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 CRF 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.

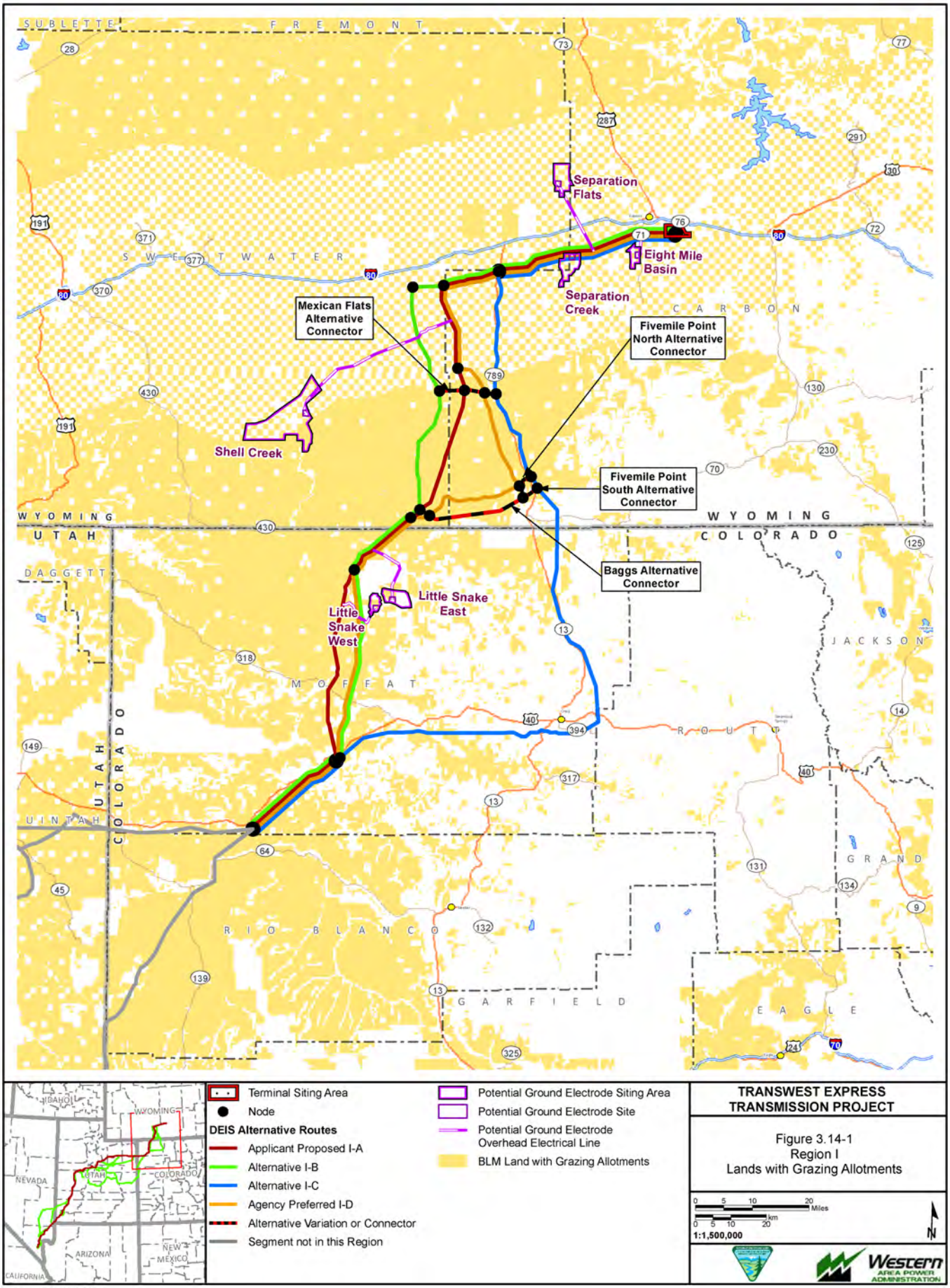
3.14.4.4 Livestock Grazing

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.



TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-1
Region I
Lands with Grazing Allotments

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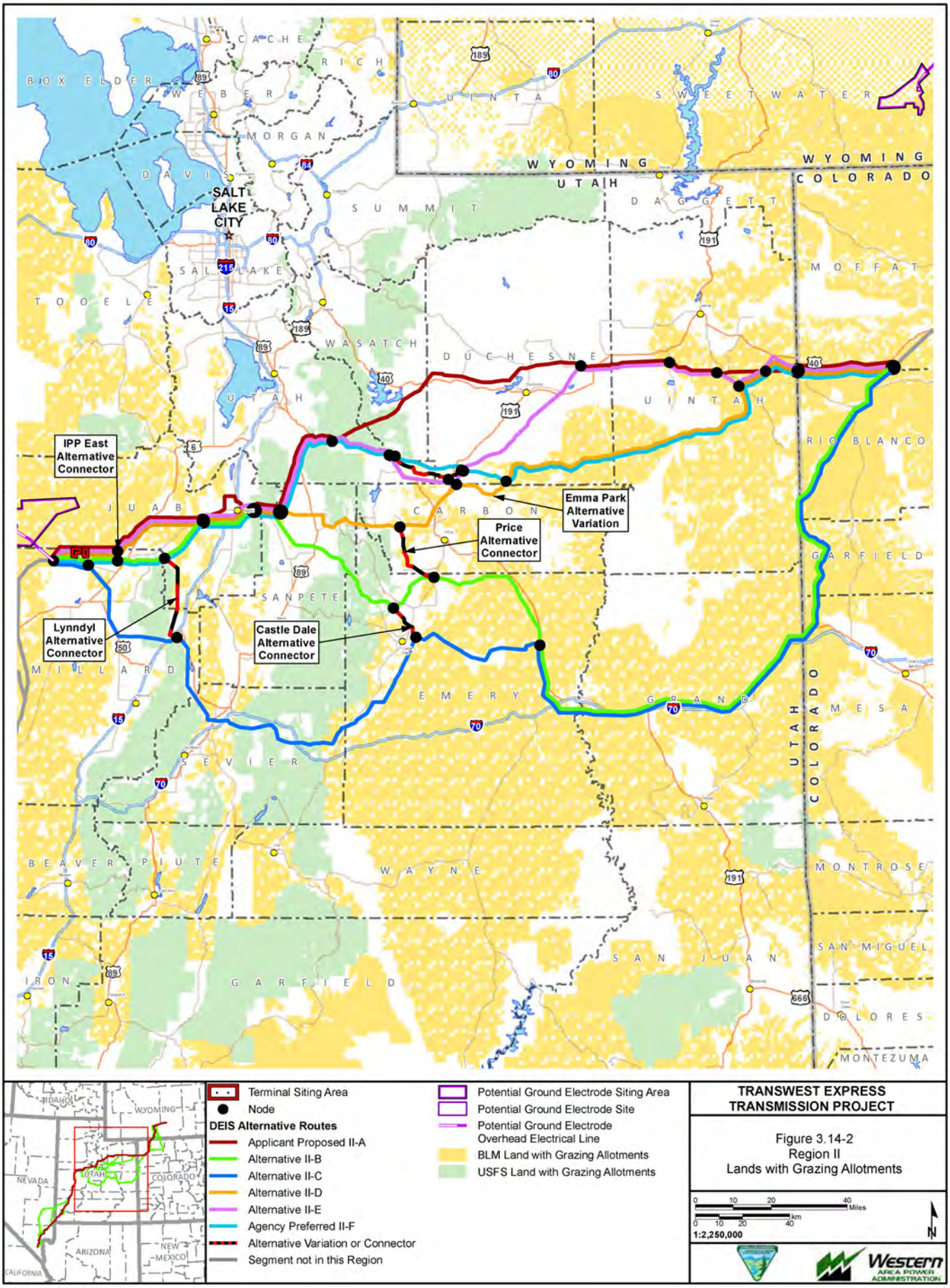

