granted for no longer than 30 years.

Riparian areas	Vegetation communities that occur adjacent to waterways such as streams, rivers, springs, ponds, lakes, or tidewater and that provide habitat for numerous plant and animal species. They generally occupy transitional areas between aquatic and upland habitats and may function as vegetative buffers for aquatic resources.
Riverine system	Wetland inventory system that includes wetlands not dominated by trees, shrubs, or persistent emergents that are contained within a river channel.
Roadless area	An area of undeveloped public land typically exceeding 5,000 acres within which there are no improved roads maintained for travel by means of motorized vehicles intended for highway use.
Safety Performance Functions	A mathematical relationship (model) between frequency of crashes by severity and the most significant causal factors on a specific highway.
Sage-grouse lek	A location used by male sage-grouse, generally every year, to assemble during the mating season and engage in competitive displays that attract females.
Scenery Management System (SMS)	The Scenery Management System (SMS) replaces the Visual Management System (VMS) used in the most recent Medicine Bow National Forest Land and Resource Management Plan. The SMS provides an overall framework for the orderly inventory, analysis, and management of scenery. The new system applies to all national forests and grasslands administered by the Forest Service and to all Forest Service management activities. The SMS process uses particular ecosystems as the environmental context for aesthetics.
Scenic Backway	A paved or dirt road reaching secluded areas of natural beauty.
Scenic Byway	A public road having special, scenic, historic, recreational, cultural, archeological, and/or natural qualities that have been recognized as such through legislation or some other official declaration (DOT 2008).
Scenic Quality Rating	The relative scenic quality (A, B, or C) assigned to a landscape by applying the scenic quality evaluation key factors; scenic quality A being the highest rating, B a moderate rating, and C the lowest rating (BLM 1984).

Scoping	Part of the federal environmental analysis process required under NEPA where significant issues are identified for detailed analysis. Scoping includes, but is not limited to, a formal scoping period early in the analysis process in which members of the public are invited to review the proposed project and identify possible issues or concerns with the project.
Section 106	Under Section 106 of the National Historic Preservation Act of 1966, as amended, federal agencies must identify and evaluate cultural resources and consider the impact of undertakings they fund, license, permit, or assist on historic properties eligible for inclusion in the National Register of Historic Places. The federal agencies must afford the State Historic Preservation Officer and the Advisory Council on Historic Preservation the opportunity to comment on these undertakings.
Sedimentation	The deposition or accumulation of sediment.
Sensitive species	Those plants and animals identified by the Regional Forester for which population viability is a concern as evidenced by significant current or predicted downward trend in populations or density and significant or predicted downward trend in habitat capability.
Sensitivity levels	Sensitivity levels are defined by the BLM as the measure of public concern for scenic quality. Public lands are assigned high, medium, or low sensitivity levels (BLM 1984).
Seral	Pertaining to the stages of ecological succession occurring in communities of plants and animals until the climax is reached.
Severe winter relief range	A documented survival range which may or may not be considered a crucial range area as defined above. It is used to a great extent, only in occasionally extremely severe winters (e.g., 2 years out of 10). It may lack habitat characteristics which would make it attractive or capable of supporting major portions of the population during normal years but is used by and allows at least a significant portion of the population to survive the occasional extremely severe winter. [Wyoming Chapter of Wildlife Society 1990]
Shrubland	A habitat type characterized by woody vegetation smaller than trees (in general, having multiple main stems and being less than 20 feet in height and six inches diameter at breast height at maturity).
Sight Distance	Distance a road user can see before the line of sight is blocked by a hill crest or an obstacle.

