

**U.S. Department of the Interior
Bureau of Land Management
Uncompahgre Field Office
2465 South Townsend Avenue
Montrose, CO 81401**

ENVIRONMENTAL ASSESSMENT

NUMBER: DOI-BLM-CO-S050-2010-0048 EA

PROJECT NAME: East Montrose Electric System Improvement Project COC-70174

LEGAL DESCRIPTION:

T. 49 N., R. 8 W., NMPM
Sec. 17, W1/2SW1/4, SE1/4SW1/4;
Sec. 18, W1/2NE1/4, SE1/4 NE1/4, E1/2SE1/4.

T.49 N., R. 9 W., NMPM
Sec. 3, W1/2NW1/4, SE1/4NW1/4, NE1/4SW1/4, NW1/4SE1/4;
Sec. 11, W1/2NE1/4, N1/2NW1/4, SE1/4NW1/4, SE1/4;
Sec. 12, SW1/4SW1/4, S1/2SE1/4;
Sec. 13, N1/2NW1/4.

T. 50 N., R. 9 W., NMPM
Sec. 34, W1/2SW1/4.

APPLICANT: Tri-State Generation and Transmission Association, Inc.

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LIST OF ATTACHMENTS

Attachment 1 – EMP Plan of Development (POD)

POD Appendix A – POD Map Exhibits

POD Appendix B – Engineering Data – Transmission Line Staking Sheet, Structure Designs and Equipment Photographs

Attachment 2 – Public Outreach Program and Scoping Record

Attachment 3 – Supplemental Technical Reports

Biological Survey Report, Bio-Logic, Inc. June 2010.

Biological Survey Report, BIO-Logic, Inc. August, 2008

EDM Report, “Suggested Protective Measures for a Golden Eagle Nest in the Vicinity of Structure 55 on the East Montrose 115 kV Transmission Project”, prepared by Gerald R. Craig, May 2011.

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
ACEC	Area of Critical Environmental Concern
ACOE	Army Corps of Engineers
ACSR	Aluminum Conductor Steel Reinforced “Drake”
AF	Acre-feet
APLIC	Avian Power Line Interaction Committee
ATV	All-terrain Vehicle
BA	Biological Assessment
BCC	Birds of Conservation Concern
BLM	Bureau of Land Management
BMP	Best Management Practices
CDA	Colorado Department of Agriculture
CDOW	Colorado Division of Wildlife (as of July 1, 2011, Colorado Division of Parks and Wildlife)
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council of Environmental Quality
CNAP	Colorado Natural Areas Program
COA	Conditions of Approval
DMEA	Delta-Montrose Electric Association
EA	Environmental Assessment
EHS	Extra high strength
EMP	East Montrose Electric System Improvement Project
EOs	Element Occurrences
EPMs	Environmental Protection Measures
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FLPMA	Federal Land Policy and Management Act of 1976
GGNCA	Gunnison Gorge National Conservation Area
GIS	Geographic Information System
IL	Improvement Level
kcm	Thousand circular mils
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MUs	Management Units
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NFWF	National Fish and Wildlife Foundation
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places

NSO	No Surface Occupancy
OHGW	Overhead Ground Wire
OHV	Off-Highway Vehicle
ORV	Off-Road Vehicle
OSHA	Occupational Safety and Health Administration
PBA	Programmatic Biological Assessment
PBO	Programmatic Biological Opinion
POD	Plan of Development
POP	Public Outreach Program
RMP	Resource Management Plan
RNA	Research Natural Area
ROD	Record of Decision
ROW	Right-Of-Way
RUS	Rural Utilities Services
SCA	Colorado State Nongame, Endangered, or Threatened Species Conservation Act
SOPs	Standard Operating Procedures
TES	Threatened, Endangered, and Sensitive
TLS	Timing Limitation Stipulation
TMDLs	Total Maximum Daily Loads
TUA	Temporary Use Area
USDA	U.S. Department of Agriculture
USDI	U.S. Department of Interior
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management
WQCC	Water Quality Control Commission
WSA	Wilderness Study Area

1.0 NEED FOR THE ACTION

Under the provisions of the Federal Land Management and Policy Act of 1976 (FLPMA) (43 US Code 1701 *et seq.*), the U.S. Department of Interior, Bureau of Land Management (BLM) is charged with managing public lands, including the processing of land use applications. Proposed actions are reviewed and processed under the National Environmental Policy Act of 1969 (NEPA) (Public Law 91-190, 42 U.S.C. 4321-4347 *et seq.*) to ensure that there is no undue degradation or impacts to public lands.

In 2007, Tri-State Generation and Transmission Association, Inc. (Tri-State) submitted a SF-299 Right-of-Way (ROW) grant application to the BLM Uncompahgre Field Office for the East Montrose Project (EMP). In the application Tri-State requests the construction and operation of a new 115 kilovolt (kV) transmission line and access routes across public lands. The purpose of the action is to provide reliable power to portions of Montrose County and the City of Montrose, Colorado. Specifically, Tri-State is requesting a ROW grant be issued for the following actions and facilities on public lands:

- A standard 100 foot-wide ROW for 4.7 miles. Tri-State is requesting a ROW grant of 56.9 acres for the standard 100 foot-wide ROW. The ROW grant would authorize the construction and operation of thirty-two (32) 115 kV structures on public lands. Twenty-two (22) structures would be wood H-frame and ten (10) would be wood three-pole structures.
- An additional 1.4 acres for guying structures that would fall outside the standard 100 foot-wide ROW. This estimate is based on space needed at 12 structure locations to allow for construction and guy lines. Applicable structures are numbers 27, 28, 31, 37, 40, 42, 46, 50, 53, 56, 60, and 62.
- An additional 0.5 acre for an equipment and vehicle turn-around area at structure site 34. All other turn-around areas would be within the standard 100 foot-wide ROW. Approximately 20,000 square feet (0.5 acre) is required near structure 34 to allow sufficient space for maintenance equipment to operate for the life of the project.
- A total of 22.7 acres for 5.8 miles of access on public lands, outside the standard 100 foot-wide transmission line ROW. In total, access routes on public lands would consist of 7.4 miles of new or improved routes. In addition, 2.1 miles of public roads would be used on BLM lands.

The BLM's Need for Action is to decide whether to issue the ROW grant, and if so under what conditions.

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2.0 BACKGROUND/INTRODUCTION

The EMP is jointly sponsored by Tri-State and Delta-Montrose Electric Association (DMEA) (Project Applicants). The EMP would be located in southwestern Colorado, in Montrose County; and would consist of constructing and operating a new 115 kV transmission line and two new substations – the Peach Valley Substation, to be located near Falcon Road between the town of Olathe and the City of Montrose; and the East Montrose Substation, to be located near Highway 50, east of the City of Montrose. The EMP transmission line and substations would improve system reliability and would provide increased electric power to the City of Montrose and to DMEA for the surrounding area in Montrose County. Tri-State is a wholesale electric power producer/supplier serving 44 rural electric cooperatives and public power districts in Colorado, Nebraska, New Mexico and Wyoming. DMEA is one of Tri-State's cooperative members.

The Proposed Action setting encompasses public lands managed by the BLM Uncompahgre Field Office, and private lands within the City of Montrose, and unincorporated Montrose County. The Proposed Action is described in detail in the EMP POD (EA *Attachment 1*). Tri-State would own and operate the Peach Valley Substation and the 115 kV transmission line; DMEA would own and operate the East Montrose Substation.

Tri-State will be requesting federal financing assistance from the U.S. Department of Agriculture's Rural Utilities Service (RUS) for the project. This Environmental Assessment (EA) will be used to inform RUS's decision, as required by NEPA.

Applicants' Need for the Project

Increases in population growth and new businesses have occurred in the City and County of Montrose over the past several decades, which have increased the demand for electrical power. To address this ongoing demand for additional power, Tri-State and DMEA are proposing the EMP. The EMP would increase the power capacity and the reliability of electrical service for DMEA to serve Montrose and the surrounding areas of Montrose County, Colorado.

According to the U.S. Census Bureau, Montrose County's population was 33,432 in 2000 and increased 23.5% by 2010 to 41,276. The majority of the county's growth is centered in the Uncompahgre Valley and surrounding foothills and mesas. Recent growth in this region is evidenced by the number of new residential subdivisions, a new elementary school, and new and planned large commercial developments. In light of these population growth and development trends, DMEA and Tri-State have identified a need for a new 115 kV transmission line and two new substations to better serve the growth areas in the eastern part of the Uncompahgre Valley.

When completed and energized, the EMP would increase voltage stability, capacity, and reliability in the electric distribution system on the east side of Montrose. These needs are immediate as well as ongoing as DMEA continues to provide quality electrical service to current customers, and prepare to serve new homes and businesses. The EMP would also enable the future upgrade of electric service to the Olathe area with expansion capabilities at the new Peach Valley Substation. Under the current system configuration, consumer needs east of Montrose are served from DMEA's existing substations located several miles away – the Bullock, Happy Canyon, North Mesa, Chipeta Lakes, and South Canal Substations. Due to the number and size of electrical services requested in all areas of Montrose over the past five years, these existing substations are increasingly required to support electric loads nearby. As a result, existing substations are nearing their design limits with reliability and power quality.

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3.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

3.1 PROPOSED ACTION OVERVIEW

In its entirety, the EMP includes the following actions and new facilities:

1. Construct, operate and maintain the EMP 115 kV transmission line. The new overhead electric transmission line would interconnect to the existing Hotchkiss-North Mesa 115 kV transmission line at the Peach Valley Substation. The 115 kV transmission line would be 11.7 miles long. The transmission line would cross public lands for 4.7 miles, private lands within the City of Montrose incorporated limits for 0.3 mile and private lands in unincorporated Montrose County for 6.7 miles.
2. Construct, operate and maintain the EMP Peach Valley Substation. The substation would be located approximately 0.4 mile south of Falcon Road on private land, approximately 2.6 miles east of Highway 50, west of the Loutzenhizer Arroyo. The substation site would be approximately 3 to 5 acres in size.
3. Construct, operate and maintain the EMP East Montrose Substation. The substation would be located along Miguel Road on private land, approximately 0.2 mile south of Highway 50 and adjacent to the Project 7 Water Authority. The substation site would be approximately 3 to 5 acres in size.
4. Install four new 115 kV transmission structures and line to connect the Peach Valley Substation to the existing Hotchkiss-North Mesa 115 kV line.
5. Improve and maintain access roads on public and private lands in Montrose County that would be needed to construct and maintain the 115 kV transmission line. In total 36.7 (*Table I*) miles of access roads would be used and/or improved to construct the EMP.

Figure 1 shows the vicinity of the project facilities and **Table I** summarizes the facilities and actions by jurisdiction. Refer to *Appendix A, POD Map Exhibits 1 through 11* for details on the location of the proposed Peach Valley Substation (*POD Map Exhibit 1*), the East Montrose Substation (*POD Map Exhibit 11*), and the 115 kV transmission line mileposts, structure numbers and access roads. *POD Map Exhibits 5-10* show details of the proposed transmission line and access routes on public lands administered by the BLM.

Table 1. Proposed EMP Facilities and Land Jurisdictions Affected

Project Facilities	Public BLM Lands	City of Montrose	Private Unincorporated Montrose County	Total
EMP Peach Valley Substation	N/A	N/A	approx. 3-5 acres	3 -5 acres
EMP East Montrose Substation	N/A	N/A	approx 3-5 acres	3 -5 acres
EMP 115 kV Transmission Line Length (miles)	4.7 miles	0.3 mile	6.7 miles	11.7 miles
EMP 115 kV Structures to be installed (number)	32	3	39	74
Length of 115 kV Transmission Line to Replace Existing 46 kV Line	N/A	N/A	2.8 miles	2.8 miles
Additional 115 kV structures for interconnections with Peach Valley Substation (number)	N/A	N/A	4	4
Access Roads – Roads and routes to be used and/or improved	9.5 miles	1.5 mile	27.5 miles	36.7 miles

Source: Geo/Graphics 2011. Notes: N/A – Not Applicable

3.2 DESCRIPTION OF PROPOSED PROJECT ON PUBLIC LANDS

3.2.1 EMP 115 kV TRANSMISSION LINE

The EMP would require the construction and operation of thirty-two (32) 115 kV structures on public land. Twenty-two (22) structures would be wood H-frame and 10 would be wood three-pole structures. A 100-foot-wide ROW would be established on public land for a total distance of 4.7 miles (56.9 acres). Increased ROW, beyond the standard 100-foot-wide ROW, would be authorized at specific locations where additional space is required for structure guying, including near structures 27, 28, 31, 37, 40, 42, 46, 50, 53, 56, 60, and 62 (1.4 acre). An additional 0.5 acre would be required for a turn-around area near structure 34.

3.2.2 EMP TRANSMISSION LINE ACCESS ROUTES

The EMP construction and operation would require access routes on public lands for a total of 9.5 miles, including 2.1 miles of public roads and 7.4 miles of existing, new and improved routes on BLM managed land. Access routes would typically be 14 feet wide once constructed. The EMP ROW grant application requests ROWs for access routes ranging from thirty- (30) to fifty- (50) foot-wide, depending on the amount of improvements needed and terrain conditions. Thirty-foot-wide ROWs are necessary for construction and maintenance of the EMP where access would be constructed or improved in accordance with Improvement Levels (ILs) 1 through 3, as defined in the POD (EA Attachment 1). Fifty-foot-wide ROWs are necessary where ILs 4, 5 and 6 are proposed. *Table 2* summarizes the amount of public land ROW necessary for access routes.

Figure 1. EMP Project Overview Map

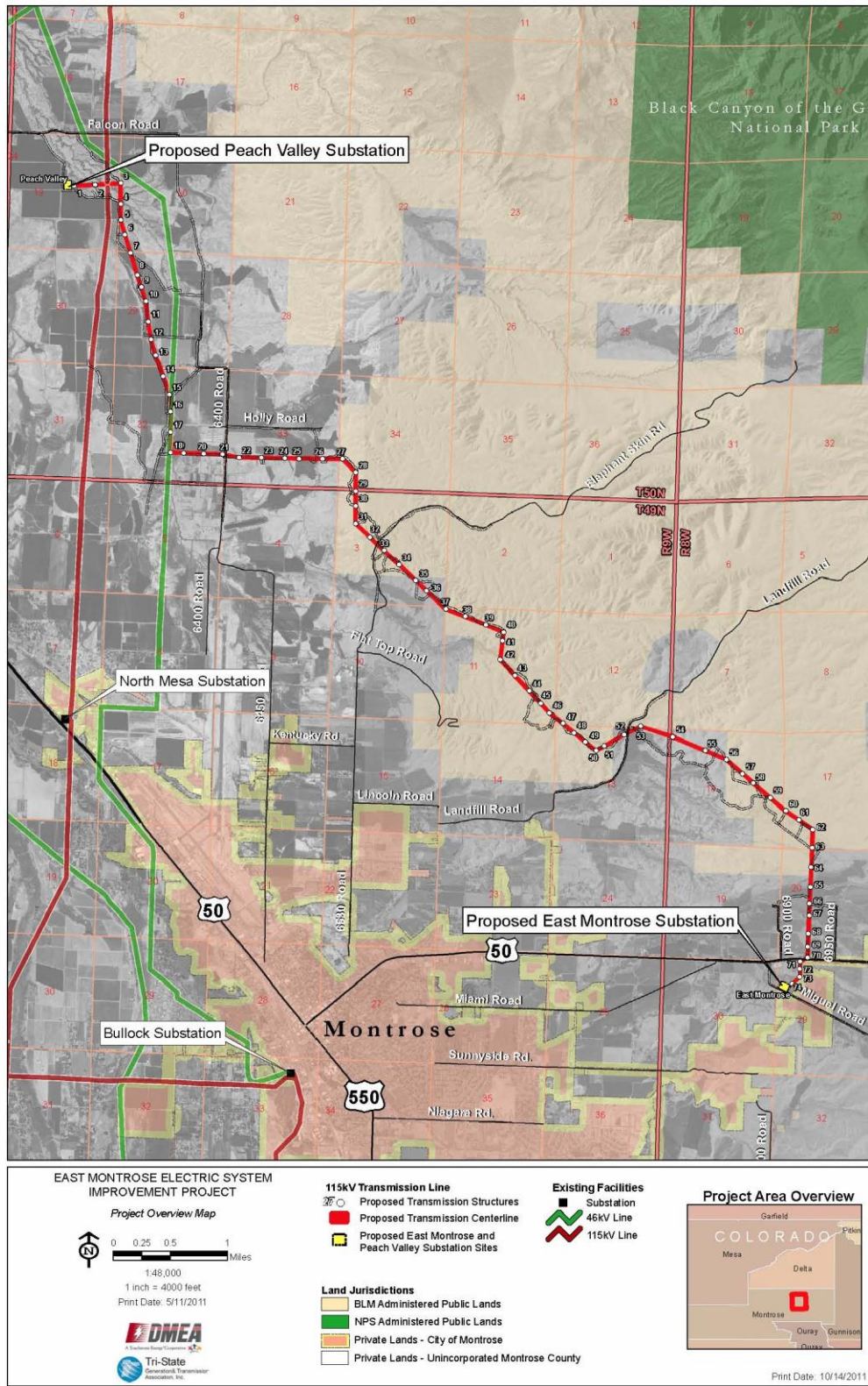


Figure 1

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3.2.3 TEMPORARY USE AREAS

The construction of the EMP 115 kV transmission line would require temporary use areas (TUAs) on public lands. TUAs are needed for safe work spaces and would include construction areas at each structure site and wire pulling and stringing sites. No TUAs are proposed on public lands for equipment storage or staging of construction equipment and personnel. **Table 2** summarizes the Proposed Action on public lands including proposed design features, short-term and long-term disturbances ROW requirements and TUAs.

Table 2. Summary of EMP Design Characteristics and Public Land Requirements

EMP Facilities and Actions	Total Land Requirements – 115 kV TL and Access Routes
115 kV Transmission Line	
Overall Project Design Characteristics	
Voltage	Single Circuit 115 kilovolts (kV)
Total Line Length and No. of Structures	11.7 miles; 74 structures
Conductor and Hardware Size and Material	Conductor – non-specular, 0.86 inch diameter Overhead ground wire – 3/8 inch diameter, galvanized steel Optical ground wire (OPGW) – 1/2 inch aluminum/aluminized steel stranding Insulators – Lightweight polymer rubber w/non-reflective light gray color Other hardware – galvanized steel
Clearance of Conductor	Minimum of 25 feet, conductor to ground
Type of Structures	Primarily Wood H-frame and 3-Pole Structures. In addition, limited number of steel and wood single pole structures and one 2 pole steel structure
Structure Base	Wood H-frame, 3-Pole Structures, and Wood Single Pole structures - Direct burial Steel Pole structures – Concrete foundations
Structure Heights Above Ground	H-Frames 47.5-83.5 ft ; 3-Pole Structures 47.5-83.5 ft; Single Poles 65.5-75 ft.
115 kV Transmission Line - Characteristics on BLM Land	
Length (miles)	4.7 miles
Long-term 115 kV Transmission Line ROW Requirements	
Standard 100 ft. ROW – (acres)	56.9 acres
Additional Long-term ROW (for guy pocket and turn around areas) (acres)	1.9 acre
- Guy pockets required at structure sites: 27, 28, 31, 37, 40, 42, 46, 50, 53, 56, 60, and 62.	1.4 acre
- Turn-around area near structure 34	0.5 acre
A fiber optic communications cable to be in the 115 kV ROW (no additional ROW required)	

EMP Facilities and Actions	Total Land Requirements – 115 kV TL and Access Routes
TOTAL ROW REQUIREMENTS FOR 115 kV Transmission Line (acres):	58.8 acres
Permanent Land Requirements – 115 kV Transmission Structures	
Total Number of TL Structures on Public Land	32 (No.'s 27-34, 37-51, 53, 56-63)
Permanent Land Dedicated to TL Structures -	
- H-frame (14 sq. ft) Structures	22 structures – 308 sq. ft.
- Three Pole Structures (21 sq. ft.)	10 structures – 210 sq. ft.
TOTAL LONG-TERM LAND REQUIREMENTS FOR STRUCTURES (sq. ft./acres):	518 sq. ft. /0.01 acre
Construction Sites/Temporary Use Areas (TUAs) -there are no TUAs on BLM Lands	
Structure Construction Areas and Other Temporary Use Areas (TUAs) Within the Standard 100 ft. wide ROW: 32 structure sites, each 100 ft. by 250 ft. in size; 2 pulling sites (one within the ROW and one outside the ROW, each 50 ft. by 250 ft. in size)	structure sites - 800,000 sq. ft./18.4 acres pulling sites – 25,000 sq.ft./0.6 acre
Structure Construction Areas and Temporary Use Areas Outside the Standard 100 foot wide ROW – sq. ft./acres 12 guy pockets (160 length x 60 width, each 9,600 s.f. in size), and 1 turn-around area (200 length x 100 width, approx. 0.5 acre/20,000 sq. ft. in size) near structure 34	12 guy pockets – 105,600 sq. ft./2.6 acres* Turnaround area – 20,000 sq. ft./0.5 acre**
TOTAL SHORT-TERM LAND REQUIREMENTS FOR CONSTRUCTION ACTIVITIES	950,600 sq. ft./22.0 acres
Transmission Line Access – Characteristics and ROW Requirements on BLM Lands	
Total - Existing Public Roads and Access Routes to be used on BLM land (acres/miles)	37 acres/9.5 miles (includes 2.1 miles of public roads and 7.4 miles of access routes on BLM Lands)
Temporary Disturbance Area – based on Access Route ROW widths:	28.7 acres
Permanent Disturbance Area – based on average Access Route width of 14 feet plus shoulders:	14.3 acres
Amount of Access Routes INSIDE the 115 kV ROW grant Area:	6.0 acres/1.6 miles
Amount of Access Routes OUTSIDE the 115 kV ROW grant Area (Additional ROW grant Required):	22.7 acres/5.8 miles
Total ROW for EMP Access Routes***:	28.7 acres/7.4 miles

Source: View Point West, 2011.