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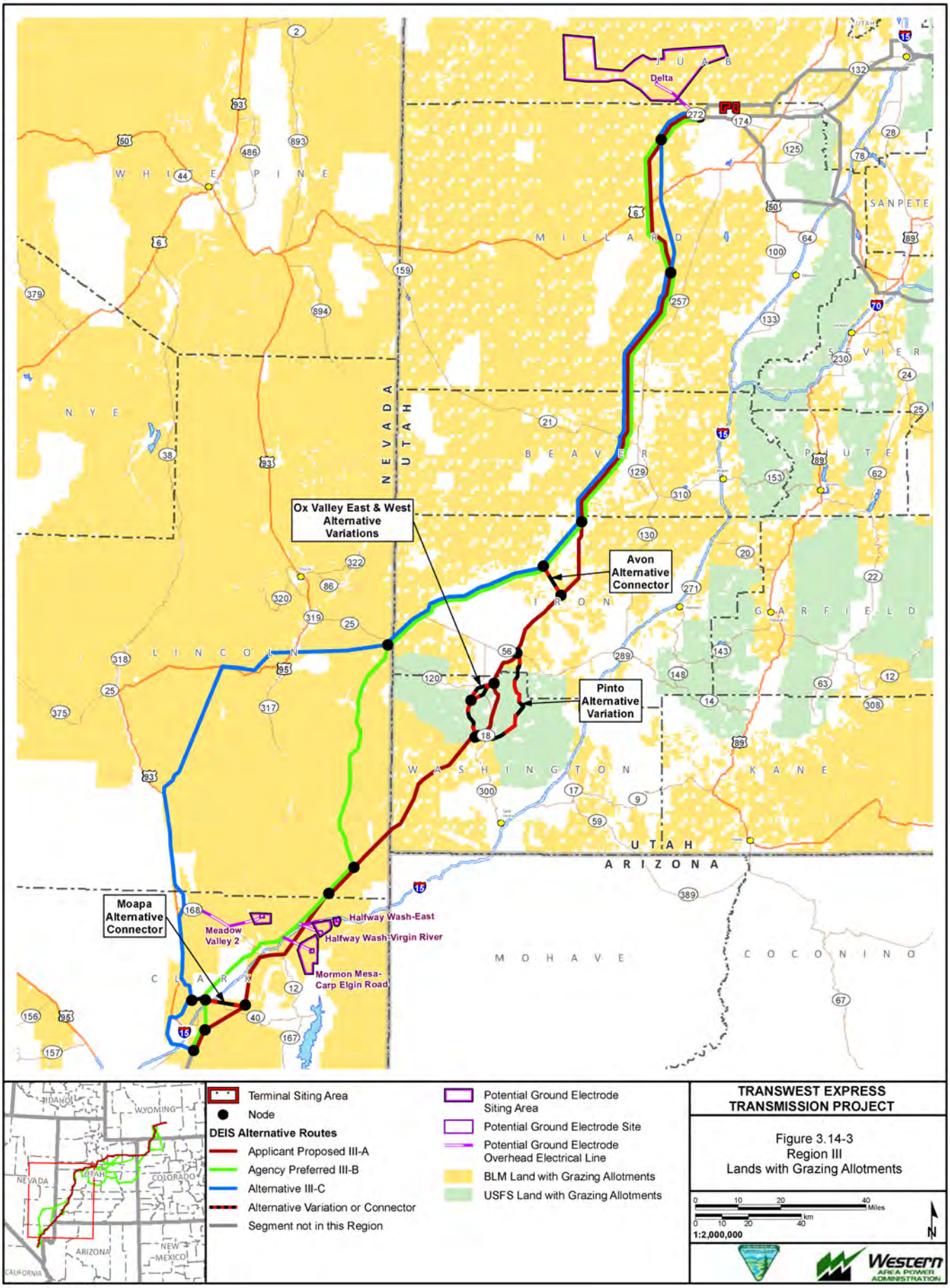

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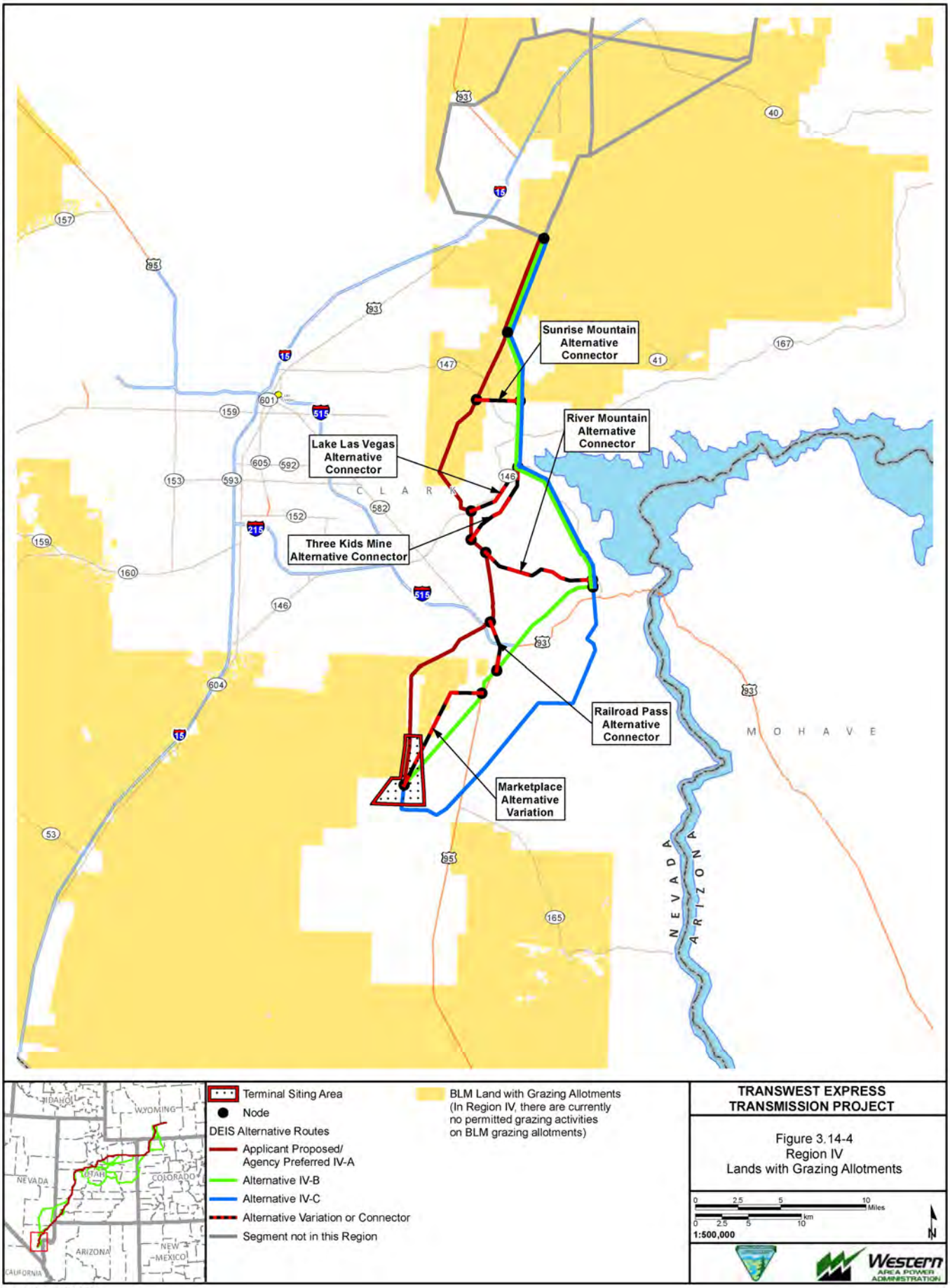

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-4
Region IV
Lands with Grazing Allotments

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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 Areas[1]