Single-circuit transmission line	A transmission line composed of three electrical phases and two lightning protection shield wires. One of the lightning protection shield wires is a steel OHGW, and the other is typically an OPGW.
Snag	A dead or dying tree.
Soil compaction	Operation of motorized vehicles on moist soils, especially heavy equipment, is likely to cause compaction of the surface layer, which may increase runoff, decrease infiltration and aeration, and reduce soil productivity by making it more difficult for plant roots to establish or obtain soil moisture and nutrients.
Soil creep	Slow mass movement of soil downslope due to outward expansions brought on by water infiltration, which leads to downward movements under gravity as water moves out of the soil (ITS Tutorial School 2012).
Soil erosion	The movement of soil particles, usually as a result of wind or water forces. Many factors affect soil erosion, including soil grain size, cohesion factor, soil moisture content, type and amount of vegetative cover, precipitation amount and intensity, steepness of slope, and wind speed.
Solitude	The state of being alone or remote from others; a lonely or secluded place (BLM 2012c).
Span length of transmission circuit	The distance between two transmission support structures traveled by the conductors, measured either horizontally or along the conductors from the end of one insulator string to the end of the next insulator string.
Special Recreation Management Area (SRMA)	SRMAs recognize unique and distinctive recreation values and are managed to enhance a targeted set of activities, experiences, benefits, and recreation setting characteristics, which become the priority management focus.
Special Recreation Permit (SRP)	Issued by the BLM and the USFS for some recreational uses on federal lands and waters. SRPs are issued as a means to control visitor use, protect recreational and natural resources, and provide for the health and safety of visitors.
Special Status Species	Species of plants or animals that have been designated by government agencies as needed special monitoring, conservation, or protection, usually due to declining populations. This group includes federally endangered and threatened species as well as other designations.

Special Use Permit (SUP)	A legal document that allows occupancy, use, rights, or privileges of National Forest System (NFS) land. The authorization is granted for a specific use of the land for a specific period of time.
Species	A group of interbreeding individuals not interbreeding with another such group; similar and related species are grouped into a genus.
Staging Area	A fenced, generally flat location where materials, equipment, and vehicles are stored prior to their use in construction of the transmission line or its ancillary facilities.
State Historic Preservation Office (SHPO)	Created under Section 101 of the NHPA to survey and recognize historic properties, review nominations for properties to be included in the National Register of Historic Places, review undertakings for the impact on the properties as well as support federal organizations, state and local governments, and the private sector. States are responsible for setting up their own SHPO; therefore, each SHPO varies slightly on rules and regulations.
Stray voltage	Stray voltage is an extraneous voltage that appears on grounded surfaces in buildings, barns, and other structures, including utility distribution systems.
Stream Channel	(By statute definition in Idaho) A natural water course of perceptible extent that has definite beds and banks, and which confines and conducts continuously flowing water. Continuously flowing water is defined as an amount of water capable of providing for the migration and movement of fish, but excludes those portions of streams that naturally go dry at the location of the alteration.
Subsidence (soil)	The sinking of the earth's surface because of the withdrawal of water or mineral resources.
Substation	A fenced site containing switching and transformation equipment needed to transform one voltage to another and for protecting and controlling transmission and distribution lines. A substation is used to raise voltages for long distance transmission and to lower transmission voltage for distribution to the end users.
Summer or Spring-Summer-Fall range	A population or portion of a population of animals use the documented habitats within this range annually only (from the previous winter) to the onset of persistent winter conditions (variable, but commonly this period is between 5/1 and 11/30 or shorter in Wyoming). (5/1 – 11/14, adopted by WGFD in 2004) [Wyoming Chapter of Wildlife Society 1990]

Switches	Devices used to mechanically disconnect or isolate equipment; found on both sides of circuit breakers.
System Alternatives	System alternatives are alternative transmission configurations, which may have the potential to meet the TWE Project purpose and need, depending on future energy market conditions and permitting decisions for other regional transmission systems. Three system alternatives are described in the PDTR.
Take	Harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct toward a species listed under the ESA.
Talus	Rock debris that has accumulated at the base of a cliff or steep slope.
Tap	The point at which a transmission line is connected to a substation or other electrical device to provide service to a local load.
Temporary Use Permit	A permit given for temporary use of federally managed lands. A temporary use permit is typically issued for the construction of a project, followed by a special use permit or long-term right-of-way grant for the operation of the project.
Terrestrial	Occurring on land.
Threatened and Endangered Species (TES)	Threatened and endangered species listed or candidates for listing under the federal Endangered Species Act (ESA) and those species listed by the BLM and the Forest Service as sensitive.
Threatened species	Those species officially listed by the U.S. Fish and Wildlife Service that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range. [ESA §3(20)]
Topsoil	The uppermost soil layer, generally ranging from a few inches to less than one foot in thickness. Topsoil is the site of greatest organic content, contains the most soil nutrients, and supports the greatest amount of plant life.
Track road	Unimproved dirt roads without surfacing or regular maintenance, generally 8 to 12 feet in width.
Traditional Cultural Property (TCP)	A property that is eligible for the NHRP because of its association 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.