Notes:

* During construction (short-term), a total of 2.6 acres would be required outside the standard 100 foot-wide ROW for equipment and guying of structures 27, 28, 31, 37, 40, 42, 46, 50, 53, 56, 60, and 62. Long-term land requirements, outside the standard 100 foot-wide ROW, are reduced to 1.4 acres, for guy wires and anchors.

** The turn-around area, near structure 34, is needed during construction and operation of the project. This would require 0.5 acre, which is in addition to the standard 100 foot-wide ROW, and access road acreages shown in Table 2.

*** Total ROW for EMP Access Routes does not include public roads.

3.2.4 DESIGN FEATURES OF EMP 115 kV TRANSMISSION LINE

Tri-State designs, constructs, operates, and maintains transmission lines to meet or exceed the requirements and standards of the National Electrical Safety Code (NESC), U.S. Department of Agriculture (USDA), Rural Utilities Services (RUS), and U.S. Department of Labor Occupational Safety and Health Administration (OSHA). Tri-State's standard operating procedures (SOPs) are designed for the maximum safety and protection of the public, landowners and their property, as well as Tri-State's construction and operations personnel.

The EMP transmission line has been designed in accordance with electrical design standards established by the RUS for 115 kV lines. The transmission line would consist of a single conductor per phase. The conductor would be 0.86 inch in diameter. In addition to the conductor, there would be two overhead ground wires. One of the overhead ground wires would be a 7 strand 3/8 inch diameter galvanized steel wire. The second wire, known as an Optical Ground Wire (OPGW), would be used as a fiber optic communications cable for Tri-State and DMEA communications use only, and would consist of aluminum and aluminum clad steel strands, surrounding the fiber optic core. The OPGW would be 1/2 inch diameter. Structure designs and heights vary according to line location, terrain, ground clearance requirements, line angles and whether new or existing ROWs are being utilized. The 115 kV transmission line design would be typical of other 115 kV transmission lines operating throughout western Colorado. Structures have been designed in accordance with avian protection standards for 115 kV structures (Tri-State 2011). The following is a general description and summary of the structures proposed for the EMP 115 kV transmission line. **Figures 2, 3 and 4** show typical structure designs that would be used on public lands. See *EA Attachment 1, Appendix B* for information on the design and height for each structure.

H-Frame Structures. The 115 kV line would be supported primarily on wood H-frame structures. **Figure 2** shows the typical RUS wood H-frame structure design. Hardware includes insulators, three electrical conductors, and two overhead ground wires at the tops of the poles to protect the line from lightning. Above-ground heights for the wood H-frame structures would vary between 47.5 feet and 83.5 feet. The maximum above ground height of an H-frame structure on BLM land would be 83.5 feet (structure numbers 39 and 43) and the minimum height would be 52 feet (structure number 48). Spans between structures would average about 800 feet. These structures would be utilized primarily where the line deflection angle is less than eight degrees. Long-term land loss for H-frame structures would be approximately 14 square feet per structure. In total, 22 of the 32 structures to be located on public land would be wood H-frame designs (pole numbers 29, 30, 32, 33, 34, 38, 39, 41, 43, 44, 45, 46, 47, 48, 49, 51, 57, 58, 59, 60, 61, 63).). Two of the H-frame structures on public lands (structure numbers 46 and 60) would have guy wires to support the small line angle loadings. One structure on private land (structure 18) would be a two-pole self supporting steel structure.

Three-Pole Structures. Three-pole structures would be erected at angle points along the transmission line to provide line stability and to maintain the individual conductors spacing. Above-ground heights for three pole wood structures would depend upon terrain conditions and would vary between 47.5 feet and 83.5 feet. The maximum height of a three-pole structure on public BLM land would be 74.5 feet above ground (Structure 42); and the minimum height three-pole structure would be 47.5 feet above ground (Structures 31 and 50). These structures would be used where the line deflection angle exceeds five

degrees or is dead-ended. These structures would require down guy wires with deadman type anchors to resist tension of the conductors and shield wires at angles in the alignment. The number of anchors and guys would vary with the structure type. Permanent land loss for three-pole structures would be 21 square feet per structure. Additional space for three-pole structure guying would be required at structure numbers 27, 28, 31, 37, 40, 42, 50, 53, 56 and 62. **Figures 3 and 4** illustrate RUS's typical three-pole structure design and the range of heights for these structures on BLM land. In total, 10 of the 32 structures on BLM land would be three-pole design.

Single-Pole Structures. Single-pole structures would be used only on private lands. As currently designed, 4 of the 74 structures would be single pole design, including 3 steel pole structures and 1 wood pole structure. **Figure 5** shows the typical single-pole wood structure design for 115 kV lines. The steel structures would be self supporting on concrete foundations. All material would be weathered steel, which would have a non-reflective brown appearance similar to a wood pole. The above ground heights of the single pole structures would vary between 64 feet and 75 feet. Single-pole structures would be located at structure numbers 70, 71, 72 and 73.

3.2.5 ACCESS ROUTE IMPROVEMENTS

The construction and maintenance of the proposed EMP facilities would require access to the transmission line structures and substation sites across public lands and private lands in Montrose County. *POD Map Exhibits 1-11* shows the existing and proposed roads that would be used to access the EMP transmission line ROW throughout the project area. Existing roads and trails (i.e. routes) would be used to the extent feasible. Roads providing access to the transmission line across private land are in many cases public county roads that terminate at private ranches, farms, or private driveways. Access to the transmission line structures across private lands would be determined in consultations with individual landowners. Easements obtained across private lands would include access to the transmission line, where necessary.

Public roads in Montrose County that would be used to access the EMP facilities during the construction and operational phases of the project are: US Highway 50, Falcon Road, 6400 Road, Holly Road, Ida Road, Elephant Skin Road, Landfill Road and Miguel Road. On public lands, access to the EMP 115 kV transmission line structures and ROW would primarily be achieved via existing paved, two-track, and gravel roads. New access routes and improvements to existing roads and trails are proposed where necessary to provide for construction and long-term line maintenance equipment access

A number of the existing access roads within or adjacent to the ROW would need to be improved to allow the safe passage of construction and maintenance equipment and vehicles. Proposed routes would deviate from the transmission line ROW where necessary due to terrain conditions (canyon crossings, steep hillsides, etc.) or environmental constraints (e.g. Clay loving wild buckwheat concentrations). Once construction is complete, access routes would typically be 14 feet wide, with a cross-slope no more than two percent and a maximum grade not exceeding 12 percent. In areas of steep slopes or broken terrain, new access routes would typically consist of short spurs, which would connect to existing roads.