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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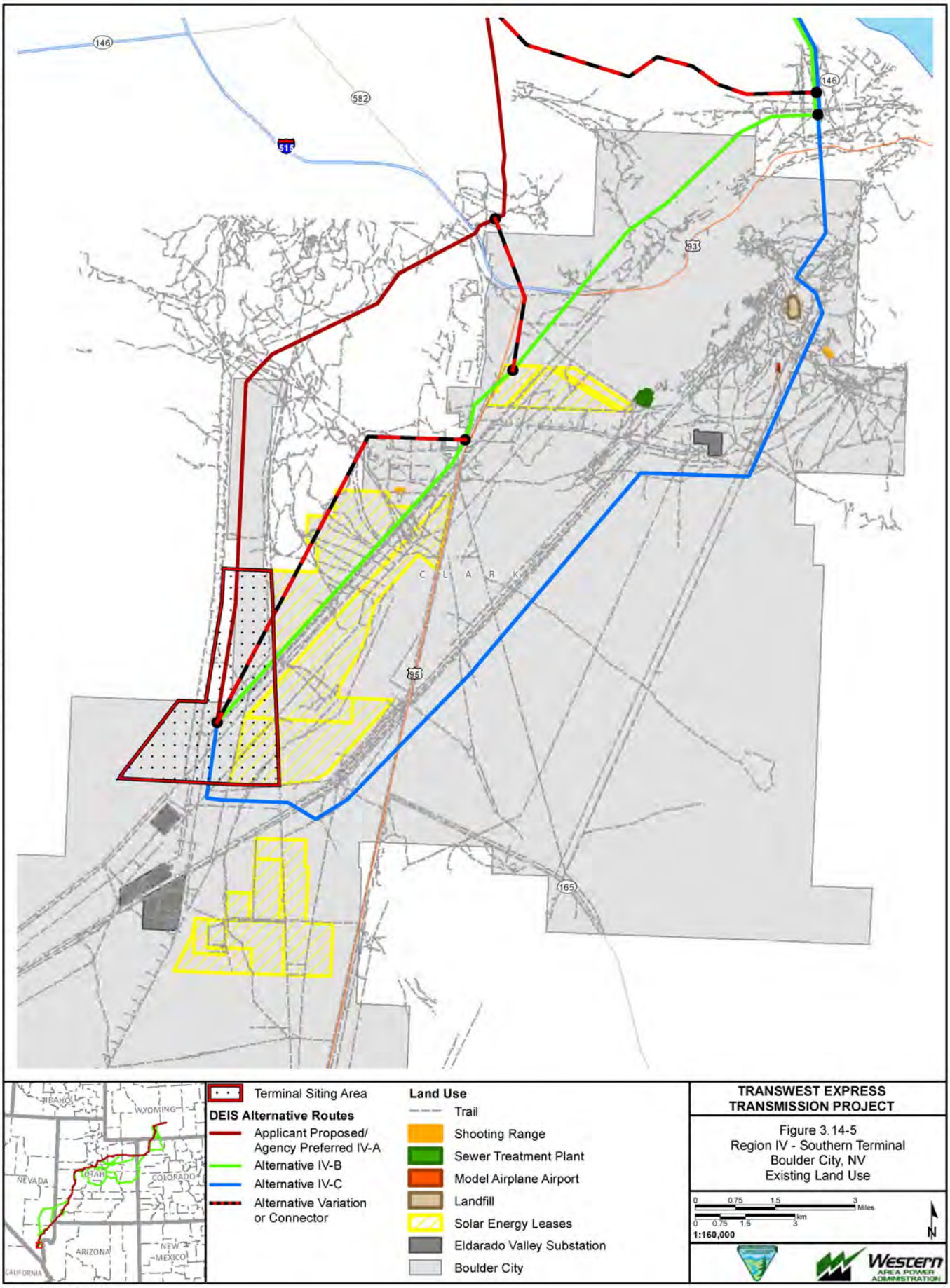

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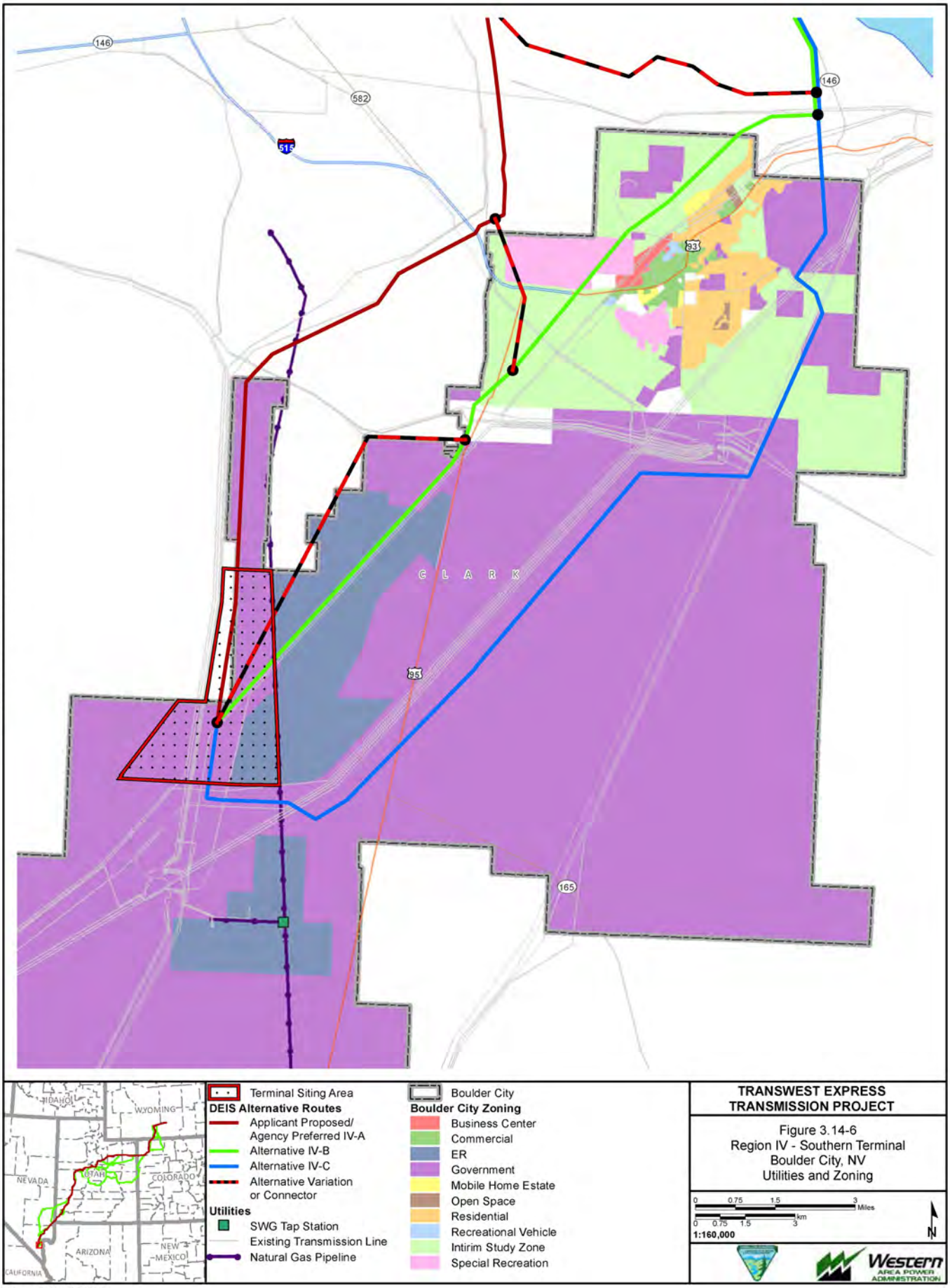

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Design Option 2 – DC from Wyoming to IPP; AC from IPP to Marketplace Hub

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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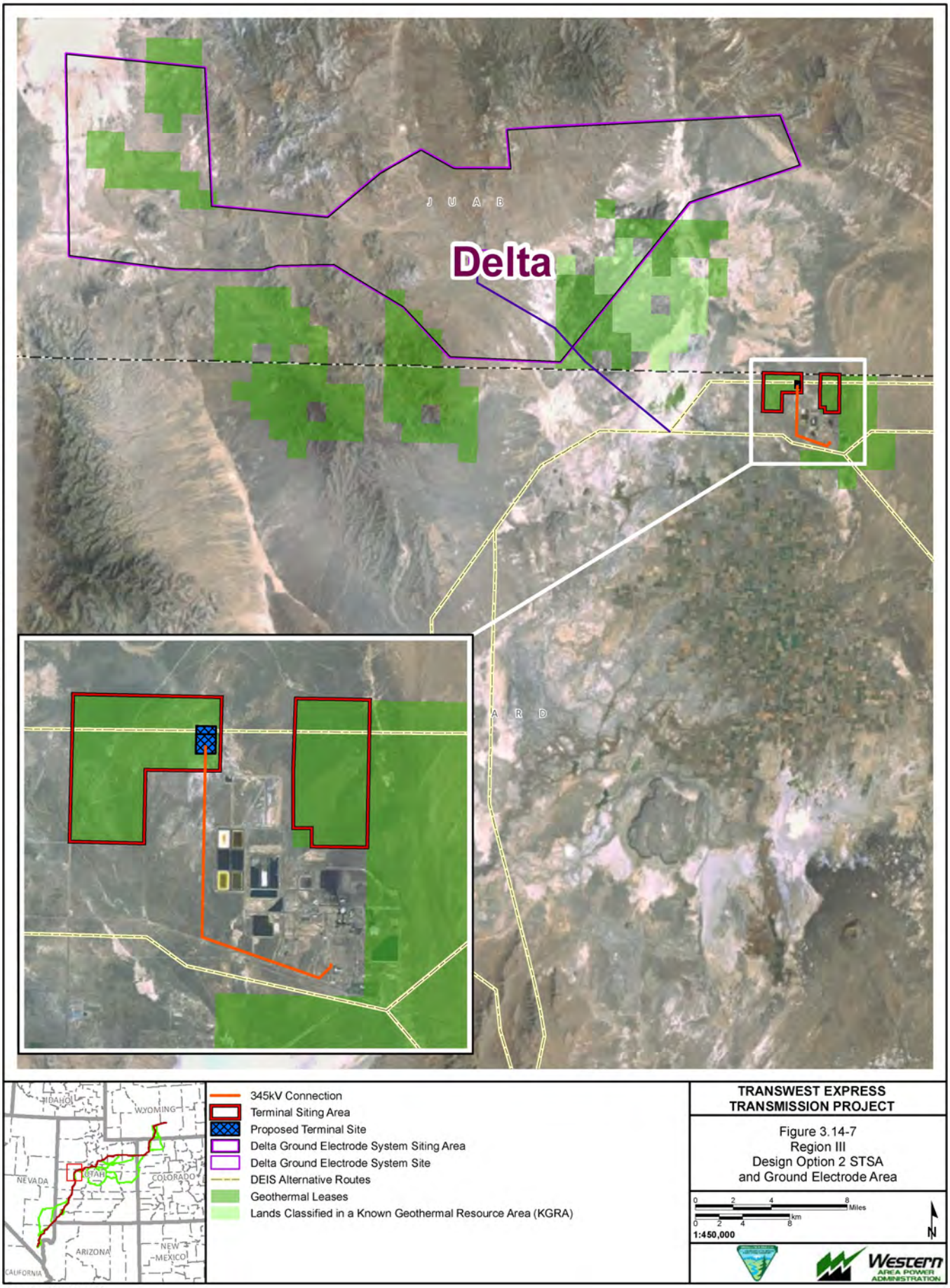