Transformers	Electrical equipment usually contained in a substation that is needed to change voltage on a transmission system.
Transmission line	A system of structures, wires, insulators, and associated hardware that carry electric energy from one point to another in an electric power system. Lines are operated at relatively high voltages varying from 69 kV up to 765 kV, and are capable of transmitting large quantities of electricity over long distances.
Transmission Line Corridors	Geographic areas following a route that identify a specific width (generally between two and six miles) within which the proposed 250 foot-wide TWE Project transmission line right-of-way (ROW) would be located. Corridor widths have varied among the various studies completed for TWE Project planning. For purposes of the DEIS analysis, the Proposed and Alternative Corridors have been refined to generally two miles wide. In limited areas, the corridor widths may be greater or lesser due to routing constraints, as requested by the joint lead agencies. These corridors will be evaluated in the DEIS to document the range of resource impacts which could result from transmission line construction, operation, and maintenance within the corridors. Corridor locations and widths have been, and will continue to be, refined throughout the National Environmental Policy Act (NEPA) process.
Transmission Line Routes	Conceptual paths that traverse from point A to point B, which would fulfill the Project purpose in a general sense. Routes are not defined with specific lines on the ground or depicted on a map, and do not have an area, width, or line associated with them; however route alternatives are analyzed for consideration of impacts based on reference lines that accomplish each route alternatives.
Transmission Reference Lines	Preliminary, non-engineered routes within corridors that were determined based on environmental and engineering constraints and constructability review. The reference line is generally bounded on each side by one mile of corridor. For purposes of the DEIS analysis, reference lines serve as preliminary centerlines for the location of the ± 600 kV DC transmission line ROWs, and impacts expected from each will be analyzed accordingly. Reference line locations may be refined within the transmission line corridors throughout the NEPA process.

TransWest Express LLC (TransWest)	TransWest Express LLC is a wholly owned affiliate of The Anschutz Corporation (TAC), a privately held company based in Denver. Through its affiliates, TAC has been actively involved in the West for more than 75 years in the fields of ranching, agriculture, energy development and transmission, and more. TAC's activity and investments in the energy field reflect a strong commitment to responsibility developing and managing natural resources (TransWest 2012).
Trip	A single or one-direction vehicle movement with either the origin or the destination inside the study site.
Trona	A monoclinic mineral, grayish or yellowish hydrous sodium carbonate and bicarbonate, $\text{Na}_2\text{CO}_3 \cdot \text{NaHCO}_3 \cdot 2\text{H}_2\text{O}$, occurring in dried or partly evaporated lake basins.
Turbidity	The state or condition of opaqueness or reduced clarity of a fluid, due to the presence of suspended in matter.
U.S. Army Corps of Engineers (USACE) Jurisdictional Wetlands	Wetlands that are regulated by the USACE under Section 404 of the CWA. Areas must exhibit three characteristics of wetlands (hydrology, hydrophytes, and hydric soils) and must be navigable, or hydrologically connected to navigable waters, in order to be classified as jurisdictional wetlands (USACE 1987). It is important to understand that some areas that function as wetlands ecologically, but exhibit only one or two of the three wetland characteristics, do not currently qualify as USACE jurisdictional wetlands, and thus activities in these wetlands are not regulated under the Section 404 program. In addition, artificial water conveyance systems constructed within upland areas (such as agricultural drainage ditches or converted cropland) may develop some wetland characteristics overtime, however, these areas are not considered as jurisdictional wetlands, as long as they are not located within historical wetland systems. Jurisdictional wetlands include waters of the United States .
U.S. Department of Agriculture, Forest Service (USFS)	A federal agency under the Department of Agriculture that manages 193 million acres of public land for multiple uses and benefits and for the sustained yield of renewable resources such as water, forage, wood, recreation, fish and wildlife habitat, wilderness areas, and archaeological, paleontological and historical sites.