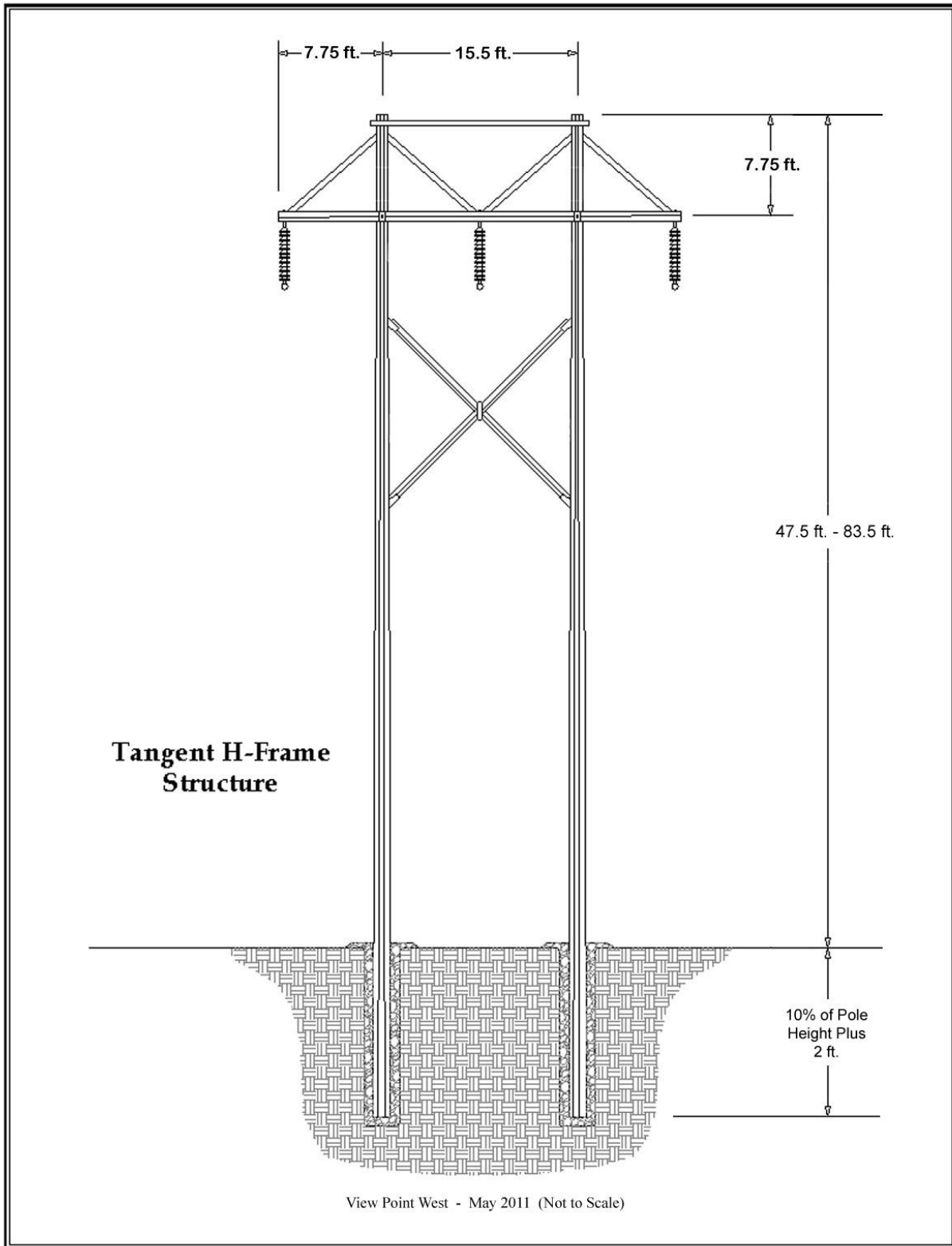


Figure 2. Typical 115 kV H-frame Wood Pole Structure

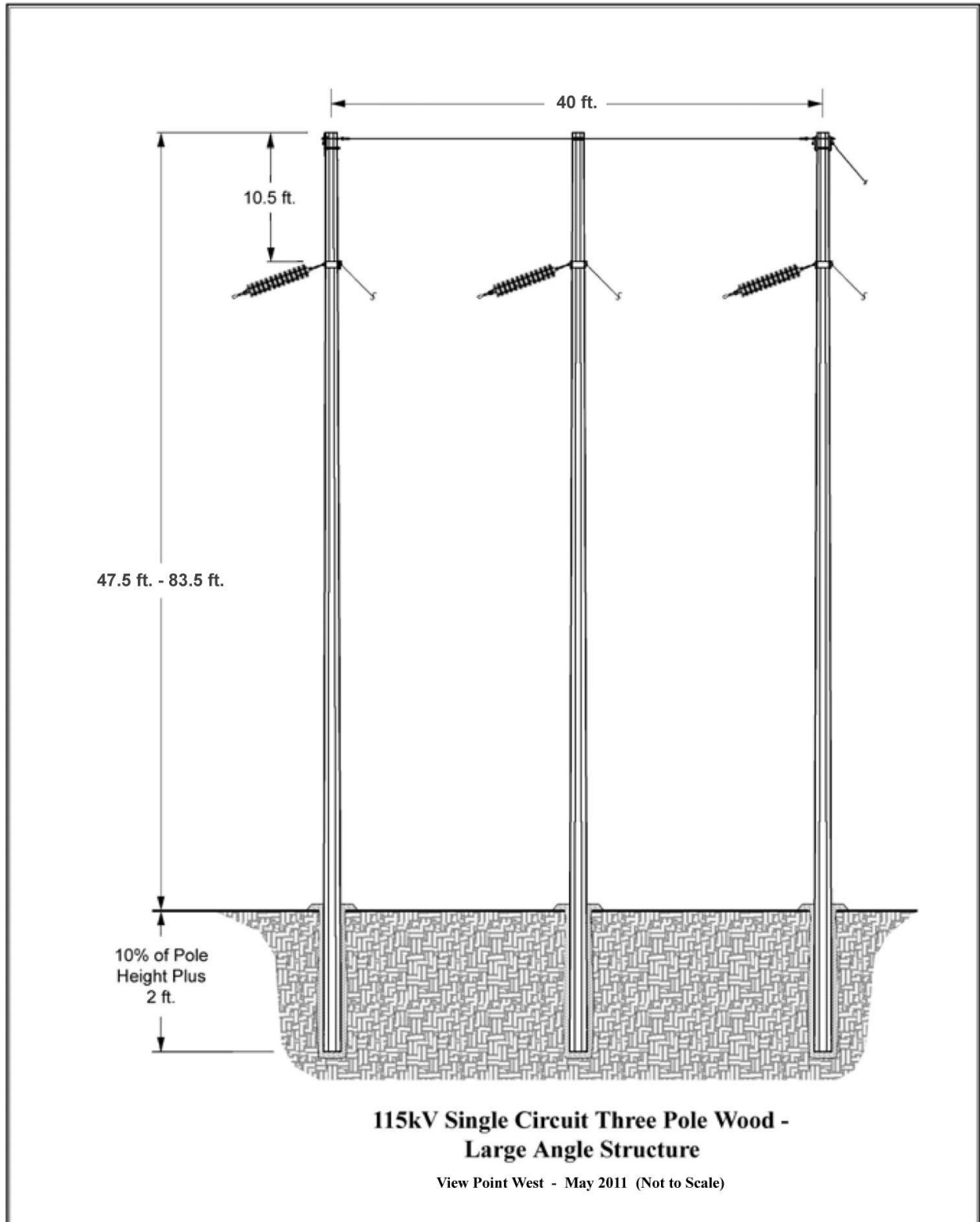


Figure 3. Typical 115 kV 3-Pole Wood Structure

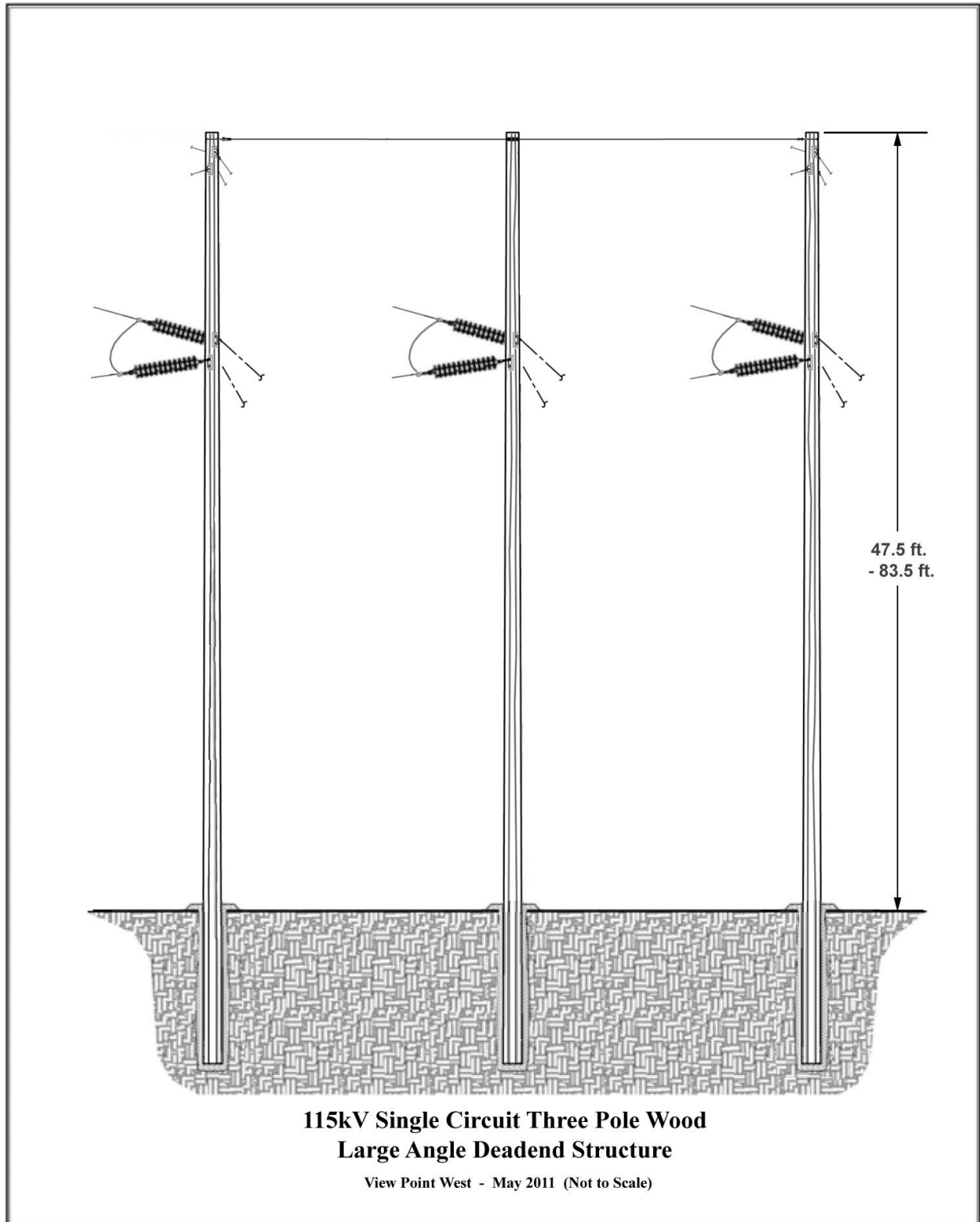


Figure 4. Typical 115 kV 3-Pole Wood Large Angle Double Deadend Structure

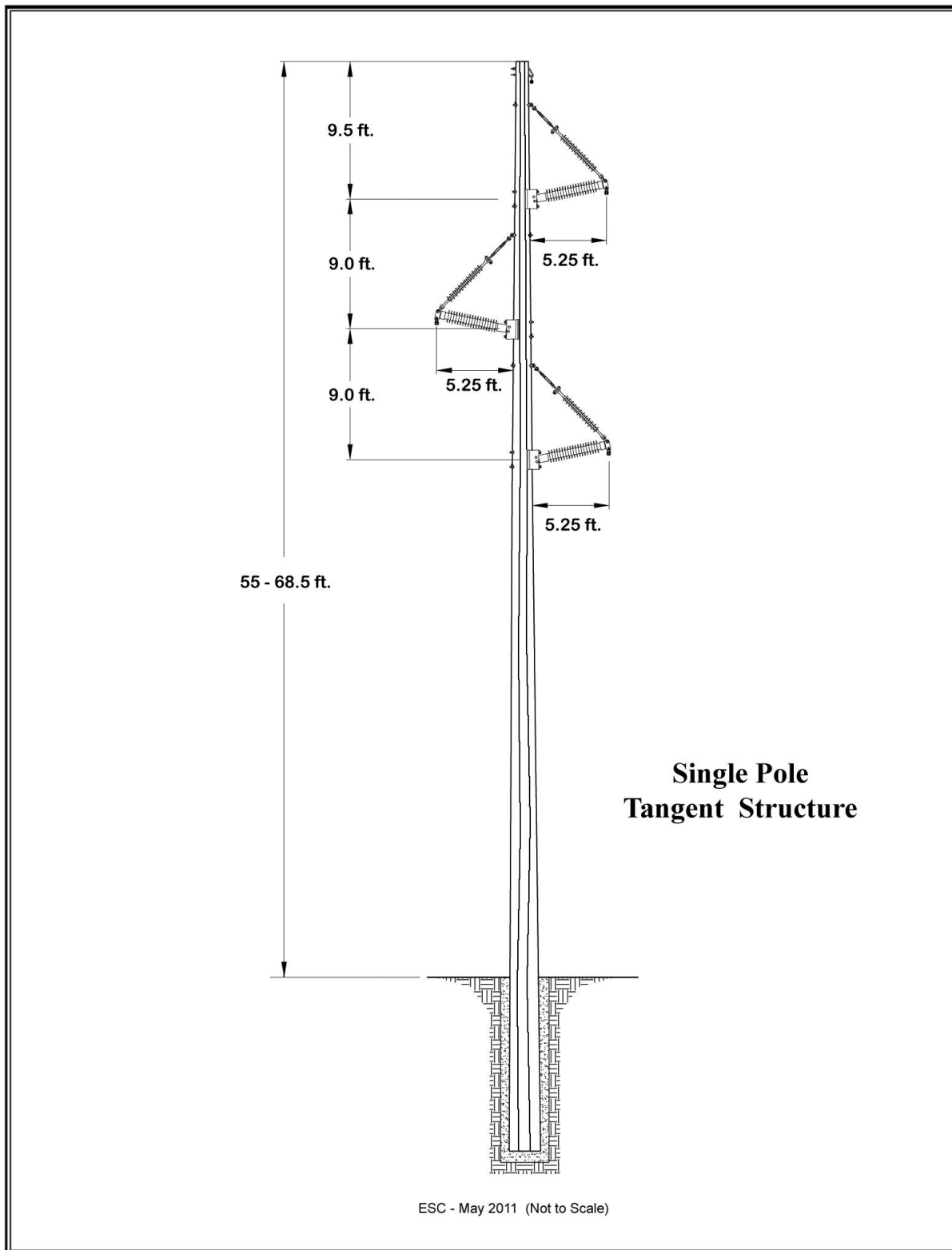


Figure 5. Typical 115 kV Single-Pole Structure

The access routes on BLM lands are shown on *POD Map Exhibits-5-10*. Between 2009 and 2011, DMEA and Tri-State completed field surveys to locate the proposed EMP 115 kV structures and access routes. Existing roads and trails were evaluated and used to the extent feasible. Proposed structures and access routes to the structures have also been sited to use existing roads and trails to the extent feasible and to avoid federally listed plants (i.e. Clay loving wild buckwheat).

Each route has been classified according to the level of improvement initially needed to establish suitable access to structure site(s). Access routes would be maintained for the life of the project. The access route ILs are defined as follows:

Existing Public Roads – This category is inclusive of paved and gravel-surfaced public roads that would be used to access the EMP ROW and facilities during construction and routine maintenance activities. No clearing or grading or other form of improvement is required.

Improvement Level 1 – Existing Access Routes and Overland. This category is applied to unimproved routes that may either have no physical characteristics or visual appearance, or may be visually evident as ATV two-track disturbances, or similar level of disturbance. No clearing or grading is required.

Improvement Level 2 – This improvement level typically applies to access routes or trails where no grading is required but where vegetation (e.g., sagebrush, oakbrush, saplings up to 2 inches diameter, etc.) must be cleared to create minimum width for access by line maintenance equipment. No Improvement Level 2 occurs on public lands within the EMP Project Area.

Improvement Level 3 – Improvement Level 3 typically applies to access routes or trails where minor grading (generally less than 1 foot of cut or fill) is required. This category often includes clearing of shrub and tree vegetation (e.g., sagebrush, oakbrush, small pinions, junipers, etc.) and the grading of rocky or rutted surfaces to create a minimum width (12 foot running surface) for access by the maintenance equipment. Within the EMP Project Area, no clearing of large shrubs and trees on public lands would be necessary. However, due to the prevalence of clay adobe soil conditions and All-Terrain Vehicle (ATV) activities in some areas, Level 3 grading improvements would be necessary prior to construction, as well as periodically during the life of the project. Improvement Level 3 is proposed for most of the routes on public lands, including suitable terrain areas with no existing roads, and existing single and two track routes.

Improvement Level 4 – Improvement Level 4 pertains to access routes or trails where moderate grading (generally 1 to 3 feet of cut or fill) is required. Similar to IL 3, this category typically provides for the clearing of vegetation (e.g., sagebrush, oakbrush, etc.) and/or large trees such as piñon pine, juniper, etc. Substantial vegetation clearing is not anticipated on public lands for the EMP Project. Access route or trail improvements would require cut and fill slopes, drainage ditches and sedimentation and erosion control measures.

Improvement Level 5 – Improvement Level 5 pertains to access routes or trails where substantial grading (generally 3 to 6 feet of cut or fill) is required. This category typically includes clearing of vegetation (e.g., sagebrush, oakbrush, etc.) and large trees (not applicable to public lands crossed by the EMP access routes). Access routes or trail improvements would require cut and fill slopes, drainage ditches, and sedimentation and erosion control measures.

Improvement Level 6- Arroyo Crossings – The EMP transmission line crosses multiple arroyos and canals, and some access route crossings of surface water features would be necessary. Construction access through the majority of the arroyo crossings would require grading banks back and away from the

drainage channel to allow for vehicle access. At five locations on BLM lands, permanent addition of fill or rock armoring would be implemented (see **Table 3**). Low water crossings are designed as improved at-grade armored fords with a roughened driving surface using the BLM Gold Book for guidance. Arroyo crossings would be evaluated in the field with the BLM prior to construction to develop specific design details for any necessary armoring or other mitigation.

It is expected that at least one culvert would be required on BLM lands. The determination of culvert size would be based on detailed drainage analysis that includes delineation of tributary drainage basin areas and determination of soils and rainfall data. Design flows of any crossing requiring a culvert would be calculated using a 50-year design frequency. The Natural Resource Conservation Service (NRCS) Technical Release 55 (TR-55) Urban Hydrology for Small Watersheds methodology would be used based on basin sizes to determine design flows. Once the design flows were determined, culvert sizing would be evaluated according to the methods and procedures in the HDS-5, Hydraulic Design of Highway Culverts. The appropriate crossing type, culvert size, shape, material, and configurations would be determined at each crossing location based on site conditions (channel depth and width, allowable headwater depth, approximate slope, cover, etc.). All crossing recommendations including culvert sizes would be based on the best available information at each site. Minimum culvert size would be 24 inches (Murphy, 2009). The one proposed culvert on BLM lands (see **Table 3**) was sized according to this methodology. If a culvert became necessary at any other crossing, the surface disturbance would be approximately the same as the ford.

Access Restrictions - The POD maps also indicate where access within the ROW would be restricted or limited. Access restrictions apply to those portions of the ROW which contain, or are near, sensitive resources such as wetlands, cultural resource sites, or sensitive plants, or where access restrictions are included in landowner easement agreements or permit stipulations. Construction would be conducted in accordance with the Construction POD maps and permit and easement requirements. In applicable ROW areas, sensitive resources would be flagged for avoidance, and the use of heavy construction equipment would be restricted to designated access roads or limited in the ROW to use of trucks, OHV vehicles and/or ground crews.

Table 3. Summary of Arroyo Crossings Requiring Improvements and Culvert on Public Lands

Nearest Structures	Drainage Coordinates		Proposed Action
	Longitude	Latitude	
29	107-52-24	38-32-51	Install rock armor for low water permanent crossing in unnamed drainage as directed by BLM
29	107-52-24	38-32-50	Install rock armor for low water permanent crossing in unnamed drainage as directed by BLM
30	107-52-24	38-32-44	Install rock armor for low water permanent crossing in unnamed drainage as directed by BLM
43	107-50-43	38-31-28	Install rock armor for low water permanent crossing in unnamed drainage as directed by BLM
46, 47	107-50-23	38-31-03	Install rock armor for low water permanent crossing in unnamed drainage as directed by BLM
61, 62	107-47-53	38-30-22	24" diameter culvert approximately 20' long

Source: Ricochet Resource Services, LLC. 2011.

Table 4 summarizes the amount of route improvements needed on public lands. The locations of the access routes are shown on *POD Map Exhibits 5 through 10*. In total, 9.5 miles of public roads and access routes would be used on public lands. ROWs would be required for the 7.4 miles of access routes on public lands, which Tri-State would need to improve and/or maintain during the life of the project.

Table 4. Summary of Access Routes on Public Lands by Improvement Levels

Improvement Level	Total Length – Ft.	Total Length - Miles	Total Acres for Access Routes	Subtotal - Access Outside TL ROW – Acres/Miles
Existing Public Roads	11,007	2.1	n/a	n/a
IL 1 – Existing and Overland	5,973	1.1	4.1	4.1 acres/1.1 miles
IL 2	0	0	0	0
IL 3	30,590	5.8	21.1	16.0 acres/4.4 miles
IL 4	1,590	0.3	2.5	1.7 acres/0.2 miles
IL 5	182	0.03	0.3	0.3 acre/0.03 mile
IL 6	793	0.2	0.7	0.6 acre/0.1 mile
Subtotal: (Access Routes on BLM Lands, excluding existing Public Roads)				22.7 acre/5.8 miles
Total	50,135	9.5 miles total/7.4 miles of access routes on public lands	28.7 acres	

Source: Geo/Graphics, 2011.

Note: Access acres are based on the ROW widths: IL 1-3 – 30 ft.; IL 4-6 – 50 ft.

3.2.6 DESCRIPTION OF CONSTRUCTION AND OPERATION PRACTICES

Construction and operation practices are described in EA Attachment 1, POD Sections 3.1.1 and 3.1.2. A summary of the activities and practices that would occur on BLM lands is provided below.

3.2.6.1 Construction Activities

Construction of the transmission line would generally follow a sequential set of activities performed by crews proceeding along the length of the transmission line. Construction of the EMP is scheduled to commence in 2012. Construction activities would include:

- a. Completion of pre-construction surveys for Clay-loving wild buckwheat, migratory birds (including raptor and burrowing owl surveys) and finalization of structure locations, access routes, and work areas
- b. Access route improvements
- c. Selected clearing and trimming of vegetation
- d. Material hauling
- e. Structure foundations and excavation of pole holes
- f. Structure assembly and erection
- g. Conductor and overhead ground wire (OHGW) installation (wire-stringing)
- h. Post-construction
- i. Revegetation

As part of the preconstruction activities, all structure sites, adjacent work areas, access routes, and pulling stations would be finalized and staked in the field. Access route improvements would be made, as described in the POD. Vegetation clearing and trimming would be limited on BLM land, as most of the proposed ROW on public lands is characterized by low lying shrubs and grasses. If required, vegetation clearing would be done in accordance with North American Electric Reliability Corporation (NERC) guidelines.

The 115 kV structure assembly would occur near the foundation for each structure. Assembly would include drilling, fitting together cross arms, insulator hardware, stringing rollers, etc. Cranes would then be used to lift and place the structure in the foundation hole. Boom trucks or cranes would be used to straighten and plumb the structure. Backfill material would be placed around the structure and tamped in place. Work areas, 100 feet by 250 feet, would be used at each structure site and would be within the transmission line ROW. In addition, one turn-around area, approximately 200 feet long by 100 feet wide (0.5 acre/20,000 sq. ft.) in size, would be near structure 34.

Reels of conductor and OPGW would then be delivered to the various wire handling/stringing sites along the transmission line easements or ROW. These 250-foot by 50-foot temporary use areas would be located within the ROW and locations would be identified to avoid potentially sensitive cultural and biological resources. Equipment would include reel trailers with conductor, OPGW and pulling rope, and tuggers (hydraulic tensioning machines).

Throughout the construction period, waste materials would be removed from the ROW and all other work sites. After construction, all surplus building equipment, lumber, refuse, fencing, etc. would be removed. Any disturbed land not necessary for maintenance or permanent access would be reclaimed by regrading, shaping and smoothing to contours close to the original or natural-appearing contours to avoid increased erosion and washouts. These areas would also be seeded with native grass/brush species compatible with surrounding vegetation. Seed mixtures and season and rates of application would be used, as specified by BLM on public lands. Noxious weed control measures would be implemented. (See Table 5, EPMs NW-1, NW-2, BLM-3 and BLM-4).

3.2.6.2 Operation and Maintenance Activities

Regular maintenance activities would include annual inspections. On-the-ground inspections would involve the use of 4-wheel-drive pickup trucks and ATVs. Aerial inspections would be conducted from a helicopter or fixed-wing aircraft. If maintenance or replacements of the insulators, hardware or shield wires is needed, large bucket and boom trucks would be used to access the transmission line using existing authorized access roads.

The long-term maintenance of the transmission line may include the following range of activities:

- Replacing part(s) of an existing structure or rebuilding the structure in its entirety
- Reinforcing a structure with additional braces and supports
- Relocating a structure up or down the line within the ROW
- Inspection and testing of the materials that make up the transmission line
- Increasing the height of a structure(s) to ensure adequate clearances as required by the National Electric Safety Code (NESC) and the RUS
- Transporting heavy trucks to structures
- Clearing vegetation along access trails for heavy truck access
- Smoothing out excessive ruts with the use of a dozer or blade
- Installing gates and culverts to ensure permanent access routes are available year-round
- Controlling noxious weeds

Overall, the types of equipment that may be needed include: bull dozers, tractors, grading crawlers, bucket trucks, flat bed trucks, wire pullers, cranes and full size pickup trucks for crew vehicles. *POD Appendix B* contains photographs of representative Tri-State construction and maintenance equipment.

Access roads would be used for routine maintenance and repairs and during emergency electrical outages. Emergency outages may be caused by lightning strikes, high winds, vandalism, or equipment failure. Tri-State would maintain the access roads on public lands in a satisfactory condition to enable the safe passage of line maintenance vehicles and equipment to each transmission structure. Tri-State would maintain access roads open to the general public commensurate with use. Large bucket and boom trucks may need to access each of the structure sites. Since bucket and boom trucks have a higher than average center of gravity, access roads must be level or flat (5% or less side-to-side grade) for safe passage. A level area is also needed near each structure in order to stabilize a bucket truck with outriggers. The road bed would be used for stabilizing this equipment in most cases; however, a pad may need to be leveled at some structure sites, depending on terrain and vegetation conditions. If construction of a level pad is required, a backhoe or crawler tractor would be used.

3.2.7 ENVIRONMENTAL PROTECTION MEASURES

As part of the Proposed Action, Tri-State has adopted a number of Environmental Protection Measures (EPMs) to avoid and minimize impacts. EPMs are measures taken in the design and implementation phases of a Proposed Action to avoid or minimize a foreseeable effect to a resource. When implemented, EPMs reduce the potential impact to project area resources. These Proposed Action measures are listed in *Table 5*.

Table 5. EMP Environmental Protection Measures

NO.	Description
Project-wide Measures (Public and Private Lands)	
Aesthetics/Visual Resources	
A-1	The contractor shall exercise care to preserve the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring or defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works, approved temporary or permanent construction roads, staging areas or excavation operations, vegetation shall be preserved and shall be protected from damage by the contractor's construction operations and equipment.
A-2	Any scarring, defacing, damage or destruction of the natural landscape resulting from construction operations shall be repaired by the contractor to the satisfaction of Tri-State and the affected landowner(s).
A-3	In order to minimize visual impacts, the following will be implemented, as applicable: <ul style="list-style-type: none"> • Conductors (new and replacement conductors) will be non-specular. • Stone used for drainage crossings shall be from a source with a color blends in with the native light tan soil.
A-4	All construction material, waste and debris shall be removed from the project area in a timely manner. Burning or burying of waste materials on the right-of-way or at the construction site will not be allowed. All materials resulting from the contractor's clearing operations shall be removed from the right-of-way.
Access Routes	
AR-1	All access routes will be improved according to the POD, and as specified by BLM in the Conditions of Approval (COA).
AR-2	All access routes will be maintained to ensure long-term bucket truck access for maintenance activities, in accordance with the POD (Attachment 1) and BLM standards.
AR-3	Routine Road Maintenance: Routine road maintenance will occur during the dryer summer and autumn months. Routine surface disturbing activities will not occur from March 1 through May 31 if necessary to protect wet soils. No construction or routine maintenance activities will be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 4 inches deep for a distance of 10 feet on native surface roads, the soil shall be deemed too wet to