TRANSWEST EXPRESS TRANSMISSION PROJECT

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

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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 though 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

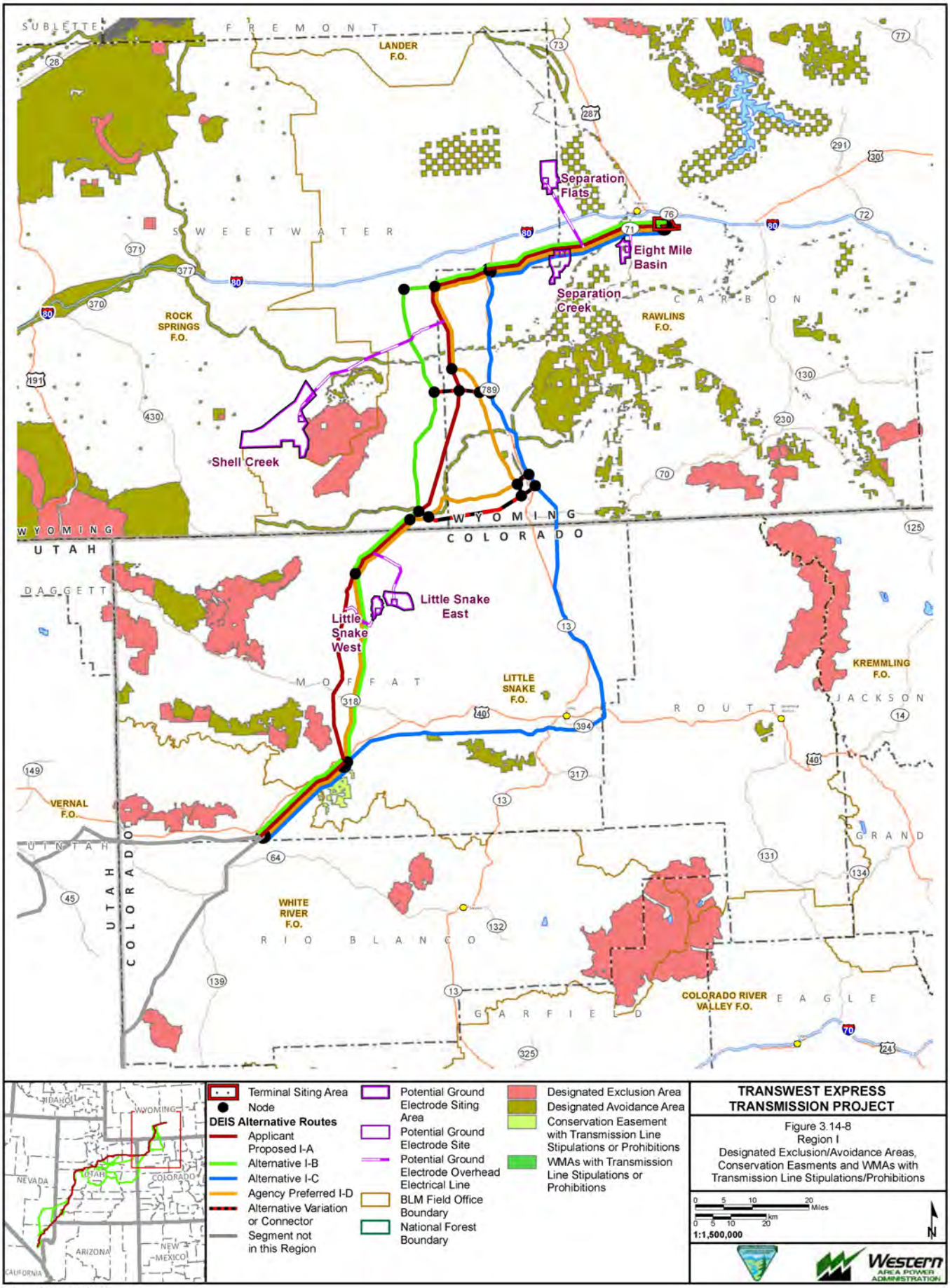
Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Routt County, Colorado	Routt County Master Plan	Land Use- Agriculture Future Land Use – not within designated Growth Centers Zoning - the County will not approve development 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.



TRANSWEST EXPRESS TRANSMISSION PROJECT

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

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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 WWEC 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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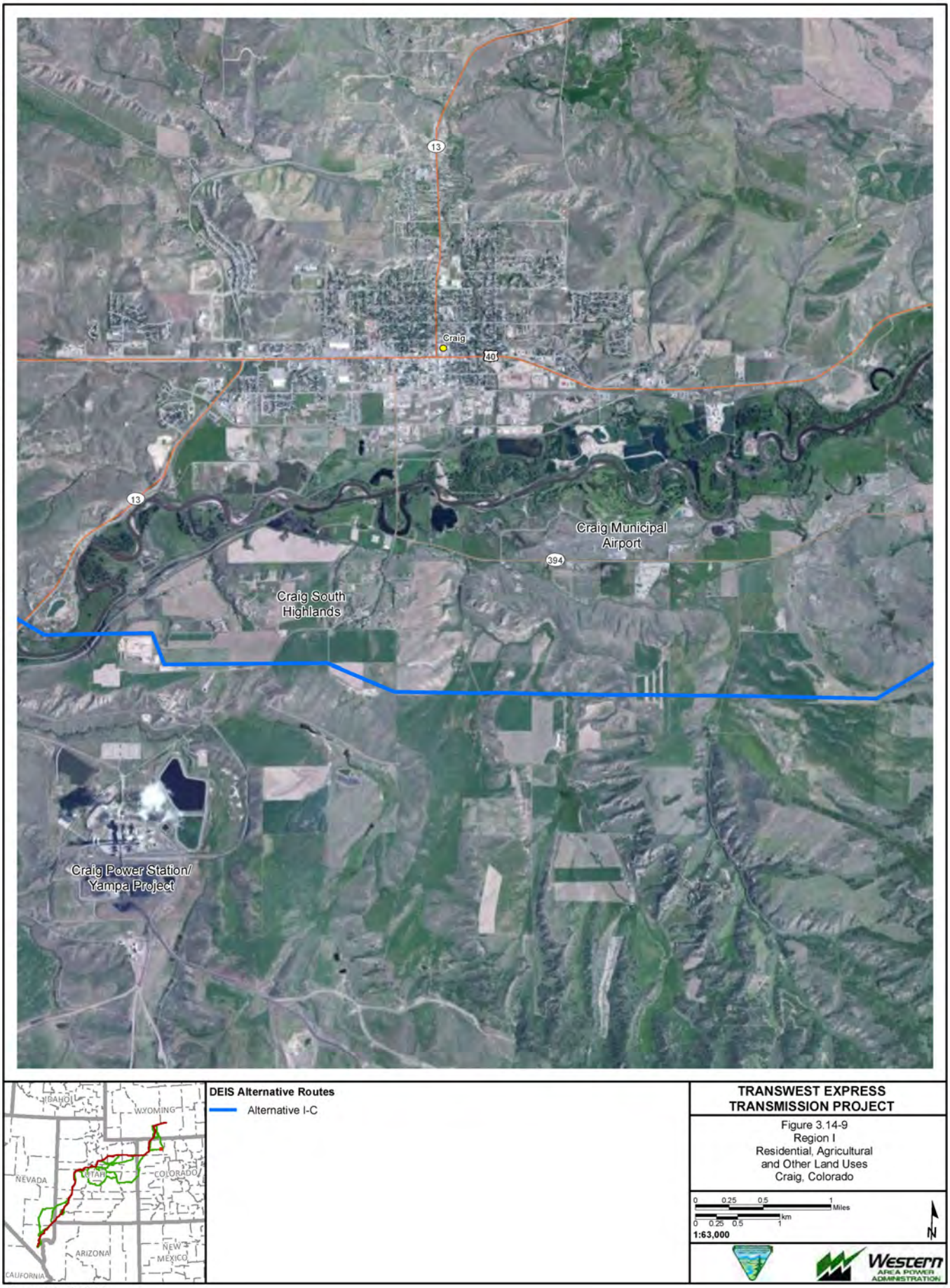

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The Tuttle Easement Micro-siting Option 2 would decrease the mileage crossing BLM lands by 2.3 miles and increase the mileage crossing private lands by 1.6 miles. Disturbance to agricultural lands would be reduced by 2.4 miles. Additionally, there 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.