U.S. Fish and Wildlife Service (USFWS)	A 1940 reorganization plan (54 Stat. 1232) in the Department of the Interior consolidated the Bureau of Fisheries and the Bureau of Biological Survey into one agency to be known as the Fish and Wildlife Service. The Bureau of Sport Fisheries and Wildlife was created as a part of the U.S. Fish and Wildlife Service in the Department of the Interior on November 6, 1956, by the Fish and Wildlife Act of 1956 (70 Stat. 1119). That act was amended on July 1, 1974, by Public Law 93-271 (88 Stat. 92) to, among other purposes, abolish the position of Commissioner of Fish and Wildlife and designate the Bureau as the U.S. Fish and Wildlife Service (USFWS 2010).
Understory	Foliage layer beneath the forest canopy. Young trees that are growing beneath the tall mature trees in a timber stand (Conway 1973).
Vegetation Communities	A combination of dominant plant species that live together in the same region or on the same landform.
Viewshed	As defined in the BLM Visual Resource Management Manual, viewshed refers to “the landscape that can be directly seen under favorable atmospheric conditions, from a viewpoint or along a transmission corridor.”
Visitor-day	An aggregate of 12 hours of recreation use by one or more individuals (BOR 2010).
Visual Contrast Rating (VCR)	A systematic process used by the Bureau of Land Management (BLM) to analyze potential visual impact of proposed projects and activities.
Visual Management System (VMS)	See Scenery Management System .
Visual Quality Objectives (VQO) (Forest Service)	Management standards that identify five degrees of alteration to the natural landscape based on the landscape’s diversity of natural features and the public’s concern for scenic quality.
Visual Resource Inventory (VRI) (BLM)	Visual Resource Inventory classes (I through IV) represent the relative value of the visual resources and provide the basis for considering visual values in the resource management planning process. VRI classes are the composite of scenic quality, sensitivity levels, and distance zones.

Visual Resource Management (VRM) System (BLM)	The BLM system identified four VRM Classes (I through IV) with specific management prescriptions for each class. The system is based on an inventory of the existing scenic quality, viewer sensitivity, and viewing distance zones. The management class for a given area is typically arrived at by comparing the scenic quality, visual sensitivity, and distance zone with the overall goals set forth for the area.
Volt	The international system unit of electrical potential and electromotive force—a measure of electrical “pressure”.
Voltage	The electrical potential difference between two points expressed in volts; the driving force that causes a current to flow in an electrical circuit.
Volume-to-Capacity Ratio	The ratio of flow rate to capacity for a transportation facility.
Waters of the United States	Broadly defined by statute, regulation, and judicial interpretation to include all waters that were, are, or could be used in interstate commerce such as rivers, streams (including ephemeral streams), reservoirs, lakes, and adjacent wetlands. The USACE Wetlands Delineation Manual dated January 1987 (USACE 1987) and its current supplements must be used to determine if an area has sufficient wetland characteristics to be a water of the United States.
Watershed	The area that drains to a common waterway.
Western Area Power Administration (Western)	Western, an agency of the U.S. Department of Energy (DOE), has been designated as a joint-lead federal agency for the environmental review of the TransWest Express Transmission Line Project.
West-wide Energy (WWE) Corridor	The designation of energy corridors, based on Section 368 of the Energy Policy Act of 2005, on federal lands in 11 western states, including Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.
West-wide Energy Corridor Programmatic EIS	Considers 11 contiguous western states for the possible construction, operation, maintenance, and decommissioning and dismantling of energy infrastructure such as oil and gas pipelines and electric transmission lines. The states considered are Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Wetlands	Defined for regulatory purposes as “Those areas that are inundated or saturated by surface or ground water (hydrology) at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation (hydrophytes) typically adapted for life in saturated soil conditions (hydric soils). Wetlands generally include swamps, marshes, bogs, and similar areas (CFR 328.3 and 40 CFR 232.2(r)).”
Wilderness Act of 1964	The Wilderness Act designated all previously existing Wild Areas, Canoe Areas, and Wilderness Areas as Wilderness. In 1964, these areas on national forests totaled 9.1 million acres and represented the entire National Wilderness Preservation System (USFS 2008).
Wilderness Area	An area formally designated by Congress as part of the National Wilderness Preservation System (BLM 2012d).
Wilderness Characteristics	These attributes include the area’s size, its apparent naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation. They may also include supplemental values (BLM 2012c).
Wilderness Study Area (WSA)	Areas with wilderness characteristics identified and designated through the inventory and study processes authorized by Section 603 of FLPMA, and prior to 2003, through the planning process authorized by Section 202 of FLPMA (BLM 2012c).
Winter range	Areas that are used by animals, primarily big game, during winter months when forage is scarce and snow is often deep.
Wire zone	A linear zone under the transmission wires, and extending 10 feet beyond them, maintained in vegetation cover less than 5 feet high.
Zoning	Regulations used to guide growth and development; typically involve legally adopted restrictions on uses and building sites in specific geographic areas to regulate private land use.

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Section 3.2 – Geology

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