NO.	Description
Project-wide Measures (Public and Private Lands)	
	adequately support construction equipment. If equipment or vehicles create ruts in excess of 1 inch deep on graveled roads and 4 inches deep on non-graveled roads, the roads shall be deemed too wet to support construction equipment.
AR-4	<p>Emergency Access: Emergency access will be allowed during any time of the year. In the event of an emergency, Tri-State will notify the BLM as soon as possible. Tri-State will meet with BLM onsite after an emergency to determine the required rehabilitation work and to establish a rehabilitation schedule.</p> <p>If emergency access to the Transmission Line is required during wet weather, or if other maintenance activities result in the removal of vegetation, or substantial vehicle impacts to existing native vegetation or soil, revegetation of disturbed areas will be completed as directed by the BLM. Reclamation and revegetation will be implemented, as required, as soon as is practical after any emergency road access or maintenance work needed to repair the Transmission Line.</p> <p><u>If emergency line maintenance is required during the winter or spring months</u>, care will be taken to minimize erosion and sedimentation. This may involve the temporary installation of culverts or bundled PVC pipes, and the use of flow diversion structures and sediment traps (straw bale dikes, sediment filter fabric, etc.) below maintenance areas to trap sediment.</p>
AR-5	Only the minimum amount of soils and vegetation will be disturbed as necessary for the maintenance of the access routes and the safe and reliable operation of the transmission line. If excavation is necessary, topsoil will be conserved and reused as cover on temporarily disturbed areas to facilitate re-growth of vegetation. Vegetation will be cleared only from those areas necessary to obtain adequate working width and turning radius space for maintenance equipment and allow for the safe operation of the transmission line.
AR-6	Water bars on the access roads will be maintained and/or constructed as specified by the BLM. Water bars are to be constructed to: 1) simulate the imaginary contour lines of the slope (ideally with a grade of 1 to 2%); 2) drain away from the disturbed area; and 3) begin and end in vegetation or rock whenever possible.
Air Quality	
AQ-1	The contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent and otherwise minimize atmospheric emissions or discharges of air contaminants.
AQ-2	Possible construction related dust disturbance shall be controlled by the periodic application of water to all disturbed areas along the right-of-way and access roads.
AQ-3	If necessary, dust control measures will be implemented to reduce wind erosion and blowing dust. A stormwater management plan will be approved prior to construction that will incorporate soil stabilization and erosion control measures as well.
AQ-4	Vehicles and equipment showing excessive emission of exhaust gases due to poor engine adjustments or other inefficient operating conditions shall not be operated until corrective adjustments or repairs are made.
Biological Resources	
BR-1	Vegetation shall be preserved and protected from damage by construction operations to the maximum extent practicable. Removal of trees will be limited to those necessary for construction of the line and/or those that pose a threat to safe and reliable operation and maintenance of the line, or as otherwise determined by Tri-State and the affected landowner(s).
BR-2	Water turn-off bars or small terraces shall be installed across all temporary construction access roads and trails on hillsides to prevent erosion and facilitate natural revegetation.
BR-3	The contractor shall avoid all impacts to surface waters, wetland and riparian areas that are not permitted by the US Army Corps of Engineers. Where such avoidance is not possible, a qualified biological consultant shall conduct a site specific assessment to determine the level of potential impacts and identify appropriate mitigation measures, including obtaining USACE approval if appropriate.
BR-4	Riparian and Wetland Features - Protection of Known Sites: Riparian and wetland resources that will be avoided during project construction will be marked and buffered prior to construction activities and will be monitored to be sure no ground disturbing activities or secondary impacts (erosion or sedimentation) occur to these areas during or after active construction activities, unless appropriate crossing permits have been obtained and permit conditions are met.
BR-5	On completion of the work, all work areas, except any permanent access roads/trails, shall be regraded, as

NO.	Description
Project-wide Measures (Public and Private Lands)	
	required, so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage and prevent erosion.
BR-6	<p>Endangered Species – Clay-loving wild buckwheat:</p> <p>All areas of suitable habitat for clay-loving wild buckwheat within 100 meters from any disturbance will be surveyed on public lands and on directly affected private lands, prior to construction, where landowner permission is granted. If clay-loving wild buckwheat plants are found within 100 meters of disturbance areas including access routes, USFWS will be contacted, and consultation re-initiated if necessary.</p> <p>A compliance biologist will be present for all construction activities within 100 meters of any known clay-loving wild buckwheat individual. Dust mitigation activities will be used within 100 meters of any known clay-loving wild buckwheat individual to minimize the amount of dust released into the air including the use of water and silt fences if necessary as determined by a compliance biologist.</p> <p>Along the right-of-way, within 100 meters of known clay-loving wild buckwheat populations, disturbances including vehicle use and cable drag should be avoided to the extent possible.</p> <p>Construction and maintenance activities will comply with all mitigation required in the Biological Assessment approved by the USFWS.</p>
BR-7	All temporary disturbed areas, except the access route running surfaces, will be reseeded with certified weed-free seed mixes as specified by BLM or the landowner. All such areas shall be seeded using the BLM-approved seed mix for this community type, with revegetation efforts continuing until the revegetated area supports at least 50% of the native perennial plant cover found in the undisturbed vegetation in this area.
BR-8	The transmission line will be constructed in accordance with recommendations and standards of the Avian Power Line Interaction Committee (APLIC 1994, 2006).
BR-9	<p>Construction: Pre-construction surveys for nesting raptors and all other migratory birds will be completed in suitable habitat if surface disturbance activities are to be conducted during the avian breeding season, March 15 through August 15. No construction or surface occupancy activities will occur within 0.5 mile of the known golden eagle nest near structure 55 between December 15 and July 15. If eagles are not actively nesting after April 15, construction and routing maintenance activities will be permitted.</p> <p>Pre-construction surveys for prairie dogs and burrowing owls will be completed in suitable habitat if construction activities are to be conducted between March 15 and October 31 in those areas. If nesting burrowing owls are found, no human encroachment within 150 feet would be permitted during the nesting season from March 15 to October 31.</p> <p>Maintenance: The same seasonal restrictions described above for construction will also apply to routine maintenance of the transmission line. In the case of an emergency (electrical outage), access to the area would be permitted at any time of the year. Tri-State would contact the USFWS as soon as possible and implement mitigation measures as necessary.</p>
Cultural Resources	
CR-1	Prior to construction, all supervisory construction personnel will be instructed on the protection of cultural resources with reference to relevant laws and penalties, and the need to cease work in the location if cultural resource items are discovered.
CR-2	Cultural and Paleontological Resources - Inadvertent Discovery: If any cultural resources are inadvertently unearthed or otherwise encountered during maintenance activities, work will cease in the area of the discovery until the resources can be identified and appropriate resource protection measures can be implemented. Tri-State will notify the BLM officials.
CR-3	Cultural and Paleontological Resources - Inadvertent Discovery: Pursuant to 43 CFR 10.4(g), Tri-State must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43

NO.	Description
Project-wide Measures (Public and Private Lands)	
	CFR 10.4(c) and (d), Tri-State must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
CR-4	Cultural Resources - Protection of Known Sites: A qualified archaeologist will direct the placement of temporary fencing to protect NRHP eligible sites (confidential site information is shown on BLM Map Exhibits). Site flagging will be completed prior to the implementation of access road improvement or maintenance, and prior to any potential surface disturbance (e.g., installation of new poles, pole replacements, etc.). A qualified archaeologist will be given advance notification (2 weeks minimum) prior to the start of all maintenance/improvement activities in the vicinity of the above sites to enable the scheduling of temporary fence installation. The fencing will be removed immediately after maintenance/improvement activities are completed. Construction and maintenance personnel will be trained to recognize the markers and understand the equipment movement restrictions involved.
Fire Prevention/Control	
FP-1	Construction vehicles shall be equipped with government approved spark arresters.
FP-2	The contractor shall maintain in all construction vehicles a current list of local emergency response providers and methods of contact/communication.
Floodplains	
FL-1	Prior to construction, a county floodplain permit will be obtained, if required. Structure erection is not expected to result in significant impacts to the floodplain structure or function.
Hazardous Materials	
HM-1	<p>Tri-State shall comply with all applicable federal laws and regulations existing or hereafter enacted or promulgated regarding toxic substances or hazardous materials. In any event, Tri-State shall comply with the Toxic Substance Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the ROW or on facilities authorized under this ROW grant (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, section 102b. A copy of any report required or requested by any federal agency or state government as a result of a reportable release or spill of any toxic substance shall be furnished to the authorized officer concurrent with the filing of the reports to the involved federal agency or state government.</p> <p>No bulk fuel storage will occur within the public lands portion of the right-of-way project. All fuel and fluid spills within this area will be handled in accordance with appropriate state and federal spill reporting and response requirements.</p> <p>Any waste generated as a result of the proposed action will be properly disposed in a permitted facility. Solid waste generated during construction and periodic maintenance periods will be minimal. All hazardous materials will be handled in accordance with applicable local, state and federal hazardous material statutes and regulations.</p>
Land Use, Recreation, Range and Authorized Activities	
LU-1	All activities associated with the operation and maintenance of the EMP 115 kV transmission line will take place within the authorized limits of the transmission line and access right-of-way grant. Additional access routes or cross-country travel will not be allowed outside of the right-of-way for the transmission line and access routes without prior review and approval by the BLM.
LU-2	The contractor will limit movement of crews, vehicles and equipment on the right-of-way and approved access roads to minimize damage to property and disruption of normal land use activity.
LU-3	When weather or ground conditions permit, the contractor shall eliminate all construction ruts that are hazardous to operations and/or movement of vehicles and equipment. Such ruts shall be leveled, filled and graded, or otherwise eliminated in an approved manner. Damage to ditches, tile drains, terraces, local roads and other similar land use features shall be corrected as necessary by the contractor. The land and facilities shall be restored as nearly as practicable to their original condition.
LU-4	Structure foundation holes will not be left open overnight and will be covered. Covers will be secured in

NO.	Description
Project-wide Measures (Public and Private Lands)	
	place and will be strong enough to prevent livestock, wildlife, or the public from falling through and into a hole.
LU-5	Public Access: Tri-State will work with BLM to restrict access to the right-of-way as determined necessary by BLM. Closure (signs or gates) of improved access routes near habitat with clay-loving wild buckwheat may be considered as determined necessary by BLM. .
LU-6	Damaged Fences and Gates: If damaged, fences, gates, and brace panels will be reconstructed to appropriate landowner or BLM standards as determined by the authorized officer.
LU-7	<p>Recreation-OHV Trails-Public Safety: The following measures will be implemented to minimize impacts to recreational trail users</p> <ul style="list-style-type: none"> • Prior to initiation of project activities there will be information signs posted at the trail map locations in the Flat Top and Peach Valley OHV staging areas that describes the nature of the activities, the anticipated period of implementation, and the general location of the OHV trail system that will be impacted. BLM recreation staff will be consulted regarding the design and placement of the informational signs. • During project activities there will be signs located at the OHV track trail entrances to the right-of-way and access routes to warn trail users of the project activities that are occurring on the trails. Access will be kept open for all the trails through the area other than restricting access to the transmission line work areas for public safety. • If temporary trail closures are required, flaggers will be present along the trails to maintain the trail closures. <p>Construction staff will be informed of the nature of the recreation activities that will be occurring on the BLM lands during the project implementation phase..</p>
LU-8	Range: A 25 mph speed limit will be imposed on all construction-related vehicle traffic in the Brush Point Allotment during the grazing season.
LU-9	Range: As part of the pre-construction environmental briefing, all construction personnel will be notified that livestock may be present during the grazing season, and fence gates are to be left as they are found (i.e. left closed, if fence gates are closed; or left open, if fence gates are found open).
Noise	
N-1	Construction vehicles and equipment shall be maintained in proper operating condition and shall be equipped with manufacturers' standard noise control devices or better (e.g., mufflers, engine enclosures). Project activities will only occur during daylight hours to avoid noise after sunset.
Public Health and Safety	
PH-1	Tri-State shall comply with applicable state standards for public health and safety, environmental protection and siting, construction, operation, and maintenance, if these state standards are more stringent than federal standards for similar projects.
Soils	
S-1	Movement of construction vehicles and equipment shall be limited to the right-of-way and approved access roads.
S-2	All soils compacted by construction operations shall be loosened, leveled, and reseeded as approved by the property owner.
S-3	Excess Soil Excavation: Excess soil excavated from the holes of any poles will be evenly spread on the access routes in the immediate vicinity of the pole structure.
Traffic	
Traffic-1	The contractor shall make all necessary provisions for conformance with traffic safety standards and shall conduct construction operations so as to offer the least possible obstruction and inconvenience to public traffic.
Training	
Trng-1	Tri-State and its contractors will inform their employees about activities permitted within the right-of-way for the transmission line and access routes. As part of this measure, Tri-State will provide contractors and employees copies of these Design Criteria/Environmental Protection Measures and POD maps showing allowable activities and access route maintenance levels.

NO.	Description
Project-wide Measures (Public and Private Lands)	
	Prior to any on-the ground project activities beginning, a pre-work meeting will be held with all Tri-State contractors. Coordination meetings to discuss site operations, maintenance and reclamation shall be scheduled at least once annually.
Trng-2	Tri-State and its contractors will inform their employees about relevant federal and state regulations intended to protect cultural resources and special status biological resources. Training will include an explanation of the need to avoid known resource sites, cease work when previously undiscovered cultural resource items are encountered and the possibility of prosecution for removal of such items and/or damage to archaeological sites. Regulatory training shall also include training on the Stormwater Management Plan requirements and any Army Corps of Engineers (ACOE) permit requirements (e.g., Nationwide Permit).
Water Quality	
WQ-1	Construction activities shall be performed by methods that prevent entrance or accidental spillage of solid matter, contaminants, debris, and other objectionable pollutants and wastes into flowing streams or dry water courses, lakes and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts and thermal pollution.
WQ-2	Dewatering work for structure foundations or earthwork operations adjacent to, or encroaching on, streams or water courses shall be conducted as necessary in order to prevent muddy water and eroded materials from entering the streams or watercourses by constructing intercepting ditches, bypass channels, barriers, settling ponds or other approved methods. Proper permits will be obtained before any such work is completed.
WQ-3	Excavated material or other construction materials shall not be stockpiled or deposited near or on stream banks, lake shorelines or other water course perimeters where they can be washed away by high water or storm runoff or can in any way encroach upon the actual water source itself.
WQ-4	Waste waters from construction operations shall not enter streams, water courses or other surface waters without use of such turbidity control methods as settling ponds, gravel-filter entrapment dikes, approved flocculating processes that are not harmful to fish, recirculation systems for washing of aggregates or other approved methods. Any such waste waters discharged into surface waters shall be essentially free of settleable material. Settleable material is defined as that material that will settle from the water by gravity during a 1-hour quiescent period.
WQ-5	A Stormwater Management permit will be acquired from the State of Colorado and the supporting Plan shall be developed to address all construction and reconstruction activities. The plan shall conform with all EPA and Best Management Practices (BMP) requirements.
Weeds	
NW-1	Noxious Weeds: To minimize introduction of noxious weed seed sources to the project area, the following measures will be performed: All heavy equipment utilized during construction will be power washed and free of debris prior to departure from the equipment storage facility. Washing of equipment prior to transport from one work site to another is not recommended, as on-site washing of equipment increases the chance of weed seed dispersal by drainage of water off of the site, across an area greater than the size of the work site. Equipment will have accumulations of mud 'knocked off' instead. This method promotes containment of weed seeds on the work site. All seed mixes and mulch used for reclamation activities will be certified weed-free.
NW-2	In order to control the spread of noxious weeds, infestations of treatable noxious weeds will be pre-treated prior to construction with BLM approved herbicide. For a period of three years after construction, Tri-State will hire an independent contractor to evaluate and report annually to BLM on the status of reclaimed sites and the presence of noxious or invasive weeds. Where invasions of weedy species are noted by the contractor, Tri-State will treat noxious weeds using methods approved by BLM. A compliance biologist will be present if treatment will occur within 100 meters of known populations of clay-loving wild buckwheat to avoid inadvertent overspray.
ACEC – Fairview Area of Critical Environmental Concern/Research Natural Area (ACEC/RNA)	
ACEC-1	Tri-State will cooperate with BLM in implementing measures that may be determined necessary in the future to limit potential road access from the EMP right-of-way to the Fairview ACEC
ACEC-2	In order to avoid potential impacts to the Fairview ACEC/RNA area during construction, the boundary of the ACEC (recently fenced) will be flagged prior to construction as an avoidance area. Monitoring will be

NO.	Description
Project-wide Measures (Public and Private Lands)	
	conducted during construction to ensure that all construction activities and equipment remain outside the ACEC and avoid impacts to the ACEC fence.
Additional BLM Mandatory Measures for Public Lands	
BLM-1	Routine Construction and Maintenance. No routine surface disturbing activities will occur from March 1 through May 31 if necessary to protect wet soils.
BLM-2	<u>Civil Rights</u> . Tri-State or Tri-State's successor in interest shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of the Interior issued pursuant thereto.
BLM-3	<u>Herbicides</u> . Tri-State will be responsible for weed control on disturbed areas within the limits of the right-of-way for the duration of the grant. Tri-State will consult with the authorized officer for planning acceptable weed control measures on all noxious and invasive weed infestations within the limits of the right-of-way. The use of pesticides shall comply with federal and state laws governing their proper use, storage, and disposal, and any limitations imposed by the Secretary of the Interior. A pesticide use proposal number and pesticide application record form will be obtained from the BLM prior to any herbicide treatments, and herbicide application records will be turned into the BLM 15 days following application. A compliance biologist will be present if treatment will occur within 100 meters of known populations of clay-loving wild buckwheat to avoid inadvertent overspray.
BLM-4	<u>Weeds</u> . All construction equipment to be used in connection with this project will first be power washed thoroughly and be free of debris to minimize the introduction and spread of noxious and invasive weed species to the area. Any equipment taken off-site will also be power washed prior to being returned to work on the Transmission Line and access roads. An inspection of the equipment will be completed by the BLM before equipment is brought onto BLM lands.
BLM-5	No burning of trash, litter, trees, brush or other vegetative material shall be allowed under this grant. Trash created by maintenance crews will be removed from the site on a daily basis.

Source: Tri-State/DMEA, June 2011.

3.2.8 PROPOSED PROJECT ON NON-BLM LANDS

The construction and operation of the proposed EMP on incorporated and unincorporated private lands of Montrose County is a connected action to the proposal on BLM land. This means that the non-BLM segments of the project would not occur without the authorization of the BLM segments. Though the BLM has no permitting authority over the non-BLM portions of the project, it is acknowledged that in some cases, impacts to private lands could also affect resources on BLM lands.

The 115 kV ROW would cross private lands for approximately 7.0 miles. Other elements of the EMP that would occur on private lands include the construction and operation of the proposed Peach Valley Substation and East Montrose Substation. EMP impacts on non-BLM lands are addressed in EA Section 7.4 Cumulative Impacts. In addition to the BLM's EA requirements, this section provides documentation to the RUS to support their environmental review process which includes both federal and private lands.

The proposed activities on non-BLM lands would be the same or similar to those described for the Proposed Action on public lands, including the transmission line construction and operation, access route improvements, and on-going annual inspections and maintenance of the transmission line and access routes. Environmental Protection Measures listed in *Table 5* are also part of the Proposed Action on both public and private lands, and would be implemented throughout the project area, as applicable.

3.3 NO ACTION ALTERNATIVE

Under the No Action Alternative, the BLM would not authorize the EMP under FLPMA. The project would not be constructed across public lands administered by BLM, as proposed by the Project

Applicants. In the near term, the No Action Alternative would result in future power demand not being met in the City of Montrose and surrounding Montrose County area. Consequently, the Project Applicants would have to pursue other projects which would have the capacity to meet the power requirements of the area. Such alternative projects would most likely affect private lands in Montrose County and could affect other federal lands under the jurisdiction of the BLM or other federal agencies.

The No Action is described under each resource topic according to the likely future or on-going consequences or conditions that would occur in the event that BLM does not authorize the EMP across public lands. The need for the EMP is described in EA Section 2.0 and environmental consequences of the No Action Alternative are described for each resource in EA Section 7.0.

4.0 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

A comprehensive planning and public outreach program was conducted by the Applicant in 2006-2008 to identify potential alternatives. Transmission line routing alternatives considered during the planning phase are shown in *Attachment 2* of the EA.

Alternatives were initially identified in 2006 based on the EMP purpose and need, available data on the existing and planned land uses and environmental conditions in the Uncompahgre Valley and initial agency consultations. Meetings were held early-on with the City and County of Montrose, and the BLM to discuss the project and potential siting constraints and opportunities. A general study area was delineated and preliminary alternative routes and substation sites were identified and studied for their feasibility and relative land use and environmental constraints and opportunities. Available Geographic Information System (GIS) databases were obtained from DMEA, BLM and the City and County of Montrose. Additional information was also provided by state and federal resource and regulatory agencies, including the Colorado Department of Wildlife, Colorado Natural Heritage Program, U.S. Fish and Wildlife Service (USFWS) and the Colorado Historical Society, Office of Archaeology and Historic Preservation.

Routing alternatives were refined and new alternatives identified in response to public input received during the 2007-2008 Public Outreach program. In the summer of 2007, preliminary alternative routes were presented to BLM and reviewed in the field. Based on BLM's initial review of the preliminary alternatives, additional route refinements were made on public lands. In 2009, additional field reviews were conducted with BLM staff to review the locations of structures and access routes. Further refinements to the project location were made to minimize potential impacts to special status plant species (Clay-loving wild buckwheat) and soil erosion.