<u>Alternative II-A (Applicant Proposed)</u>

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 Roaded	--	--	--	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)						
	Upper Spanish Fork Canyon	*<1 - 4/16*	--	--	--	--	--
	Willow Creek	*7 - 213/10,159*	--	--	--	--	--
	Strawberry Reservoir	*0/<1*	--	--	--	--	--
	White River	--	--	--	--	*0/206*	*2 – 48/898*
	# 3.3 Aquatic and Terrestrial Habitat						
	Upper Spanish Fork Canyon	*1 - 19/3,722*	--	--	--	*6 – 167/7,780*	*6 – 167/7,781*
	White River	--	--	--	--	*0/106*	*0/106*
	Nephi	*0/61*	--	--	*0/ 16*	*0/16*	*0/16*
	Mona	*0/31*	--	--	--	--	--
	# 4.4 Dispersed Recreation						
	Upper Spanish Fork Canyon	*5 – 151/1,974*	--	--	--	*1 – 32/294*	*1 – 32/294*
	Diamond Fork	*(<1) 4/37*	--	--	--	--	--
	Strawberry Reservoir	*0/52*	--	--	--	--	--
	# 4.5 Developed Recreation						
	Strawberry Reservoir	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						
	Upper Spanish Fork Canyon	*0/23*	--	--	--	--	--
	Willow Creek	*0/<1*	--	--	--	--	--
	Strawberry Reservoir	*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						
	Upper Spanish Fork Canyon	*3 – 90/4,966*	--	--	--	--	--
	Willow Creek	*0/98*	--	--	--	--	--
	#8.2 Utility Corridor/Communication Sites						
	Upper Spanish Fork Canyon	*<1 – 2/485*	--	--	--	*2 – 43/889*	*2 – 43/889*
	Willow Creek	*0/143*	--	--	--	--	--
	Strawberry Reservoir	*0/4*	--	--	--	--	--
	Mona	*0/7*	--	--	--	--	--
	Nephi	*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

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
Fishlake National Forest	2B Rural and Roaded-Natural Recreation Opportunities	--	--	<1 – 15/1,390	--	--	--
	3A Semi Primitive Non-Motorized Recreation	--	--	0/98	--	--	--
	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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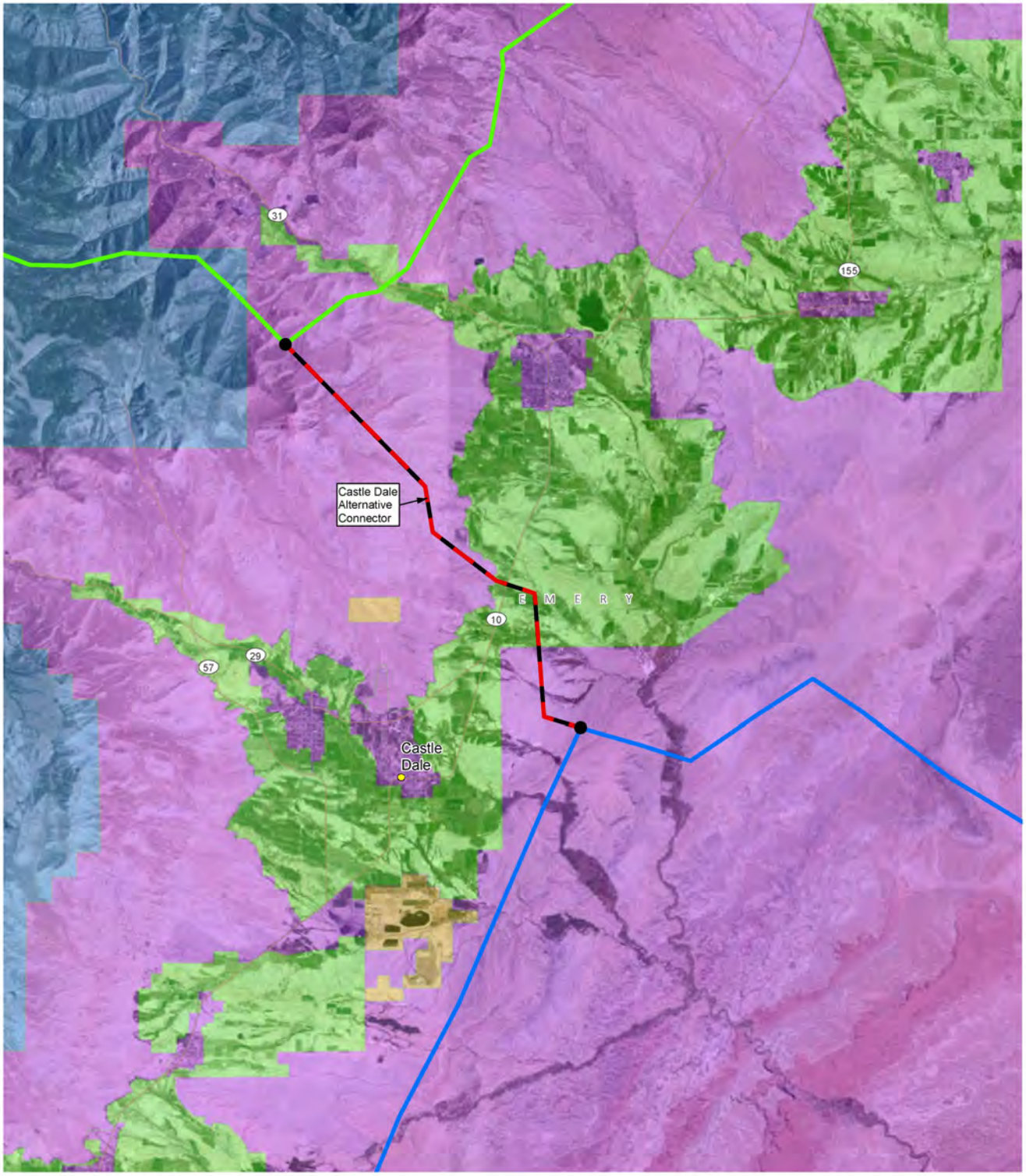