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5.0 SCOPING AND ISSUES

5.1 PUBLIC OUTREACH PLAN (POP)

In 2007, the Applicants initiated the EMP Public Outreach Program (POP) to explain the need for increased electrical service to the public and to solicit early input on siting issues and alternatives. Two public meetings and 30-day comment periods were held in March-April and November-December 2007. Meeting notifications and comment documentations were conducted in accordance with federal requirements, and were attended by representatives of the BLM. *EA Attachment 2* contains the complete Public Scoping Record for the EMP including notifications, mailing lists and comments received.

The public meetings were held at the Holiday Inn Express in Montrose, and were advertised in the Montrose Daily Press and other local papers. Landowners located within ¼ mile of each alternative were sent informational flyers regarding the project and invitations to the public meetings. Invitations were also sent to federal, state and local agencies, public officials, and special interest groups. In addition, DMEA established a web site to keep the public informed on the project and provide on-going opportunities for public comment.

The first public meeting was held March 21, 2007 to solicit public comments on the 2006 preliminary alternatives. A total of 465 invitations were mailed out. During the public comment period, 67 written comments were submitted. Written comments were received primarily from private landowners regarding the potential effects of the preliminary alternatives on private lands. A number of suggestions were also made for alternative routings and substation locations.

Based on the public input received in the spring of 2007, additional agency meetings and fieldwork were completed during the summer and autumn to refine the alternatives. A revised set of alternatives was subsequently presented to the public at the second meeting, held on November 7, 2007. Notifications for the second public meeting included all landowners previously noticed for the first meeting, and additional landowners potentially affected or within ¼ mile of any new or refined alternatives. A total of 489 invitations were sent to landowners, elected officials, agency and special interest group representatives. During the second public comment period, 34 written comments were received.

5.2 SUMMARY OF ISSUES RAISED

The majority of issues raised by the public concerned potential impacts to private lands and land uses.

Primary issues raised include:

- Impacts to farming operations, irrigation systems and agriculture lands
- Property value impacts
- Concern regarding public health risks
- Impacts to private land development
- Impacts to special status plants
- Impacts to public lands (e.g. the Gunnison Gorge National Conservation Area)
- Impacts to public lands resulting from increased access
- Impacts to OHV activities

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6.0 PLAN CONFORMANCE REVIEW

The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5-3, BLM 1617.3):

Name of Plan: Gunnison Gorge National Conservation Area Resource Management Plan

Date Approved: November 2004

Decision Number/Page: Land Use Planning Decision LAND-C-6, page 2-9

Decision Language: *“Several right-of-way (ROW) corridors, generally one-half mile in width, will be designated on public lands in the planning area and NCA. Table 2-3 (see end of this chapter) describes these designated corridors, and Figure 2-2 (see end of this chapter) shows the general location of each. The BLM will encourage future applicants proposing new or upgraded linear utility and other projects to locate facilities within these ROW corridors. See the description of affected management units for additional information and management regarding these recommended corridors. BLM will encourage use of potential, recommended, or designated ROW corridors and ROW Use Areas to the extent possible. However, depending on site-specific needs, actual locations may vary. Use of these areas and variances to these locations will be considered, provided such locations and use is consistent with the prescriptions for the affected management unit(s) and the objectives of the ROW corridors and ROW Use Areas”*

Decision Number/Page: Land Use Planning Decisions LAND 2-4 and 2-5 (MU-2), page 2-50

Decision Language: *LAND 2-4: “A ROW corridor (0.5 mile wide and approximately one quarter mile wide will be designated on public land at the northern end of the Management Unit 2 along the western edge of the NCA. The corridor will contain part of the Tri-State Generation and Transmission Association (Tri-State) 115-kilovolt (kV) transmission line. The corridor will extend north into adjacent Management Unit 6. See Figure 2-2 and Table 2-3...The BLM will encourage future applicants proposing new or upgraded linear utility and other projects to locate facilities within this ROW corridor.”*

LAND 2-5: “The remainder of the unit will be open to ROWs on a case-by-case basis, but would avoid impacts on recreational facilities”

Decision Number/Page: Land Use Planning Decisions LAND 6-2 (MU 6), page 2-92

Decision Language: *LAND 6-2: “The following 0.5 mile wide ROW corridors are recommended to be located in various locations in this Unit. Refer to Table 2-3 and Figure 2-2 (see end of this chapter) for information and general locations. Mitigation will be required in all applications to meet the objectives of this management unit and other values that could be present.*

Map Key 1 Table 2-3 (at the end of this chapter). Along the southernmost boundary of the planning area adjacent to and parallel to US Highway (US) 50 east of Montrose.”

Summary of Findings for RMP Conformity. The EMP transmission line and access routes have been located to conform to the intent of the RMP Land Use Planning Decisions for the National Conservation Area (NCA). The transmission line stays within 0.5 mile of the BLM boundary to the greatest extent

possible, while also minimizing potential impacts to recreational uses and planned facilities. Environmental Protection Measures (*Table 5*) would be implemented to ensure that construction and operation effects from the EMP protect resources values in MU 2 and MU 6 and minimize potential impacts to recreational activities during the EMP construction and operational phases.

Standards for Public Land Health

In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. A finding for each standard is made in the environmental analysis (EA Section 7.0).

Table 6. Standards for Public Health

Standard	Definition/Statement
#1 Upland Soils	Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes. Adequate soil infiltration and permeability allows for the accumulation of soil moisture necessary for optimal plant growth and vigor, and minimizes surface runoff.
#2 Riparian Systems	Riparian systems associated with both running and standing water, function properly and have the ability to recover from major surface disturbances such as fire, severe grazing, or 100-year floods. Riparian vegetation captures sediment, and provides forage, habitat and bio-diversity. Water quality is improved or maintained. Stable soils store and release water slowly.
#3 Plant and Animal Communities	Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitat's potential. Plants and animals at both the community and population level are productive, resilient, diverse, vigorous, and able to reproduce and sustain natural fluctuations, and ecological processes.
#4 Threatened and Endangered Species	Special status, threatened and endangered species (federal and state), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.
#5 Water Quality	The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM lands will achieve or exceed the Water Quality Standards established by the State of Colorado. Water Quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements set forth under State law as found in (5 CCR 1002-8), as required by Section 303(c) of the Clean Water Act.

7.0 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES and MITIGATION MEASURES

7.1 EA Scope and Approach

This EA evaluates critical and other elements of the environment which BLM has determined may be affected by the Proposed Action. Critical elements are described in Section 7.2 and other elements are discussed in Section 7.3. Other alternatives addressed are the No Action Alternative. The No Action Alternative is described under each respective resource topic in Sections 7.2 and 7.3. Cumulative impacts are described in Section 7.4.

Impacts of the Proposed Action

For each critical and non-critical element, the types of short-term and long-term effects that may result from the Proposed Action on public lands are described. Impacts of the Proposed Action on private lands are described under Cumulative Impact Summary, Section 7.4. Short-term impacts are defined as impacts that are temporary, lasting during construction and up to three years following reclamation activities. Long-term impacts are effects that typically last the life of the project during operation and maintenance phases.

In order to comply with the CEQ requirements of analytic and concise environmental documents (40 CFR 1502.2), potential impacts are characterized according to the following levels:

High - as defined in CEQ guidelines (40 CFR 1500-1508), impacts which are substantial in severity and therefore should receive the greatest attention in project design and implementation practices.

Moderate - impacts which cause a degree of change that is easy to detect, but do not meet the criteria for substantial impacts.

Low - impacts which cannot be easily detected, and cause little change in the existing environment.

No Identifiable Effect – impacts which are not measurable.

The assessment of impacts takes into account the EPMs that Tri-State and DMEA have committed to as part of the Proposed Action (**Table 5**). Impact levels are used throughout the EA impact analyses except for Cultural Resources and Threatened, Endangered and Sensitive Species. Impact findings for cultural resources are based on the National Historic Preservation Act (NHPA); and federally listed and candidate species are reported consistent with the Biological Assessment (BA) and the requirements of the Endangered Species Act (ESA). Impacts for these resource topics are described for the project as a whole (public lands and private lands) under their respective sections.

Impacts of the No Action Alternative

The No Action Alternative is defined as the effect of BLM not authorizing the EMP across public lands, and serves as a benchmark for comparing the effects of the Proposed Action. The No Action Alternative

is described for each resource topic, under EA Section 7.2 and 7.3, according to the likely future or on-going consequences or conditions of non-authorization of the project across public lands.

Cumulative Impact Summary

EA Section 7.4 describes the cumulative effects of the EMP on public land as well as private lands, which is a connected action for the EMP authorization by BLM on public lands. The EMP was initially approved by Montrose County in 2009, and subsequently approved with amendments on private lands in 2010 (Montrose County Commissioners 2009, 2010). EA Section 7.4 also describes the cumulative effects of the project in conjunction with other past, present and reasonably foreseeable projects.

7.2 ELEMENTS

Elements specified by statute, regulation, executive order, or the Standards for Public Land Health are described and analyzed in EA Section 7.2, and are listed on Table 7. Those that could be impacted are brought forward for analysis. Any element not affected by the Proposed Action or alternatives will not be analyzed in this document; for the reasons stated herein.

Table 7. Critical Elements Applicable to the EMP

Critical Element	Not Applicable or Not Present	Present, But No Impact	Applicable & Present; Brought Forward for Analysis
Air Quality		X	
ACEC			X
Wilderness	X		
Wild and Scenic Rivers	X		
Cultural			X
Native American Religious Concerns	X		
Farmlands, Prime/Unique			X
Soils			X
Vegetation			X
Invasive, Non-native Species			X
Threatened and Endangered Species			X
Migratory Birds			X
Wildlife, Terrestrial			X
Wildlife, Aquatic			X
Wetlands & Riparian Zones			X
Floodplains			X
Water Quality, Surface and Ground			X
Wastes, Hazardous or Solid			X
Environmental Justice			X

Elements Not Evaluated – Reasons for No Impacts

Air Quality – The Proposed Action would result in no long-term impacts to air quality. Short-term temporary effects during construction would include fugitive dust and emissions from construction vehicles and equipment. Long-term maintenance of the project may also result in very short-term effects during routine maintenance. Levels of fugitive dust and emissions occurring during construction and

operation would be low and similar to those regularly occurring in the project area from traffic along local roads, from farming activities on private lands and from OHV activities on public lands.

Wilderness – There are no designated wilderness areas, or wilderness study areas (WSAs) within the EMP project area. The closest designated Wilderness Area is the Gunnison Gorge Wilderness, which lies several miles east and north of the project area, within the Black Canyon National Park. Consequently, the EMP would have no direct or indirect impacts on designated wilderness areas or WSAs.

Wild and Scenic Rivers – There are no designated wild and scenic rivers in the EMP project area. There are also no rivers or water bodies identified by BLM as candidates for designation under the Wild and Scenic Rivers Act within the EMP project area.

Native American Religious Concerns – There are no known sites within or near the EMP project area that are of religious concern to Native Americans.

7.2.1 AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

Affected Environment:

Areas of Critical Environmental Concern (ACEC) have been identified by BLM in accordance with the mandates of FLPMA, and are intended to protect important resources on public lands. The BLM's GGNCA RMP addresses several ACECs including the Fairview ACEC/RNA. This ACEC consists of two land parcels and is within the GGNCA RMP planning area, Management Unit 6. The Fairview North ACEC is 175 acres and is located adjacent to the EMP 115 kV transmission line ROW, north of Highway 50 approximately one mile north of the proposed East Montrose Substation. The Fairview South ACEC is located several miles south of the highway and proposed East Montrose Substation, and is outside the EMP project area. Populations of Clay-loving wild buckwheat and Montrose penstemon were the primary values for which this area was designated as an ACEC/RNA (BLM, November 2004).

Environmental Consequences/Mitigation:

▪ **Proposed Action**

Potential indirect impacts from the EMP could result on the Fairview North ACEC/RNA. The Fairview ACEC/RNA boundary lies adjacent to, and west of, the 115 kV transmission line ROW, which would be located on private lands. Direct impacts to the ACEC/RNA could only occur if the 115 kV transmission line construction and operation physically disturbed any of the ACEC's 175 acres or fence. Direct impacts to the ACEC would not occur because the ACEC has recently been fenced and the 115 kV ROW and access routes are located to the east of the ACEC boundary and fence, on private lands. In order to ensure that direct impacts do not occur, the Project Applicants have committed to EPM WSA-2 which would require that construction activities near the ACEC be monitored and flagged for avoidance by construction crews and equipment. No identifiable direct impacts to the ACEC are anticipated with implementation of EPM WSA-2.

Indirect impacts to the ACEC may occur if construction or operation activities caused increased dust or soil erosion, which could impact the viability or quality of rare plant values on the ACEC. Potential impacts would be reduced to very low levels with implementation of BMPs for protection of soils and water resources (EPM AR-3, AR-5 and AR-6). While construction may temporarily increase fugitive dust in the immediate project area, levels of dust would be similar to levels typically generated by

agricultural and ranching activities in the valley. Potential impacts to special status plant species are discussed in further detail in EA Section 7.2.7.

- **No Action Alternative**

Under the No Action Alternative, indirect impacts from the EMP construction would not occur. Conditions within the Fairview North ACEC would be the similar to those described under the Proposed Action, as the ACEC parcel has recently been fenced by BLM to protect resource values for special status plants. On-going dust and soil erosion from nearby private lands and traffic on unpaved roads would continue to indirectly affect the protected resources of the ACEC.

7.2.2 CULTURAL RESOURCES

Affected Environment:

Cultural resources are defined as fragile and nonrenewable remains of prehistoric and historic human activity, occupation, or endeavor as reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that were important in human history. The cultural resources inventory and analysis for the transmission line, access roads and pole removal locations were prepared by Alpine Archaeological Consultants, Inc. in 2009, 2010 and 2011 (Horn 2009, Moore 2010, Redman 2011). Cultural resources inventory for the Peach Valley and East Montrose Substations were prepared by Stratified Environmental & Archaeological Services, LLC in 2008 (Loebig 2008) and Sugnet & Moore Environmental, Inc in 2010 (Conlan 2010). Because of the sensitive nature of cultural resources, the technical reports for this project are on file at the BLM and the Office of Archaeological and Historic Preservation. These reports are protected from public disclosure and are exempt from the Freedom of Information Act.

The EMP facilities, including the transmission line ROW, access roads and substation areas were surveyed. Surveys for the transmission line ROW were 200 feet wide, including 100 feet on either side of the staked centerline. Surveys for the access roads were 100 feet wide, and included 50 feet on either side of the road centerline. The substation parcels were surveyed for the Peach Valley and East Montrose Substations. A total of 18 sites were recorded. All of the sites are historic Euroamerican. Of the 18 sites, six are in the proposed project area and are officially eligible or have been recommended eligible for the National Register of Historic Places (NRHP). These six sites are considered in the EA analysis. Two of these sites are located on public BLM lands (Site 5MN8058.1 and 5MN8059). The remaining four historic sites are located on private lands.

Environmental Consequences/Mitigation:

- **Proposed Action**

Potential direct and permanent impacts to cultural resources may result from the construction of transmission structures, the removal of existing transmission structures, and the creation, use and maintenance of project access roads. *Table 8* summarizes the sites evaluated for the Proposed Action.

Table 8. Historic Properties Found in Proximity to Project Features, EMP Transmission Line and Access Roads

Site No.	Site type	Potential Impacts	
		Access Roads	TL Construction
5MN1854.4	Selig Canal	Road to Structures 15, 16, and 17*	Structure16*
5MN2035.2	Loutzenhizer Canal	Road to Structures 22-25	*
5MN8058.1	AB Lateral Canal**	Road to Structures 54-64*	*
5MN8059	Habitation	*	*
5MN9141	Habitation	Road between Structures 1 and 2	Peach Valley Sub Southern Line
5MN8058.3	AB Lateral Canal	Road to Structures 54-64*	*

Source: Moore 2010.

*no impact expected

** site located on public lands

Construction and installation of new transmission structures would cause ground disturbance roughly 100 feet by 250 feet in size, and thus can impact cultural deposits. Although these types of impacts are generally considered temporary for other resources (vegetation, wildlife, etc.), it can result in permanent (long-term) impacts to cultural resources because these resources are non-renewable. The potential for impacts originate not only from excavation for structure construction, but from ground disturbance caused by construction/excavation equipment or vehicles and disposal and/or dispersion of excavated earthen materials. Potential impacts to cultural deposits from transmission line and access road construction can be minimized by structure placement away from significant resource locations, use of rubber-tired vehicles, limiting vehicular access, and carefully planned disposal and/or dispersion of excavated earthen materials.

Cultural resources may also be permanently impacted from the creation, use and maintenance of access roads. Each time a road is created, used, widened or improved, direct impacts may occur to cultural resources crossed by that road. Direct impacts to cultural resources from maintenance activities would be avoided or mitigated to less than significant levels by limiting traffic to the existing and/or improved access roads and at structure sites. Indirect, or secondary, impacts resulting from increased access by the general public may also occur if increased access and visibility to resources results in looting and/or artifact collection.

To address potential direct impacts, Tri-State and DMEA have adopted project-wide EPMs that would avoid and minimize impacts to the environment to the extent practicable. These include EPMs CR-1, CR-2, CR-3 and CR-4.

Impacts from Transmission Structure Construction

Two historic sites are spanned by the transmission line (5MN8058.3 – AB Lateral Canal and 5MN8059 – habitation site). No direct impacts to these sites would occur from the construction of the EMP transmission line. Potential indirect impacts would be mitigated in accordance with EPM CR-1.

Three historic sites (5MN1854.4 – Selig Canal, 5MN8058.1 – AB Lateral Canal, and 5MN9141 – habitation site) have EMP transmission structures planned very near them. Two of the sites (5MN1854.4-Selig Canal and 5MN8058.1 – AB Lateral Canal) are in-use irrigation canals. These two in-use irrigation sites are within 25 feet of EMP structure construction areas.

The remaining site (5MN9141) is a historic habitation site with an intact dugout structure. A structure on the southern Peach Valley Substation line is approximately 6 feet (2 m) east of the boundary of the site. Construction within the standard (100 feet by 250 feet) construction footprint could cause permanent (long-term), high, direct impacts to this site and its features.

Potential impacts to sites 5MN1854.4, 5MN8058.1 and 5MN9141 would be avoided by EMP construction activities and equipment, in accordance with EPM's CR-1 and CR-4. With respect to site 5MN9141, the site boundary would be flagged prior to ground-disturbing project activities, so that impacts to the site would be avoided. If the site cannot be avoided, impacts to the site would require mitigation; mitigation might include photo documentation and/or archaeological excavation.

With implementation of EPM's CR-1 and CR-4, there would be No Effect to any historic property from transmission structure construction.

Impacts from Access Road Creation, Use and Maintenance

Four historic properties are crossed by or are next to project access roads, all of which are in-use irrigation features (5MN1854.4, the Selig Canal; 5MN2035.2, the Loutzenhizer Canal; and 5MN8058.1 and .3, two segments of the AB Lateral Canal). These sites are crossed and paralleled by existing roads that would be used as project access roads. No impacts to these four sites are expected with implementation of the cultural resource EMP CR-1. The use of existing access roads across or next to these irrigation features would not change or adversely affect the four historic properties, which would remain in use for regional agriculture.

There would be No Effect to any historic property from creation, use or maintenance of access roads.

Indirect impacts

Indirect impacts from this project to historic properties would be minimal (low impact). Many of the project access roads are existing and in-use by the public. Although improvement of project access roads would result in increased access to historic properties in the project area, all historic properties near project access roads lie on private land where access remains controlled by the landowner.

▪ No Action Alternative

Under the No Action Alternative, cultural resource sites would not be directly or indirectly affected by the proposed EMP Project construction and operation. Historic sites associated with the irrigation canal system would continue to be used, along with project access roads, which are already in place and used primarily for rural agricultural and irrigation access purposes. The habitation site would most likely remain in place as described under the Affected Environment.

7.2.3 FARMLANDS, PRIME AND UNIQUE

Affected Environment:

Montrose County's climate and soil characteristics combine to create some of the most productive farmlands in western Colorado. The U.S.D.A. Natural Resources Conservation Service (NRCS) defines prime and unique farmlands based on a variety of soil, water and climatic factors. Soil types and characteristics vary in the project area, producing high quality vegetable crops to marginal agricultural lands of lesser production and quality. As of July 2011, the NRCS has not produced maps of prime and unique farmlands for Montrose County (NRCS, 2010).

The EMP project area includes the proposed 115 kV transmission line ROW, structures, TUAs, and access routes; and the Peach Valley and East Montrose Substations. Within the EMP area, irrigated farmlands principally lie in the northern part of the Uncompahgre Valley, between the Peach Valley and East Montrose Substations. Approximately 1.3 miles of the 115 kV transmission line crosses irrigated farmland. Both the Peach Valley and the East Montrose Substations are also situated in areas which have historically been used for irrigated farmlands.

Environmental Consequences/Mitigation:

▪ Proposed Action

Irrigated farmlands within the EMP project area are located entirely on private lands and could include prime or unique farmlands. Potential short-term and long-term impacts to prime or unique farmlands are unknown, due to the lack of NRCS data for Montrose County. The implementation of the Proposed Action would not directly impact prime farmlands on public lands.

▪ No Action Alternative

Under the No Action Alternative, potential impacts to prime farmlands, resulting from the EMP construction and operation, would not occur. Existing trends within the county to convert agricultural lands, including prime farmlands, to residential and other community uses would likely continue to occur in the absence of the EMP. Impacts to farmlands would occur on private lands, as described under the affected environment.

7.2.4 SOILS (INCLUDES A FINDING ON STANDARD 1)

Affected Environment:

Soil units are described in the Paonia Area, parts of Delta, Gunnison and Montrose County and Ridgway Area, parts of Delta, Gunnison, Montrose and Ouray Counties, soil surveys. The surveys were inventoried by the Natural Resources Conservation Service (NRCS 2009). Soils are also summarized in the *Land Health Assessment* for the Gunnison Gorge Area (BLM 2001). Soils in the project area are primarily derived from Mancos Shale and unconsolidated alluviums deposited as mudflows and fan valley fill deposits (Morgan 2007, Noe 2007). The alluviums are erosional material of the Mancos Shale. The units can be described as mostly silty, clay loams and badlands. Runoff ratings range from moderate to very high and the rutting hazard can be severe. Soils derived from Mancos Shale are typically characterized as highly erodible soils and ratings range from moderate to severe on the steeper slopes. The Mancos Shale and soils derived from this formation are the primary sources of sedimentation, salinity and selenium loading to the Uncompahgre River.

Environmental Consequences/Mitigation:

▪ Proposed Action

Disturbance of the soil and the removal of any vegetative surface cover potentially increases soil erosion and reduces soil health and productivity. Snowmelt and rainfall may move soil indirectly, by means of runoff in rills (small channels) or gullies (larger channels). Rill and gully erosion is the dominant form of erosion in the project area. The main on-site impact is the reduction in soil quality, which results from the

loss of vegetative cover on side slopes, the loss of the nutrient-rich upper layers of the soil and the reduced water-holding capacity of the eroded soils. Erosion's main off-site effect is the movement of sediment and larger material into intermittent and perennial watercourses. This can lead to the silting-up of dams and disruption of the ecosystems. In some cases, increased downstream flooding may also occur due to the reduced capacity of eroded soil to absorb water.

The *POD Map Exhibits 1-11* show the EMP access roads and level of improvement (IL) that would be needed for construction and maintenance of the 115 kV transmission line at pole locations and temporary construction areas. Soil disturbances for access roads are relative to the need for access road construction or improvements. Different levels of improvement for access roads range from Existing Public or Private Access Roads to IL 5 (3 – 6 feet of cut or fill) and IL 6 (arroyo crossings). Quantification is provided in EA **Table 4**. Six arroyo crossings that would require permanent improvements are also described as IL 6. There are multiple arroyo crossings that would be crossed by the transmission line and associated access roads. Soil impacts would be minimal in IL 1 and greatest where IL 5 and IL 6 are needed. Soil disturbances for structures would generally be limited to within 100 feet of the pole sites and pads. Additional areas for equipment turn around and guy pockets are shown on the POD Exhibits. Soils that are disturbed for structures would be distributed on-site and evenly around pole sites. This could also occur if pole replacements or modifications are required due to age or uprate requirements in the future.

Poorly located and unmaintained roads and other surface disturbing activities have the potential to produce high sediment loads. These types of impacts would be minimized by the EMP, as the Proposed Action takes advantage of existing access to avoid new disturbances, where possible. In addition, new roads have been located and designed to avoid steep slopes, where possible.

The loss of soil and sedimentation would be highest during the construction phase. During the life of the project, access routes would be maintained, thereby reducing the potential for long-term soil erosion impacts. After the EMP is constructed, reclamation of areas temporarily disturbed along access roads and at pole sites and temporary use areas would be implemented to stabilize erosion and sedimentation that is currently occurring in some areas. EPM reclamation measures AR-3, AR-5, AR-6, and BR-5 would reduce the long term impacts. Future off road vehicle use afforded by the Proposed Action could accelerate and increase the erosion and loss of soil, however. This is especially true in the Flat Top area where the BLM plans to further develop the parking area that is primarily used by OHV enthusiasts. These impacts would be indirect and long term.

Due to the severe erosion hazard of area soils, EPMs would be implemented to minimize potential impacts associated with soil loss and transport. Best management practices would be employed during construction and may include, but are not limited to, silt fences, water bars, covering sensitive areas with geotextiles during revegetation, sediment traps and berms. The Stormwater Management Plan would address these strategies (WQ-5). In addition, EPMs BR-1, BR-2, BR-3, BR-5, S-1, S-2, AR-3, AR-5, AR-6, AQ-3, LU-3, LU-5, WQ-3, WQ-4, BLM-1 would ensure that any soil disturbances would reduce the potential for erosion and increased sedimentation to low levels of impact in the short term.

- **No Action Alternative**

Under the No Action Alternative, the Proposed Action would not be constructed and potential impacts to soils from the EMP on public lands would not occur. The BLM would continue to manage public lands in accordance with Standard 1 for Upland Soils, which would mitigate other on-going soil impacts from activities permitted by BLM on public lands (e.g. OHV use, road improvements authorized for other projects, etc.).

- **BLM Public Land Health Standards – Findings for Standard 1 for Upland Soils**

Most of the project area has been identified in the *Land Health Assessment* as Meeting the objectives of Standard 1. Minor areas are identified as Meeting objectives but with problems. With Tri-State's commitment to EPMs, the Proposed Action would not decrease the chance of achieving or maintaining Public Land Health Standard 1.

7.2.5 VEGETATION (INCLUDES A FINDING ON STANDARD 3)

Affected Environment:

The proposed project area is heavily dominated by two vegetation communities: Inter-Mountain Basins Saltbush Shrubland and Inter-Mountain Basins Mixed Salt Desert Scrub. Mat saltbush shrubland covers the largest area; dominating the harshest environments on Mancos shale derived soils. This community is characterized by mat saltbush (*Atriplex corrugata*), which often forms monotypic stands with a high percentage of bare ground. Mixed salt desert scrub occurs in areas with exposed cobble and presents a more diverse plant community. Four-wing saltbush (*Atriplex canescens*) and shadscale (*Atriplex confertifolia*) often dominate, with other shrubs, forbs, and grasses interspersed such as Gardner's saltbush (*Atriplex gardneri*), buckwheat (*Eriogonum* sp.), yucca (*Y. glauca*), bottlebrush squirreltail (*Elymus elymoides*), Indian ricegrass (*Achnatherum hymenoides*), and galleta grass (*Pleuraphis jamesii*).

Small inclusions of other vegetation types also occur in the project area. Inter-Mountain Basins Semi-Desert Grassland occurs east of Flat Top Mesa in several areas where gravel terraces overlie the Mancos Shale, especially on north facing aspects. Species common to this community include: galleta grass, shadscale, four-wing saltbush, winterfat (*Krascheninnikovia lanata*), snakeweed (*Gutierrezia sarothrae*), prickly pear cactus (*Opuntia* spp.), scarlet hedgehog cactus (*Echinocereus triglochidiatus*), scarlet globemallow (*Sphaeralcea coccinea*), needle and thread grass (*Hesperostipa comata*), Indian ricegrass, and saline wildrye (*Leymus salinus*). Inter-Mountain Basins Greasewood Flats occurs in two locations associated with ditches and in wide swales where surface water collects and is dominated by greasewood (*Sarcobatus vermiculatus*).

Environmental Consequences/Mitigation:

▪ Proposed Action

Construction of the Proposed Action would result in impacts to approximately 50.7 acres of vegetation, primarily mat saltbush shrubland and salt desert scrub. Vegetation would be removed permanently over approximately 14.3 acres of the requested ROW where structures and improved access routes (IL 3 to 6) are proposed (**Table 4**). Vegetation would be temporarily disturbed during the construction period over approximately 36.4 acres, including 14.4 acres from access road improvements and 22 acres from construction sites and TUAs. Temporarily impacted areas would be revegetated according to BLM guidelines and standards.

After reclamation, some of the native vegetation values would be regained. However, harsh soils, extreme temperatures and low soil moisture in the project area would most likely pose challenges to plant establishment. Reclamation success depends on favorable moisture conditions coinciding with reseeding efforts. Exotic and noxious weed species can quickly take advantage of disturbed sites and, even with control efforts, displace native species.

DMEA and Tri-State have committed to the following EPMs that would help minimize impacts to vegetation in the project area (**Table 5**).

- Avoidance of unnecessary site disturbance (A-1, AR-5, BR-1, BR-3, LU-1, S-1);

- Erosion control on maintained access routes (AR-6, BR-2, LU-3);
- Limiting routine route maintenance to drier seasons (AR-3, BLM-1);
- Conserving topsoil when excavation is necessary (AR-5);
- Revegetating disturbed areas to BLM standards (BR-7, S-2). BLM will provide an adobe seed mix to be incorporated into the POD or as a stipulation in the ROW grant; and
- Noxious weed control (NW-1, NW-2, BLM-3 and BLM-4).

With the EPMs in place, impacts to vegetation in the project area are considered to be moderate.

- **No Action Alternative**

Under the No Action Alternative, impacts to vegetation resulting from the construction and operation of the EMP would not occur. On-going OHV activities, livestock grazing and other public and private land use practices would continue to directly or indirectly affect the distribution and quality of native vegetation. BLM would continue to manage public lands in accordance with public land health standards which minimize potential effects to natural vegetation communities.

- **Finding on the Public Land Health Standard for plant and animal communities** (partial, see also Wildlife, Aquatic; Wildlife, Terrestrial; and Invasive, Non-native Species):

BLM's 2001 *Land Health Assessment* of the Gunnison Gorge Area (BLM 2001) determined that 87% of the landscape unit meets the standard, with 51% of that subset meeting the standard "with problems". The Proposed Action falls in an area that meets the standard with problems or does not meet the standard with respect to healthy plant communities. Portions of the public land that the project would pass through are noted as problem areas with poor grass cover, low shrub vigor, and exotics present in undisturbed areas. The part of the project area that does not meet the standard is along the main unnamed drainage between structures 42 and 51.

The Proposed Action would not contribute to improved public land health for Standard 3, but with DMEA's and Tri-State's commitment to the EPMs in **Table 5**, the Proposed Action would not be likely to result in a detectable change in landscape health in this unit, as it relates to healthy plant communities.

7.2.6 INVASIVE, NON-NATIVE SPECIES (INCLUDES A FINDING ON STANDARD 3)

Affected Environment:

Noxious weeds are non-native species which are designated by the state as damaging to economic or ecological values. The Colorado Department of Agriculture (CDA) maintains a Noxious Weed List (CDA 2009) which identifies noxious non-native species to be eradicated (List A), managed to prevent further spreading (List B), or subject to support from the Department for management, research, and biological control if local jurisdictions choose to require their management (List C). The Montrose County Master Plan (2010) also contains lists of weed species managed by Montrose County. The following noxious weed species are on these lists and were found in the proposed ROW or on adjacent lands during the 2008 and 2009 biological surveys: bull thistle (*Cirsium vulgare*), Canada thistle (*Cirsium arvense*), cheatgrass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*), hoary cress (*Cardaria draba*), Russian knapweed (*Acroptilon repens*), and tamarisk (*Tamarix ramosissima*). Cheatgrass and halogeton are CDA List C species, and the other weeds listed above are List B species. All of the species noted are managed by Montrose County. Within the project area, all of the above weed species, with the exception of cheatgrass and halogeton, occur in moist areas, which are fairly limited in the project area. These areas include

depressions that hold moisture, ephemeral drainages, irrigation ditches, and saline wetlands formed by seepage from the ditches. Tamarisk is occasional in ephemeral drainages. Cheatgrass and halogeton are widespread in upland areas of the project area, especially in areas that have been subject to prior surface disturbance.

Environmental Consequences/Mitigation:

▪ Proposed Action

The introduction and spread of invasive plant species can result from surface disturbance. Construction of the access routes (ILs 3, 4, 5, and 6) and the pole locations would result in the removal of some existing vegetation and disturbance of the soil surface. These sites are then prone to invasion by weeds, especially where weeds already exist nearby. Furthermore, weed seeds can be brought in on vehicle tires and other equipment, and weeds frequently spread along lines of disturbance. The salt desert scrublands that comprise most of the potentially affected public lands for this project are particularly prone to the spread of several invasive plants including cheatgrass and halogeton. The arid sites with often saline or heavy clay soils make fully successful revegetation relatively difficult, and the invasive plants are highly adapted to the site conditions. Once established, invasive weeds can displace native vegetation and have indirect effects on a variety of biotic and abiotic factors, including animal species and nutrient cycling.

Best management practices would be implemented to control the spread of noxious weeds inside and outside the construction area, including measures to minimize weed seed introduction (EPM NW-1) and weed treatment and monitoring (EPM NW-2). Revegetation of all disturbed areas except the running route surfaces (EPM BR-7) is expected to inhibit the spread of noxious weeds. Local infestations of treatable weeds including thistles, hoary cress, and knapweeds will be pretreated with herbicide in the growing season prior to construction (EPM NW-2) and for three years after construction, which is expected to minimize the spread of treatable noxious weeds. However, more widespread invasive annuals which are already present in large densities in the area, such as cheatgrass and halogeton, cannot be effectively treated by herbicide application. While the EPMs would help to minimize impacts from these species, site disturbance is likely to contribute in some areas to the spread of these species. As a consequence, the impacts of the spread of invasive plant species in the project area would be moderate during the construction and operation of the project.

▪ No Action Alternative

Under the No Action Alternative, direct and indirect impacts from invasive, non-native species resulting from the construction and operation of the EMP, would not occur. On-going public and private land uses and activities could continue to contribute to the spread of invasive, non-native species. BLM would continue to manage public lands in accordance with public land health standards which minimize potential effects from invasive, non-native species.

- **Finding on the Public Land Health Standard for plant and animal communities** (partial, see also Wildlife, Aquatic; Wildlife, Terrestrial; and Vegetation):

Neither the Proposed Action nor the No Action Alternative would contribute to improved public land health for Standard 3. Both alternatives are likely to have moderate impacts by increasing the presence of noxious weeds in localized areas. However, with DMEA's and Tri-State's commitment to the EPMs in *Table 5*, and BLM mitigation to treat weeds over the life of the project, neither alternative would be likely to result in a significant change to landscape health in this unit, as it relates to healthy plant communities.

7.2.7 THREATENED, ENDANGERED, AND SENSITIVE SPECIES (INCLUDES A FINDING ON STANDARD 4)

Affected Environment:

A number of federally listed, BLM sensitive, and State of Colorado listed species were reviewed for their potential to occur in the project area. The species considered are listed below in *Table 9* (see also *Attachment 3*). Included are all species listed by the USFWS as threatened or endangered, or which are candidates for listing, that may occur in Montrose County (USFWS 2010), BLM sensitive species occurring in the Uncompahgre Field Office (Siders 2010), and State of Colorado listed species and species of special concern (CDOW 2007c) that were determined to have the potential to occur inside the project area or be otherwise affected by the proposed project. Federally endangered or threatened species are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. §§ 1531-1544), and state-listed species are protected under the Colorado State Nongame, Endangered, or Threatened Species Conservation Act (SCA) of 1985 (CO ST § 33-2-101-108). State species of special concern and BLM sensitive species are protected by policy rather than statute. In accordance with *BLM Manual 6840*, the goal of sensitive species management is to prevent a trend toward federal listing or loss of viability.

The results of field surveys conducted in the spring of 2008, fall of 2009, and spring of 2010 by BIO-Logic, Inc. were used in the analysis (BIO-Logic 2008, 2010). Surveys were undertaken under the direction of the BLM to document the location and occurrences of certain federal and state-listed species and BLM sensitive species on public lands within the EMP transmission line ROW and proposed access routes (BIO-Logic 2008, 2010). Private lands were surveyed for federally listed species only. If suitable habitat does not exist in the project area for a given species, and if that species would not otherwise be affected by the project, it is not discussed further outside *Table 9*. Of the species listed in *Table 9*, those carried forward for analysis as having the potential to occur in the project area or be affected by the project include: bald eagle, burrowing owl, kit fox, white-tailed prairie dog, fringed myotis, spotted bat, Townsend's big-eared bat, Northern leopard frog, midget-faded rattlesnake, bonytail chub, Colorado pikeminnow, humpback chub, razorback sucker, roundtail chub, flannelmouth sucker, bluehead sucker, clay-loving wild buckwheat, Montrose bladderpod, and Colorado desert parsley. When analyzing effects to federally listed species, proposed activities on private lands are considered in addition to those on public lands, as required by the ESA.

Table 9. Federally Threatened, Endangered, or Candidate Species, BLM Sensitive Species, and State of Colorado Listed Species Potentially Occurring in the Project Area

Species	Status ¹	Habitat	Potential and/or Known Occurrences in Project Area
Birds			
Bald eagle (<i>Haliaeetus leucocephalus</i>)	BLM, ST	Major river systems, reservoirs, arid basins	Potential. Project area is mapped as winter range.
Western yellow-billed cuckoo (<i>Coccyzus americanus</i>)	C, BLM, SC	Low elevation river corridors, cottonwood riparian forests	None.
Burrowing owl (<i>Athene cunicularia</i>)	BLM, ST	Low elevation salt desert shrub, sagebrush and grassland swales, especially associated with prairie dogs	Yes
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	T, ST	Mixed-conifer forest and steep-walled canyons	None.
Southwestern willow flycatcher (<i>Empidonax trailii extimus</i>)	E, SE	Riparian tree and shrub communities, wetlands for breeding	None.
Northern goshawk (<i>Accipiter gentilis</i>)	BLM	Breeds in aspen conifer mixed forests	None.
Columbian sharp-tailed grouse (<i>Tympanuchus phasianellus Columbianus</i>)	BLM, SC	Nests in native bunchgrass and shrub-steppe communities	None.
Long-billed curlew (<i>Numenius americanus</i>)	BLM, SC	Lakes and wetlands and adjacent grassland and shrub communities	None.
White-faced ibis (<i>Plegadis chihi</i>)	BLM	Marshes, ponds and rivers	None.
Gunnison sage-grouse (<i>Centrocercus minimus</i>)	C, BLM, SC	Sagebrush communities	None.
American peregrine falcon (<i>Falco peregrines anatum</i>)	BLM, SC	Open country near cliff habitat	Potential foraging.
Ferruginous hawk (<i>Buteo regalis</i>)	BLM, SC	Large expanses of ungrazed to lightly grazed grasslands and shrublands; not known to nest in Delta County	Potential migrant or in winter. No breeding records are known from the project area.
American white pelican (<i>Pelecanus erythrorhynchos</i>)	BLM	Large reservoirs; may be found on smaller water bodies including ponds	None.