Node

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
N

Western AREA POWER ADMINISTRATION

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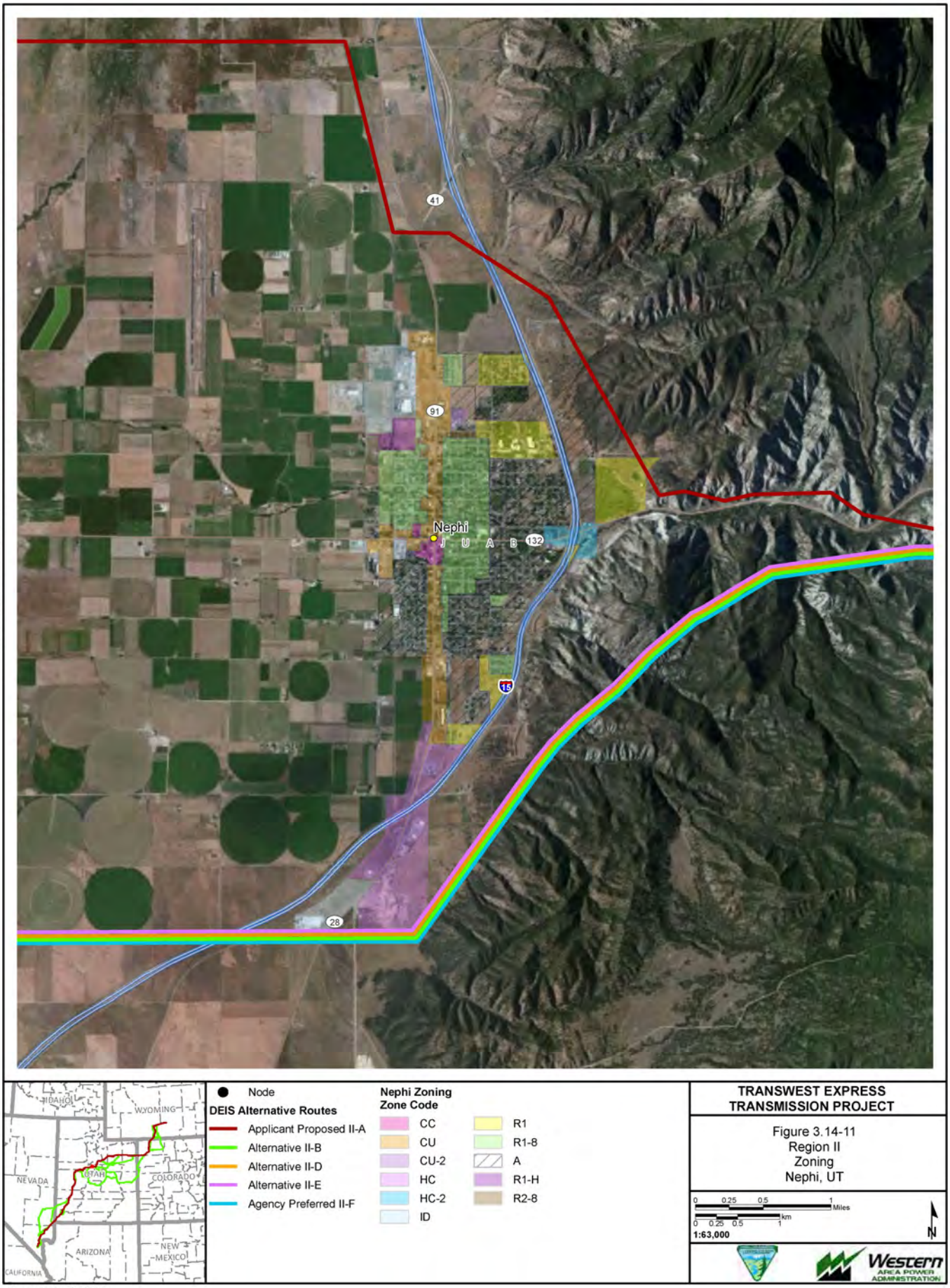

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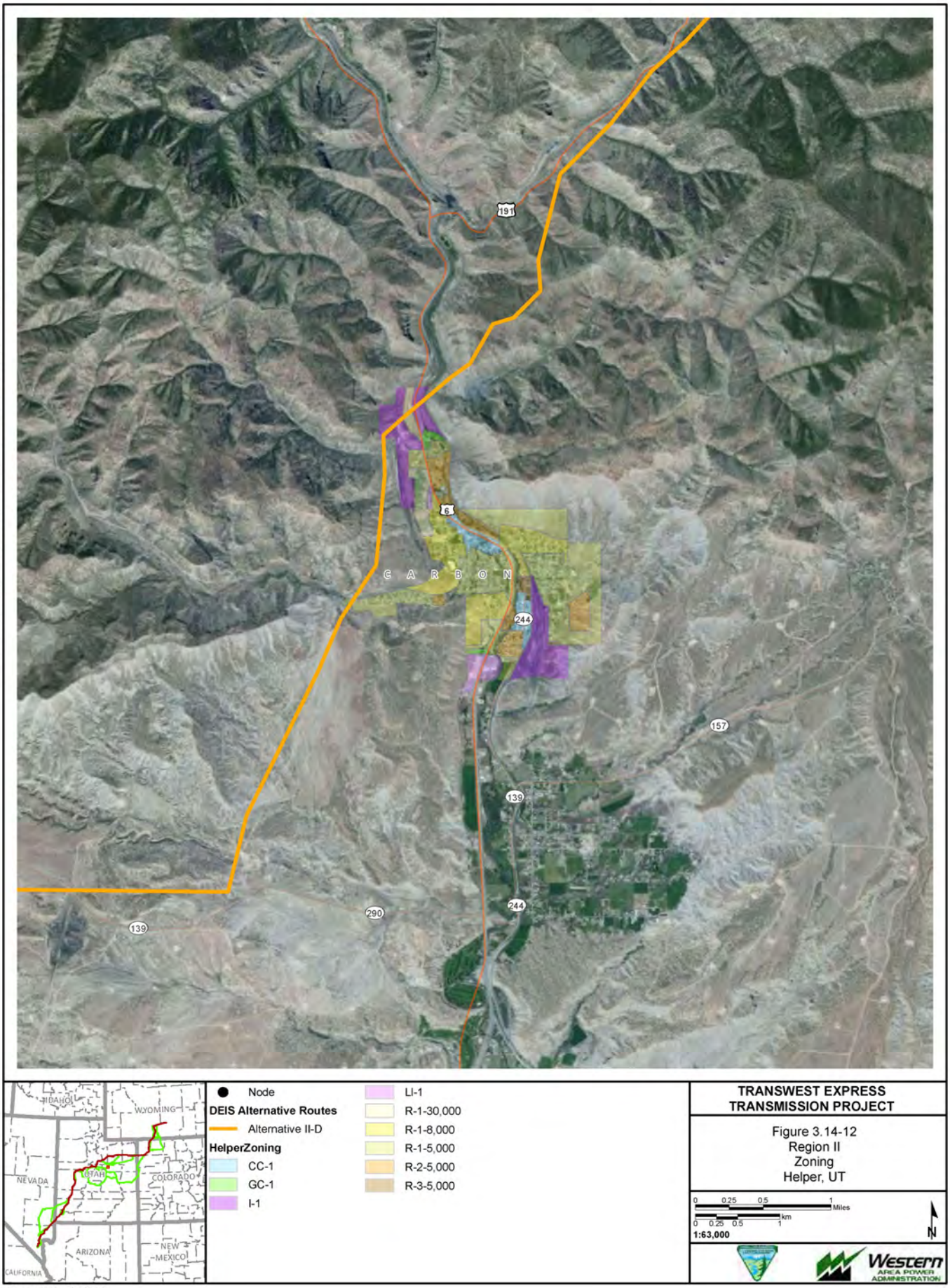

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-12
Region II
Zoning
Helper, UT

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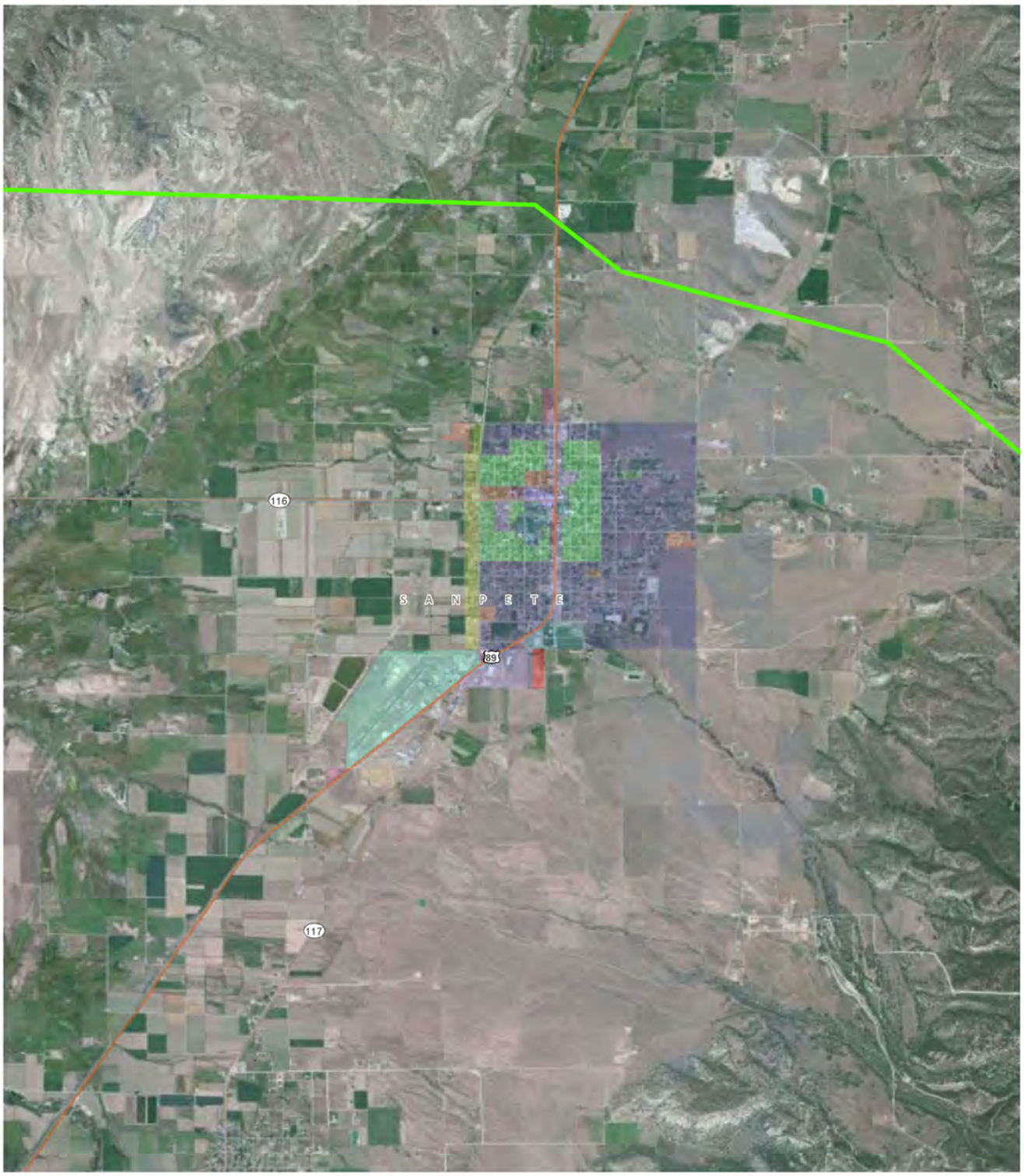