Species	Status ¹	Habitat	Potential and/or Known Occurrences in Project Area
Brewer's sparrow (<i>Spizella breweri</i>)	BLM	Breeds predominantly in sagebrush shrublands; migrants seen in wooded, brushy, weedy riparian, agricultural, and urban areas.	None.
Black swift (<i>Cypseloides niger</i>)	BLM	Nests on cliffs near waterfalls; forages from montane to adjacent lowland habitats.	None.
Mammals			
Canada lynx (<i>Lynx canadensis</i>)	T, SE	Spruce/fir/mixed conifer/lodgepole pine forests (primary), or mixed deciduous/conifer (secondary)	None.
Black-footed ferret (<i>Mustela nigripes</i>)	E, SE	Prairie dog colonies; sagebrush, desert shrublands, grasslands	None. Believed to be extirpated from the area.
Kit fox (<i>Vulpes macrotis</i>)	BLM, SE	Desert shrublands, prairies	Known to occur in recent past.
Desert bighorn sheep (<i>Ovis canadensis nelsoni</i>)	BLM	Steep, mountainous, or hilly open, rocky terrain.	None.
White-tailed prairie dog (<i>Cynomys leucurus</i>)	BLM	Level to gently sloping grasslands and semi-desert grasslands from 5,000-10,000' elevation.	Potential. Known colonies within vicinity of the project area.
Gunnison's prairie dog (<i>Cynomys gunnisoni</i>)	BLM	Sagebrush, desert shrublands, grasslands, from 6,000-12,000' elevation.	Project area outside known range.
Fringed myotis (<i>Myotis thysanodes</i>)	BLM	Ponderosa pine, pinyon-juniper, mountain shrub, and desert shrub	Potential.
Spotted bat (<i>Euderma maculatum</i>)	BLM	Breeding: rocky cliffs near riparian areas. Non-breeding: ponderosa pine, pinyon-juniper, semiarid shrublands	Potential.
Big free-tailed bat (<i>Nyctinomops macrotis</i>)	BLM	Rocky canyon habitats; roosts on cliff faces; day roosts in buildings and tree cavities	None.
Allen's big-eared bat (<i>Idionycteris phyllotis</i>)	BLM	Mountainous areas; ponderosa pine, pinyon-juniper, pine-oak woodland, and riparian habitats	None.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	BLM, SC	Breeding: caves, abandoned mines; Non-breeding: forests, woodlands, shrublands, and grasslands	Potential.
Amphibians			
Canyon tree frog (<i>Hyla arenicolor</i>)	BLM	Stream pools in rocky canyon bottoms	None.

Species	Status ¹	Habitat	Potential and/or Known Occurrences in Project Area
Northern leopard frog (<i>Rana pipiens</i>)	BLM, SC	Lakes, ponds, permanent wetlands, streams with slow-moving water	Limited potential on public lands. Known to occur on private lands within project area.
Boreal toad (<i>Anaxyrus boreas boreas</i>)	BLM	Mountain lakes, ponds, meadows and wetlands in subalpine conifer and aspen; may forage some distance from water.	None.
Reptiles			
Long-nose leopard lizard (<i>Gambelia wislizenii</i>)	BLM, SC	Flat shrublands with much bare ground	None.
Midget-faded rattlesnake (<i>Crotalus viridis concolor</i>)	BLM, SC	Riparian, salt shrub, mountain shrub, pinyon-juniper	Potential.
Milk snake (<i>Lampropeltis triangulum taylori</i>)	BLM	Shrubby hillsides, canyons, pinyon-juniper woodland, ponderosa pine stands; hibernates in rock crevices.	None.
Fish			
Bonytail chub (<i>Gila elegans</i>)	E, SE, CH	Colorado River and major tributaries	None, but may be affected. ²
Colorado pikeminnow (<i>Ptychocheilus lucius</i>)	E, ST, CH	Colorado River and major tributaries, including the lower Gunnison River	None, but may be affected. ²
Humpback chub (<i>Gila cypha</i>)	E, ST, CH	Colorado River and major tributaries	None, but may be affected. ²
Razorback sucker (<i>Xyrauchen texanus</i>)	E, SE, CH	Colorado River and major tributaries, including the lower Gunnison River	None, but may be affected. ²
Greenback cutthroat trout (<i>Oncorhynchus clarki stomias</i>)	T, ST	Cold water streams and lakes	None.
Roundtail chub (<i>Gila robusta</i>)	BLM, SC	Lower elevation rivers, Colorado River Basin, including the lower Gunnison River	None, but may be impacted ³
Bluehead sucker (<i>Catostomus discobolus</i>)	BLM	Lower elevation rivers, Colorado River Basin, including the lower Gunnison River	None, but may be impacted ³
Colorado river cutthroat trout (<i>Oncorhynchus clarki pleuriticus</i>)	BLM, SC	Cool, clear streams and lakes	None.
Flannelmouth sucker (<i>Catostomus latipinnis</i>)	BLM	Lower elevation rivers, Colorado River Basin, including the lower Gunnison River	None, but may be impacted ³

Species	Status ¹	Habitat	Potential and/or Known Occurrences in Project Area
Invertebrates			
Uncompahgre fritillary butterfly (<i>Boloria acrocne</i>)	E	San Juan Mountains, alpine, above 12,000 feet.	None.
Great Basin silverspot butterfly (<i>Speyeria nokomis nokomis</i>)	BLM	Streamside meadows and wet areas, semiarid shrublands and woodlands	None.
Plants			
Clay-loving wild buckwheat (<i>Eriogonum pelinophilum</i>)	E	Mancos shale badlands, salt desert shrublands 5200-6400' elevation; adobe hills of the Uncompahgre and Gunnison river valleys	Known to exist.
Colorado hookless cactus (<i>Sclerocactus glaucus</i>)	T	Rocky hills, mesas, slopes, 4500-6000' elevation, desert shrub communities of the Gunnison and Colorado river valleys	Project area outside known range.
Montrose bladderpod (<i>Lesquerella vicina</i>)	BLM	Pinyon-juniper and desert shrub bordering Uncompahgre Valley	Potential. Known to occur in the area, but not known to occur within project area.
Colorado desert parsley (<i>Lomatium concinnum</i>)	BLM	Pinyon-juniper, sagebrush, desert shrublands; endemic to Montrose and Delta counties, Colorado	Known to occur within project area.
Grand Junction milkvetch (<i>Astragalus linifolius</i>)	BLM	Rocky canyon slopes, especially associated with Chinle and Morrison Formations	None.
Naturita milkvetch (<i>Astragalus naturitensis</i>)	BLM	Pinyon-juniper woodland with fractured sandstone bedrock on or just below soil surface	None.
San Rafael milkvetch (<i>Astragalus rafaensis</i>)	BLM	Rocky sandstone slopes, on the west side of the Uncompahgre Plateau	None.
Sandstone milkvetch (<i>Astragalus sesquiflorus</i>)	BLM	Sandstone rock ledges and domes, talus under cliffs, and sandy washes	None.
Gypsum Valley cateye (<i>Cryptantha gypsophila</i>)	BLM	Gypsum outcrops and grayish-white soils of the Paradox Member of the Hermosa Formation.	None.
Fragile (slender) rockbrake (<i>Cryptogramma stelleri</i>)	BLM	Cool, moist, sheltered calcareous cliff crevices and rock ledges.	None.

Species	Status ¹	Habitat	Potential and/or Known Occurrences in Project Area
Paradox Valley (Payson's) lupine (<i>Lupinus crassus</i>)	BLM	Sparse juniper woodland to shrub grassland, usually on the Chinle or carboniferous shale	None.
Dolores skeleton plant (<i>Lygodesmia dolorensis</i>)	BLM	River terraces on the lower Dolores River	None.
Eastwood's monkey flower (<i>Mimulus eastwoodiae</i>)	BLM	Hanging gardens in canyon seeps	None.
Kachina daisy (<i>Erigeron kachinensis</i>)	BLM	Saline soils in alcoves and seeps in canyon walls	None.
Paradox breadroot (<i>Pediomelum aromaticum</i>)	BLM	Open shrublands and sparse pinyon-juniper communities, west of the Uncompahgre Plateau	None.
¹ Status: E = Federally Endangered; T = Federally Threatened; C = Federal Candidate; CH = Critical Habitat has been designated; SE = State Endangered; ST = State Threatened; SC = State Species of Special Concern; BLM = BLM Sensitive. ² If the project were to affect water quality or flow levels downstream in the Colorado River, it could conceivably affect this species and its Critical Habitat. ³ If the project were to affect water quality or flow levels downstream in the Gunnison River, it could conceivably affect this species.			

Federally Listed Species

Clay-loving Wild Buckwheat (Federally Endangered)

The clay-loving wild buckwheat is a low, slow-growing shrub endemic to Montrose and Delta counties in Colorado (USFWS 1988). It grows exclusively on soils derived from Mancos shale, such as those found in the project area. According to the recent *5-Year Review* of this species published by USFWS (2009c), approximately 278,000 individuals occur in 12 element occurrences (EO), as defined by data from the Colorado Natural Heritage Program. This estimate may be somewhat low, given that it excludes EOs on private properties that have not been surveyed in over 20 years.

A little over half (54%) of the known individuals occur on lands managed by BLM or the Colorado Natural Areas Program (CNAP). The CNAP Wacker Ranch Natural Area encompasses 43 acres of a private ranch that supports one of the largest known occurrences of clay-loving wild buckwheat. This Natural Area occurs approximately 2.7 miles south of the proposed East Montrose Substation. The Fairview Area of Critical Environmental Concern (ACEC) was designated by the BLM UFO to protect the clay-loving wild buckwheat. The Fairview South ACEC covers 377 acres and is contiguous with the Wacker Ranch Natural Area. The Wacker Ranch Natural Area and Fairview South ACEC are outside of the project area. The Fairview North ACEC encompassing about 175 acres is within the project area and adjacent to the proposed transmission line, about 1 mile north of the Proposed East Montrose Substation. Critical Habitat for this species has been designated east of Delta, near Austin, Colorado (USFWS 1984).

During field surveys conducted in 2008 for the EMP, only one clay-loving wild buckwheat occurrence was located by BIO-Logic on BLM administered lands within the project area. The transmission line and

access routes were re-routed to avoid direct effects to this occurrence and create a non-disturbance buffer around it. The edge of this occurrence is now located approximately 320 feet southwest of proposed structure 30, 400 feet northwest of structure 31, and 300 feet south of a proposed access route with IL 3 and 380 feet from an arroyo crossing with IL 6 improvements planned. A known occurrence of approximately 10,000 individuals occurs on private land about 0.1 mile west of structure 74 and the proposed East Montrose Substation. This occurrence abuts the existing Miguel Road where it would be used for access to the new substation.

Colorado River Endangered Fishes: Bonytail Chub and Razorback Sucker (Federal and Colorado Endangered); Colorado Pikeminnow and Humpback Chub (Federal Endangered and Colorado Threatened)

Four species of federally endangered fish occupy the Colorado River watershed downstream from the project area. None of these species are known from the Uncompahgre River. The Colorado pikeminnow and razorback sucker occur in the Gunnison River as far upstream as the Hartland Diversion Dam (McAda 2003). The humpback chub and bonytail have more limited distributions, and are confined to the Colorado River (McAda 2003). The USFWS has designated Critical Habitat for all four species to include the Colorado River below Grand Junction. The Gunnison River, upstream as far as the confluence with the Uncompahgre River, has been designated as Critical Habitat for the Colorado pikeminnow and the razorback sucker (USFWS 1994). While these species are not present in the project area, they have been included in the analysis to address water depletions in the Colorado River Basin that may be required during project construction for dust control and other tasks.

Colorado Listed Species

Bald Eagle (Colorado Threatened, BLM Sensitive)

According to Species Activity Maps available from the Colorado Division of Parks and Wildlife (CDOW 2007b), the entire project area occurs in bald eagle winter range, and known roost sites and a nest site have been recorded west of the southern terminus of the proposed transmission line, on private lands. In 2008, CDOW recorded a nest site 2.3 miles southwest of the proposed East Montrose Substation, close to Montrose Arroyo. A known winter night roosting site occurs 0.7 mile west of the East Montrose Substation and 0.13 mile south of US highway 50. Bald eagles may occasionally use Mancos shale habitats in the project area for foraging during the winter, although during that season they are more likely to be found to the east and west along the Uncompahgre and Gunnison River corridors, which are considered winter concentration areas by CDOW.

Burrowing Owl (Colorado Threatened, BLM Sensitive)

Burrowing owls breed in open habitats in Colorado, typically arriving in late March or early April to begin nesting several weeks later. Young fledge in early August and adults and young migrate to their wintering grounds in late summer to early autumn (CDOW 2007a). No burrowing owls were detected by BIO-Logic's biologists during field inventories of the project area (BIO-Logic 2008, 2010), and no other recent reports of burrowing owls in the project area were identified. Burrowing owl nesting habitat in Colorado is closely associated with active prairie dog colonies, or less commonly other suitable burrows such as those created by badgers. Badgers likely occur in the project area. White-tailed prairie dogs occur in the general project vicinity and numerous old, inactive burrows were observed during 2008 and 2009 biological surveys for the EMP (BIO-Logic 2008, 2010). Prairie dog colonies are known to occur in the project vicinity (BIO-Logic 2008). Prairie dog colonies commonly shift locations and recolonize previously inactive burrows, making it possible that the species could move into the project area where suitable habitat occurs. Should active prairie dog colonies occur in the project area, burrowing owls may colonize them during the breeding season.

Kit Fox (Colorado Endangered, BLM Sensitive)

Kit fox are small canids inhabiting desert shrublands. Kit fox are mostly nocturnal, and shelter during the day in natural crevices, abandoned dens of other animals, or dens they have constructed. They have become very rare in western Colorado and are listed by CDOW as state endangered. A small population of kit fox was documented in the project area near the Montrose County landfill and EMP project area in the mid-1990s (Fitzgerald 1996). This population extended north into Peach Valley, but now appears close to extirpation as only one possible detection was documented after CDOW surveys in 2007 near the project area (Seglund and Garner 2007).

BLM Sensitive Species

Sensitive Plants

Under the direction of the BLM, biological surveys were conducted in the project area in 2008 for three BLM sensitive plant species: Rocky Mountain thistle (*Cirsium perplexans*), Montrose bladderpod (*Lesquerella vicina*), and Colorado desert parsley (*Lomatium concinnum*) (BIO-Logic 2008). Rocky Mountain thistle is no longer considered to be a sensitive species by BLM (Siders 2010). No occurrences of Montrose bladderpod were located in the project area, although they have been observed in the vicinity. According to recent estimates by BLM (BLM 2009), Colorado desert parsley is known from 38 occurrences in Delta, Montrose, and Ouray Counties, with approximately 72,000 individuals known. This estimate is probably low, because private lands have not been adequately surveyed for this species. Nine occurrences of Colorado desert parsley were identified inside or within 150 feet of proposed ROW associated with the transmission line and access routes. Colorado desert parsley most often occurred in scattered groups and rarely as a single individual.

Sensitive Bat Species

Three sensitive bat species may occur in the project area (Armstrong et al. 1984, Adams 2003). The fringed myotis occupies various semiarid woodland and shrubland habitats, roosting in small rock crevices, in tree cavities, or under bark. The spotted bat occurs in drier forests and woodlands, and roosts in crevices of tall, vertical cliffs. Townsend's big-eared bat inhabits drier forests and woodlands and roosts in caves, abandoned mines, and occasionally in abandoned human structures.

White-tailed Prairie Dog

The white-tailed prairie dog is a fossorial small mammal that forms colonies in open grassland and semi-desert grassland habitats from 5,000 to 10,000 feet in elevation. This species occurs in the general project vicinity and numerous old, inactive burrows were observed during 2008 biological surveys for the EMP (BIO-Logic 2008). While no prairie dogs were observed in the project area during biological surveys, they are known to occur in the project vicinity. Prairie dog colonies commonly shift locations, making it possible that the species could move into the project area, where suitable habitat occurs.

Northern Leopard Frog

The northern leopard frog occupies streams, lakes, ponds, wet meadows, and ditches in various habitats and elevations (Hammerson 1999). Northern leopard frogs are unlikely to occur on public lands in the project area because habitats on public lands may be too arid or the aquatic features that occur have very limited suitability to the species. It is possible that the narrow and incised main drainage that passes through the project area between structures 42-51 may provide limited adequate habitat for this species. Incidental to field surveys completed for this project in 2008 (BIO-Logic 2008), northern leopard frogs were found in agricultural fields and irrigation ditches on private lands at both ends of the project area (Conner, personal communication 2009).

Sensitive Fish Species

The roundtail chub, flannelmouth sucker, and bluehead sucker occur in the Gunnison River (Woodling 1985, McAda 2003). No habitat for these species occurs on public lands in the project area.

Midget Faded Rattlesnake

Midget-faded rattlesnakes occur over a variety of terrestrial habitats in Colorado, from grasslands to semi-desert shrublands, to montane woodland. They prefer habitats that offer exposed surfaces for thermal regulation and in which burrows are available for cover. The project area provides suitable habitat for this subspecies, although the current status of the population in the project area is unknown. Hammerson (1999) regards western rattlesnakes (*Crotalus viridis*) from southwestern Colorado north to Montrose County as intergrades between *C. v. viridis* and *C. v. concolor*, or simply *C. v. viridis*.

Environmental Consequences/Mitigation:

- **Proposed Action**

Direct and indirect impacts may result to special status plant and animal species from the construction, operation, and maintenance of the EMP transmission line and access routes. The general types of impacts that may occur to special status plants and animals are discussed first, including the EPMs that are incorporated into the Proposed Action to avoid and minimize potential impacts from occurring (**Table 5**). Impacts to specific special status species follow.

Potential Impacts to Threatened and Endangered Species (TES) - Plants

Under the Proposed Action, localized disturbance of ground surfaces on public land would occur during construction within ROW associated with access routes and the transmission line. Periodic disturbances would also be caused during operation by access route maintenance and driving or handling equipment or materials along access routes and around pole structures. These actions would usually be infrequent and confined to areas along the access routes and at structure sites.

For TES plants, destruction of even a few plants or a small colony may adversely affect the regional or global population. However, the location of TES plant species is known in the project area because of biological surveys, and DMEA and Tri-State have re-routed the transmission line and access routes to avoid direct impacts to federally listed species and minimize impacts to BLM sensitive species. The mitigation measures to which Tri-State has committed would further minimize direct impacts to TES plants (EPMs BR-1, BR-6). With implementation of the EPMs, impacts to sensitive plant species would be low.

The Proposed Action may also cause indirect impacts to TES plants from fugitive dust, soil compaction, altered drainage patterns, erosion, and loss of potential habitat. These factors have the potential to affect microhabitats for plants, or in the case of fugitive dust, plant physiology. With implementation of the EPMs S-1 to S-3, these potential effects are likely to be rare, localized and low in degree.

The introduction or spread of noxious or invasive plant species by vehicles and heavy equipment represents another potential indirect but long-term impact to special status plant species. Invasive weeds may adversely impact native plants through competition and other ecological pathways. These impacts are most likely to occur in localized areas along route margins and in moist areas. Invasive plants are already common in most of these situations in the project area. With implementation of EPMs NW-1 and NW-2, the spread of invasive plant species would be minimized and impacts would be low.

Potential Impacts to TES - Animals

The Proposed Action could potentially cause direct impacts to animals through mortality or disturbance. Small mammals and reptiles could occasionally be crushed on the ground surface or entombed in burrows by vehicles or road grading or excavation work. Such mortality is expected to be rare and overall impacts low.

If this project is constructed, there would be a slight risk of bird mortality from collisions with conductors. Bird strike hazard is greatest where transmission lines cross or border areas of bird concentration, such as large wetlands or where topography channels flying birds into confined areas (APLIC 1994). However, such areas do not occur in the project area. The risk of electrocution from the existing transmission line to perching raptors is extremely low under the Proposed Action because the transmission line would be constructed in accordance with APLIC standards (APLIC 2006).