Node

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

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

N

Western AREA POWER ADMINISTRATION

Exported On: 4/23/2013

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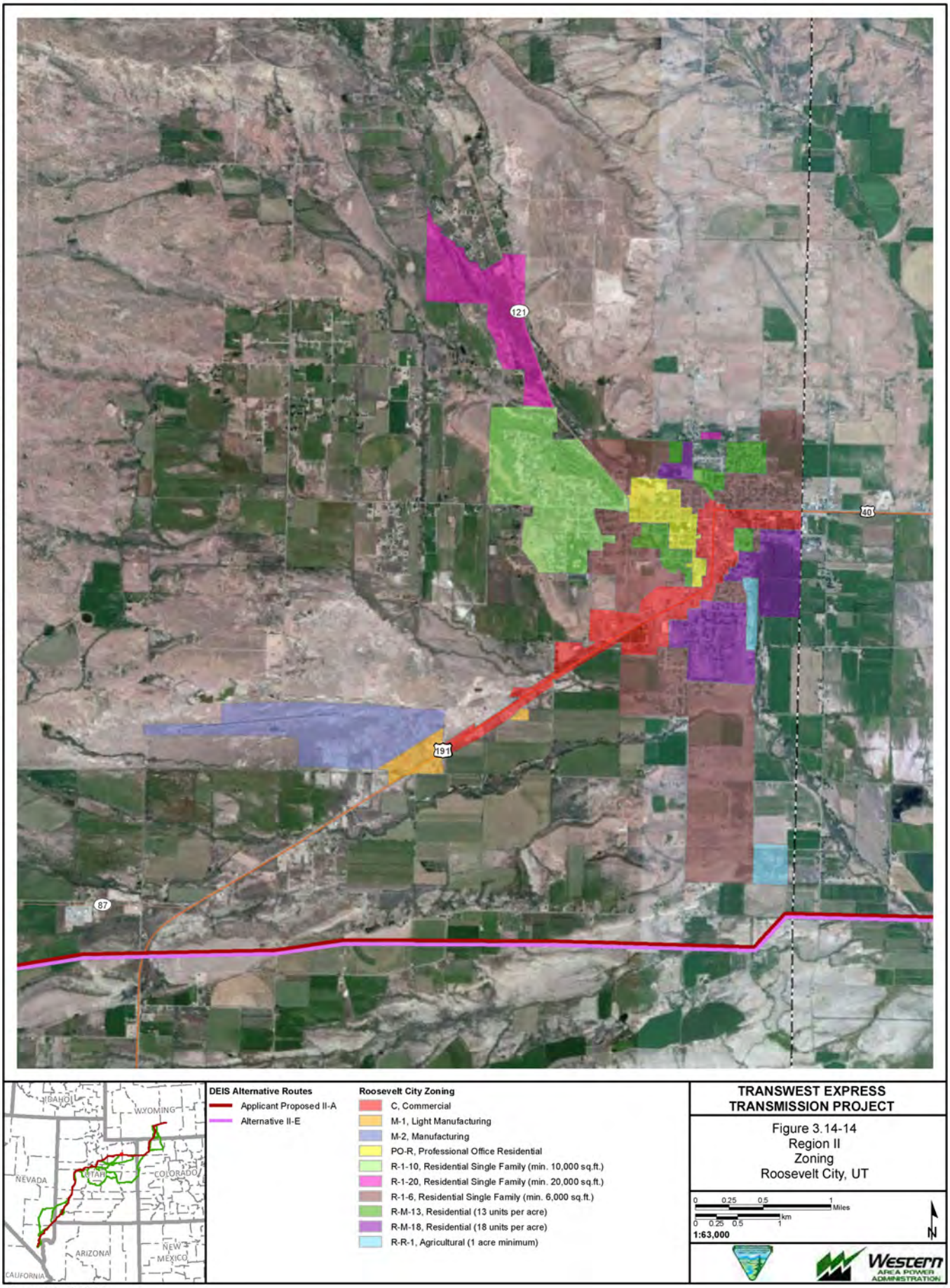

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-14
Region II
Zoning
Roosevelt City, UT

Exported On: 4/23/2013

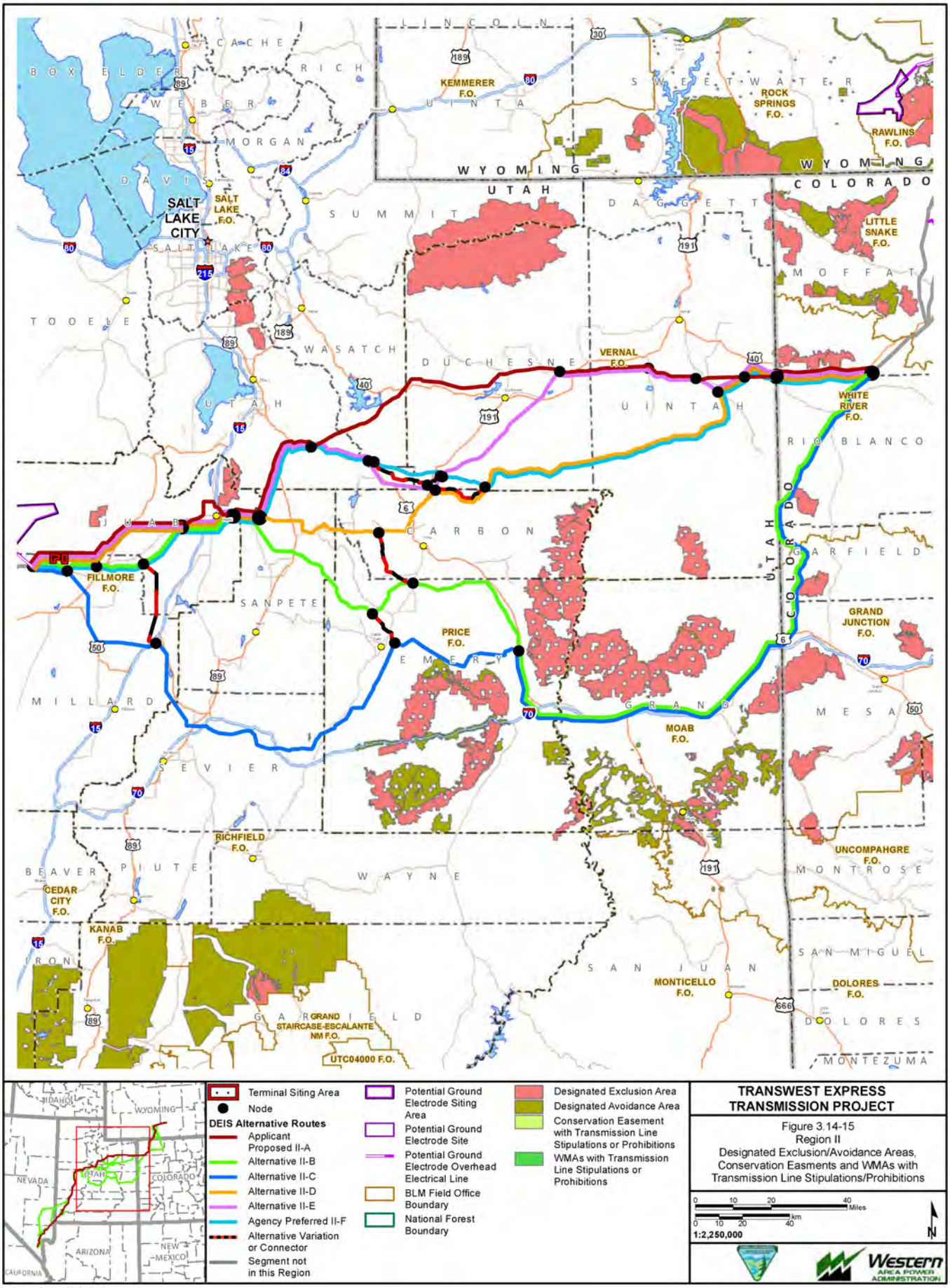

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Table 3.14-16 Avoidance and Exclusion Areas Crossed by Alternatives in Region II

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 Standard 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 WWEC 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 WWEC 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

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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

N

Western AREA POWER ADMINISTRATION

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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**	**308**
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

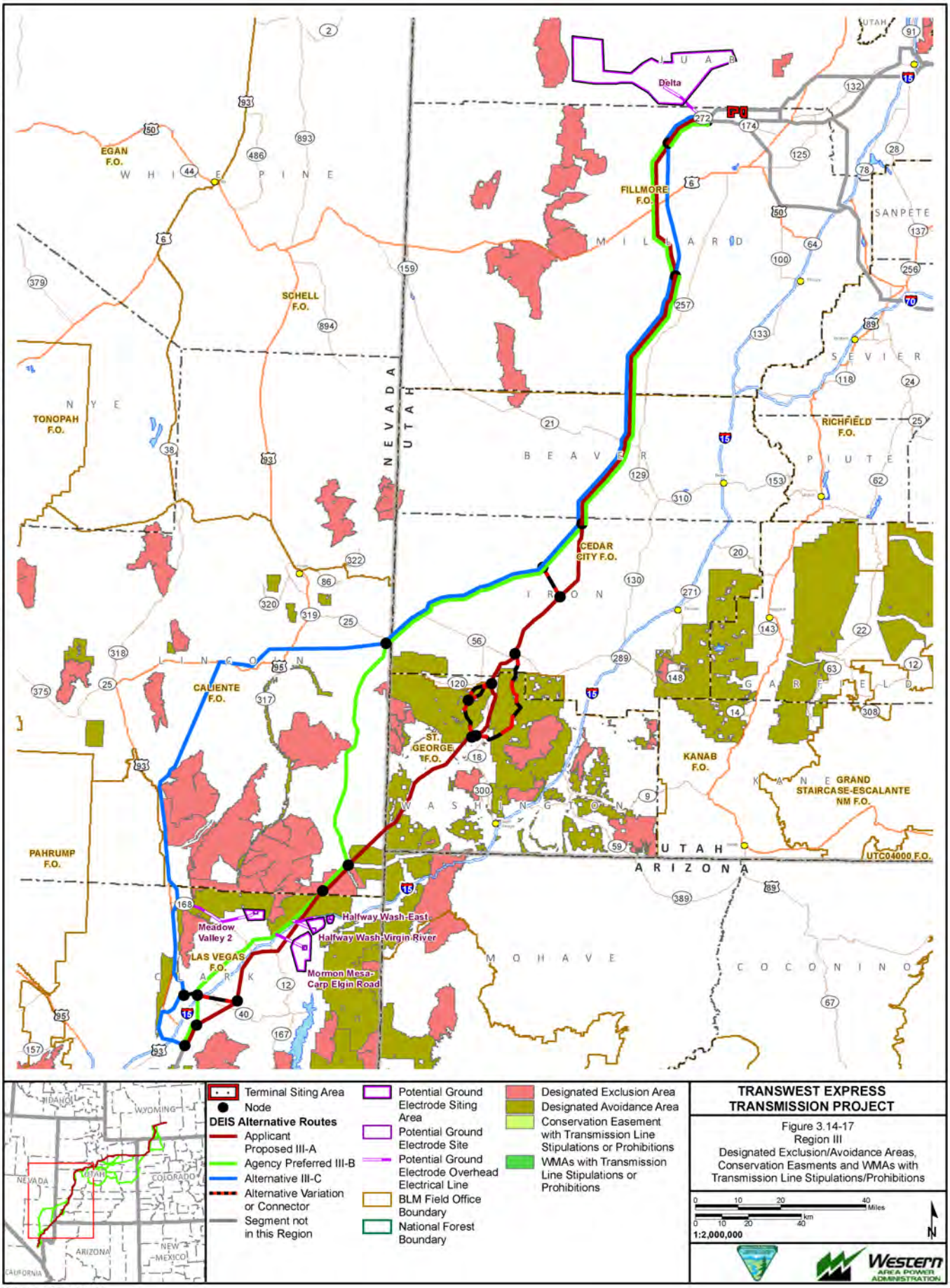
Regulating Agency	Plan, Policy, or Regulation	Allowed Uses in Agency Designated Land Management Districts Crossed by Proposed Project
Millard County, Utah	Millard County General Plan Millard County Zoning Ordinance Millard County Major Utility Corridor Map (2009a)	Land Use- spatial data not available 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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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**	**44**
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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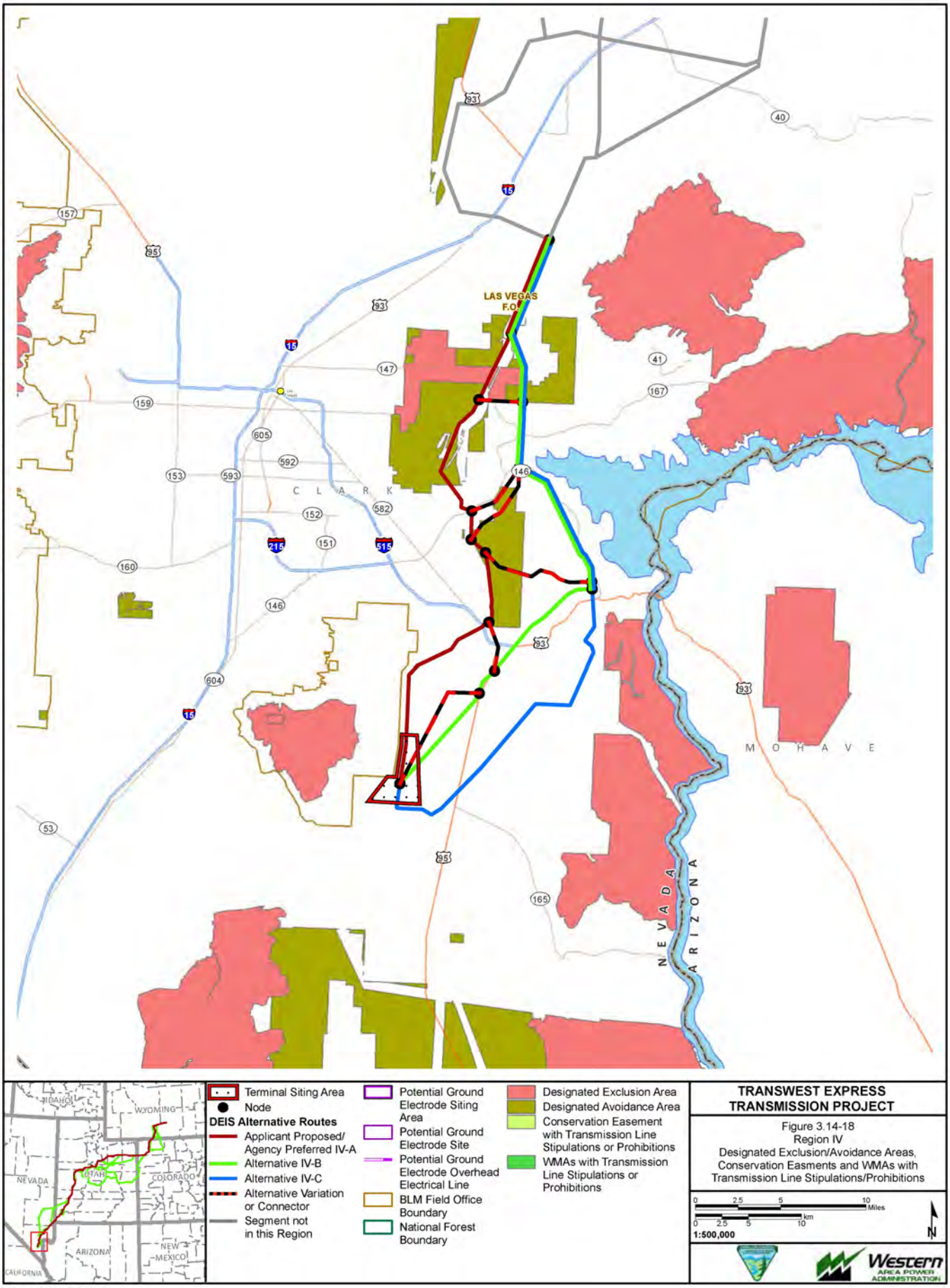

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.14-18
Region IV
Designated Exclusion/Avoidance Areas, Conservation Easments and WMAs with Transmission Line Stipulations/Prohibitions

Exported On: 4/23/2013

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 Areas Crossed	Avoidance (miles)	2	1	3	3	0
	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.