Animal disturbance during operation is another potential direct impact of the Proposed Action. Infrequent human presence on foot, in vehicles, or in aircraft during inspection and repair work can cause animals to temporarily move away from preferred habitats; most would quickly return and there would be no measurable impact. In a few special situations, such as when animals are breeding, human disturbance can have more substantial impacts. This is especially true for raptor species, which may abandon nests or eggs if disturbed (Postovit and Postovit 1987). For this project, no substantial animal disturbance impacts are expected to be major or long-term in nature. Tri-State has committed to pre-construction nesting raptor and avian surveys (EPM BR-9), and appropriate seasonal closures to construction activity and surface occupancy limitations would be imposed following CDOW guidelines for any active raptor nests identified. Active nests would be avoided whenever found in the construction ROW to mitigate the loss or take of an active nest, eggs, and birds protected under the Migratory Bird Treaty Act.

Other potential direct impacts to animals could include damage or destruction of natal dens by surface-disturbing activities. Such actions could result in decreased future reproductive success. For all animal species known to occur in the project area, occasional destruction of a den or burrow would have no measurable effect on the population. Kit fox, if they occur in the area, are an exception because of their rarity in Colorado (potential impacts specific to kit fox are described below).

Potential Impacts to Special Status Species

Federally Listed Species

Impacts to special status species are discussed below as directed by the Code of Federal Regulations (50CFR 402.14) (USFWS 2005), which requires all federal agencies to conduct formal consultation if an action may affect federally listed species or modify designated critical habitat. Consultation with USFWS regarding potential effects from the EMP to the endangered clay-loving wild buckwheat and Colorado River Endangered fishes has been completed. Due to the existence of and the compliance with the Programmatic Biological Opinion (#ES/GS-6-CO-08-F-0010) for fish, BLM is able to conduct informal consultation. BLM submitted a BA to USFWS dated July 2011. USFWS has concurred via a letter dated September 9, 2011. For each of the federally Endangered species addressed in this document, the “effect determination” in the BA is provided to clarify whether a “May Affect, or “No Effect” finding applies.

Clay-loving Wild Buckwheat (Federally Endangered). Two clay-loving wild buckwheat occurrences were identified in the project area: one on public land west of structures 30 and 31, and the other on private land west of structure 74 and the East Montrose Substation, and directly abutting Miguel Road, a proposed access road.

The edge of the occurrence on public land is located approximately 320 feet southwest of proposed structure 30, 400 feet northwest of structure 31, and 300 feet south of a proposed access route with IL 3 and 380 feet from an arroyo crossing with IL 6 improvements planned. The transmission line and

associated access routes were re-routed in 2009 to avoid direct effects to this occurrence and create a non-disturbance buffer around it. Short-term indirect effects from fugitive dust may occur during construction; dust is expected to be low during project operation except when periodic grading is done during maintenance of the access route that passes north and east of the occurrence.

The clay-loving wild buckwheat occurrence on Miguel Road is approximately 0.1 mile southwest of the East Montrose Substation site boundary. Traffic on Miguel Road is expected to be heavy during construction of the substation, and moderate during operation of the facility. Fugitive dust from increased use of this gravel road may have long-term indirect effects on this occurrence, given that it occurs directly next to the road.

Long-term direct effects include loss of a small area of potential habitat and cumulative loss of habitat resulting from an increase in public use of the project area through improved access. All direct effects to clay-loving wild buckwheat have been avoided and indirect effects are expected to be long-term, but minor. Pre-construction surveys would be conducted in suitable habitat on public lands and on private lands directly affected by the project, where landowner permission is granted, to ensure the project does not result in adverse effects to clay-loving wild buckwheat populations. Given the above, and with EPM BR-6 in place, the project may affect, but is not likely to adversely affect, clay-loving wild buckwheat.

Effect Determination: The proposed transmission line and associated access routes “May Affect, Not Likely to Adversely Affect” the clay-loving wild buckwheat.

Endangered Colorado River Fish (Bonytail Chub and Razorback Sucker, Federal and Colorado Endangered; Colorado Pikeminnow and Humpback Chub, Federal Endangered and Colorado Threatened). The project area drains to the Uncompahgre River, which is part of the Upper Colorado River Basin. The Proposed Action would result in direct effects to occupied habitat and designated Critical Habitat for the four federally endangered Colorado River fish. Any potential for water quality effects to these endangered fish species would be effectively prevented or minimized by EPMs AR-3, BR-2 to BR-5, WQ-1, WQ-4, and WQ-5. Due to the normal sediment load in the lower Gunnison River, any sediment generated from the proposed transmission line construction is not likely to be detectable.

The endangered Colorado River Basin fish species would be affected by water depletions associated with dust abatement and construction activity during the year of construction on this project. However, in July 2008, BLM prepared a Programmatic Biological Assessment (PBA) that addresses water depleting activities in the Colorado River Basin (BLM 2008). In response to BLM’s PBA, the USFWS issued a Programmatic Biological Opinion (PBO) (#ES/GJ-6-CO-08-F-0010) on February 25, 2009 (USFWS 2009d) which determined that water depletions from the Colorado River Basin resulting from BLM actions described in the PBO are not likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker or result in the destruction or adverse modification of their critical habitat. The USFWS determined that projects that fit under the umbrella of the PBA, like the proposed project addressed by this EA (Sharp 2010), would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts to the Upper Colorado River Basin if they deplete relatively small amounts of water (less than 100 acre feet) and BLM makes a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in the amount equal to the average annual acre-feet (AF) depleted by each project. The PBO instructed BLM to make an annual payment to the National Fish and Wildlife Foundation (NFWF) to cover all BLM authorized actions that result in water depletions (USFWS 2009a). According to DMEA and Tri-State, the EMP project would deplete an estimated 0.87 AF of water during the year of construction.

Thus, the Proposed Action “May Affect, Likely to Adversely Affect” the federally endangered Colorado pikeminnow, razorback sucker, bonytail, humpback chub, and their critical habitat.

Effect Determination, Endangered Fish: The proposed transmission line and access routes “May Affect, Likely to Adversely Affect” the Endangered Colorado River fish.

Effect Determination, Critical Habitat: The proposed transmission line and access routes “May Affect, Likely to Adversely Affect” on Critical Habitat for Endangered Colorado River fish.

Colorado Listed Species

Bald Eagle (Colorado Threatened, BLM Sensitive). The project would not result in any direct impacts to bald eagle nest or roost sites. The only documented winter night roosting site is 0.7 miles west of the proposed East Montrose Substation and is outside the year round no surface occupancy buffer of one quarter (0.25) mile and non-encroachment buffer of one half (0.5) mile suggested by CDOW for bald eagles during nesting and roosting periods (CDOW 2008). No impacts are expected to breeding bald eagles, given that the nearest known nest is 2.3 miles southwest of the East Montrose Substation. Bald eagles may be found foraging in the project area; however, their primary foraging areas are documented along the Gunnison and Uncompahgre Rivers. Bald eagles and other avian species foraging in the area may temporarily avoid places where construction is occurring. The project would not impact breeding or roosting bald eagles or these habitats.

In order to avoid impacts to any breeding eagles in the project area, Tri-State and DMEA have committed to pre-construction raptor nesting surveys to ensure there are no nests within 0.5 mile that could be affected by project construction, as outlined in EPM BR-9. The transmission line would be designed in accordance with APLIC recommendations (APLIC 2006) in order to reduce electrocution hazards to eagles. Slight risks of collision hazard exist, primarily during winter when eagles are most active in the project area; eagles and raptors in general are not as prone to collision with transmission lines as other less maneuverable species of large birds (APLIC 2006). Given the above, the Proposed Action may have minor impacts on individual over-wintering bald eagles, but would not affect nesting or roosting habitat or the regional population. Impacts are assessed as low.

Burrowing Owl (Colorado Threatened, BLM Sensitive). If burrowing owls are found in the project area and construction occurs between March 15 and late August, breeding birds may be disrupted by construction and operation. Burrowing owls are somewhat tolerant of human activity, but their response to the project would depend upon the proximity of construction activities to nest sites. If burrowing owls nest within 1/8 mile of construction activity, the current year’s production could be lost due to nest abandonment. Because nesting habitat is not common in the project area, it is unlikely that burrowing owls would be directly or indirectly impacted by the project. Pre-construction nesting raptor surveys (EPM BR-9) would be conducted, and if nesting burrowing owls are found, no human encroachment within 150 feet would be permitted during the nesting season from March 15 to October 31 as directed by BLM and recommended by CDOW (CDOW 2008). The overall impact of the EMP on this species is considered to be low.

Kit Fox (Colorado Endangered, BLM Sensitive). According to CDOW (Seglund and Garner 2007), kit fox are extremely rare in the project area and are not expected to be directly impacted by the Proposed Action. If undocumented kit fox occur in the area or become reestablished in the area in the future, the project is still not likely to result in adverse, long-term impacts to populations. Collisions with vehicles related to the construction project are unlikely because kit fox are mostly nocturnal and vehicle speeds would be slow in the project area. If breeding were to occur in the project area, there would be a slight chance of disturbance of kit fox at natal dens, which could reduce reproductive success if a natal den were very close to the ROW or an access route which requires maintenance. However, kit fox are generally

tolerant of human presence as long as they are not persecuted (Cypher and Warrick 1993, O'Farrell 1987), and natal den abandonment is unlikely as long as the den itself is not impacted by vehicles or machinery. Due to the extreme rarity of this species on the project area, the chances of a natal den being impacted by construction is very low.

Transmission lines can provide hunting perches for raptors, and kit fox are vulnerable to predation from golden eagles and great-horned owls. If kit fox are present in the project area, the Proposed Action could slightly increase vulnerability of kit fox to avian predation in areas with close proximity to the transmission line. The Proposed Action would have minor direct impacts to potential kit fox habitat. Given kit fox tolerance for human activities, it is unlikely that the operation of the project would discourage kit fox from re-establishing in the project area. Potential impacts to kit fox from the Proposed Action are assessed as low.

BLM Sensitive Species

Sensitive Plants. Rocky Mountain thistle is no longer considered to be a sensitive species by BLM (Siders 2010). Nine occurrences of Colorado desert parsley occur within 150 feet of proposed ROW. One occurrence of approximately 350 individuals occurs west of structure 60, and some plants occur adjacent to an existing access road (IL 1) that bisects the occurrence. Although the road would not require improvement for construction of the proposed project, some plants could be lost if vehicles or equipment leave the existing road surface and utilize the entire 30 foot ROW in this area.

Occurrences in and adjacent to the ROW but not inside a construction area may experience short-term indirect impacts from fugitive dust during construction and periodic maintenance of access routes. More long-term indirect impacts are expected from the invasion of noxious weeds, changes in drainage patterns, and loss of potential but unoccupied habitat. Adherence to EPMs BLM-4, BR-1, NW-1, NW-2, and S-1 to S-3 would help minimize impacts to BLM sensitive plants. Although individual plants may be lost due to construction activities, the Proposed Action is unlikely to have a demonstrable effect on the distribution and health of Colorado desert parsley, given that because a very small proportion of the estimated total population of the species would be directly impacted, and indirect impacts are expected to be mitigated by adherence to the EPMs listed above. The Proposed Action, therefore, would not reduce the viability of this species or lead to its listing under federal or state law. Overall, potential impacts to BLM Sensitive Plants are considered to be low.

Sensitive Bats. Of special concern for the four BLM sensitive bat species would be the protection of suitable roost sites, which could include caves, inactive mines, crevices in cliffs and rock outcrops, and large trees. The Proposed Action would not destroy or disturb such features, making it unlikely that the Proposed Action would have a measurable impact on sensitive bat species viability or lead to their listing under federal or state law. Impacts to sensitive bat species are assessed as low.

White-tailed Prairie Dog. White-tailed prairie dogs were not observed in the project ROW during the 2008 or 2009 biological surveys for the EMP (BIO-Logic 2008, 2010). Suitable habitat and historical presence does occur in the project area, making it possible that prairie dogs could move into the project area in the future. If a colony were to establish inside the construction footprint, animals would most likely be displaced, with some individuals possibly entombed or crushed by large equipment or vehicles. Preconstruction surveys for active prairie dog colonies and nesting burrowing owls would be conducted. This species can tolerate some human activity and is found in irrigated pastures, parking lots, sports fields, and similar habitats. During construction and operation, therefore, disturbance to nearby prairie dog colonies would most likely be minimal. It is unlikely that any project-caused mortality would result in a detectable effect on local white-tailed prairie dog populations. Impacts to this species are assessed as low.

Sensitive Fish. The three BLM sensitive fish known to occur in the Gunnison River, roundtail chub, flannelmouth sucker, and bluehead sucker, would not be directly impacted by construction or maintenance. There is no habitat for these species on public lands in or adjacent to the project area. Any potential indirect impacts from water quality effects on these sensitive fish species downstream of the project area should be effectively prevented or minimized by EPMs AR-3, BR-2 to BR-5, QA-1, WQ-4, and WQ-5. Due to the normal sediment load of the lower Gunnison River, any sediment generated from transmission line and access route construction is not likely to be detectable. Impacts to sensitive fish are assessed as low.

Northern Leopard Frog. Northern leopard frogs are unlikely to occur on public lands in the project area. Very limited potential suitable habitat on public lands (riparian or wetland habitat) would be impacted by placement of the power line structures or access routes. Individuals are expected to occur on private agricultural lands in and adjacent to public lands in the project area. Northern leopard frogs do move around, but it is unlikely that they would venture into the arid habitats associated with the public lands. Any potential for off-site water quality impacts on this species, or continued habitat degradation, should be effectively prevented or minimized by EPMs BR-3, BR-4, S-1, and WQ-4. The Proposed Action would not be likely to result in a detectable impact on local northern leopard frog populations, result in a loss of local or regional population viability, or lead to listing as threatened or endangered by the State of Colorado or the federal government. Impacts to the northern leopard frog are assessed as low.

Midget-faded Rattlesnake. Should this species occur in the project area, some direct mortality may result from construction and operation activities within occupied habitat. The new transmission line ROW and access routes are expected to increase the use of the area by the public after construction, which may cause additional direct mortality. The Proposed Action would have minimal impacts to suitable habitat for this species. It is unlikely that any project-caused mortality would result in a detectable effect on local midget-faded rattlesnake populations, lead to loss of local or regional population viability, or lead to possible listing as endangered or threatened either by the State of Colorado or the federal government. Impacts to the midget-faded rattlesnake are assessed as low.

- **No Action Alternative**

Under the No Action Alternative, potential impacts to TES species, resulting from the construction and operation of the EMP, would not occur. BLM would continue to manage public lands in accordance with public land health standards which minimize potential effects to TES species from on-going public land activities. Impacts from other present and foreseeable activities are described in EA Section 7.4.

- **Finding on the Public Land Health Standard for Threatened & Endangered species:**

BLM's 2001 *Land Health Assessment* of the Gunnison Gorge Area (BLM 2001), which includes the project area, determined that Public Land Health Standard 4 was met in all areas of the landscape unit. Clay-loving wild buckwheat populations on public land were considered to be stable, and BLM sensitive plant populations were considered to be healthy, with no noticeable BLM management impacts to them. OHV traffic was cited as the largest potential threat to listed and BLM sensitive plant species. Bald eagle populations had increased between 1991 and 2001.

With Tri-State's and DMEA's commitment of avoiding effects to federally and state-listed species and minimizing impacts to BLM sensitive plant occurrences, and with implementation of the EPMs in *Table 5*, the Proposed Action would not alter the status of Public Land Health Standard 4.

7.2.8 MIGRATORY BIRDS

Affected Environment:

The project area provides habitat for a large number of migratory bird species protected under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. §§ 703-712). In addition to their protection under the MBTA, bald and golden eagles are protected under the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. § 668a-d), as amended (USFWS 2009b).

Special attention was given in this analysis to raptors and avian species listed by the USFWS as Birds of Conservation Concern (BCC) (USFWS 2008). The BCC list includes species that are not protected under the ESA but which the USFWS has determined are likely to become candidates for such listing if additional conservation actions are not taken. According to that list, there are 27 BCC species that occur in the Southern Rockies/Colorado Plateau region. All of these species are protected by the MBTA and all are considered by the BLM UFO to be present in its resource area. Of the 27 species on the list, four have the potential to breed and/or over winter in the project area: bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), and brown-capped rosy finch (*Leucosticte australis*) (Andrews and Richter 1992, Beason 2009, Kingery 1998). The bald eagle and burrowing owl, both state-listed species, are addressed in the Threatened, Endangered and Sensitive Species section of this EA. Surveys for nesting raptors in the project area on BLM administered lands were conducted by BIO-Logic, Inc. (BIO-Logic) in 2008, and incidental observations of raptors were made during 2009 and 2010 field surveys on private lands once access permission was obtained (BIO-Logic 2010).

Golden eagles are year-round residents in the general project area. Breeding takes place from approximately December 15 to July 15. Nesting habitat for this species consists of large tall trees or cliff habitat and is very limited in the project vicinity. A golden eagle nest was located in 2009 on private land and was active in 2009 and 2010 (BIO-Logic 2010). The transmission line location was rerouted to avoid this nest after the location was reported and survey permission obtained in 2009. The nest is located in a cottonwood tree just under ¼ mile (1,220 ft) southwest of structure 55 (private land) and less than ½ mile from structure 54 (private land) and structures 56, 57 and 58 (BLM land). It is ¼ mile (1,320 ft) from the beginning of the 100-foot ROW on BLM land associated with structure 56 and its IL 3 access route, and is within approximately 1,450 ft of another proposed IL 3 access route on BLM land. An IL 1 Existing access route and an IL 3 access route on private land pass within 100 ft and 500 ft, respectively, of the nest.

Brown-capped rosy finches occur in the project area as winter residents. This ground-dwelling species is expected to occur periodically in winter, foraging in flocks within the open mat saltbush and salt desert scrub habitats that dominate the project area.

Additional raptor species that may breed or overwinter in the project area include the red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), and great-horned owl (*Bubo virginianus*), long-eared owl (*Asio otis*) and Northern harrier (*Circus cyaneus*). Raptor surveys conducted by BIO-Logic in 2008 confirmed the presence of an active raptor nest 270 ft southeast of proposed structure 46 (BIO-Logic 2008). The nest was located in a cavity within a vertical cut bank in the large drainage northeast of Flat Top Mesa. The nesting species was not visually confirmed, but was likely a barn owl, as they are known to utilize cavities in the area.

In addition to the BCC species and raptors, there are a wide variety of migratory species, especially songbirds, which utilize the habitats in the project area, with the most common species being horned lark (*Eremophila alpestris*). The habitats where proposed site disturbance would occur on public land have no

known bird concentration areas, nor are there habitats or topographic features that would funnel migrating birds through the transmission line ROW.

Environmental Consequences/Mitigation:

▪ Proposed Action

Temporary and Permanent Construction Disturbances

The construction of the EMP would result in the short- and long-term loss of foraging and nesting habitat for migratory bird species using the area, and present the potential for bird collision hazards. Short-term loss of various habitat types found in the project area during construction would total approximately 36.4 acres. Long-term loss of habitat due to placement of structures and access routes (excludes Existing public roads and IL 1 Existing routes) would total approximately 14.3 acres. Long-term disturbance during project operation would occur over a similar number of acres and percentage of the ROW associated with 32 structures and the 6.3 miles of improved access routes (IL 3 to IL 6) on BLM lands (*Tables 2, 4*). The project would not result in the removal of trees or nesting substrate for raptors on BLM lands.

The EMP would be constructed slightly less than 0.25 mile from an active golden eagle nest on private lands. CDOW-recommended raptor buffer guidelines and seasonal restrictions (CDOW 2008) for nesting golden eagles suggest that no surface occupancy (beyond that which historically occurred in the area) occurs within a 0.25 mile radius of active nests. The guidelines also suggest that seasonal restriction to human encroachment be imposed within a 0.5 mile radius of active nests from December 15 through July 15. Former CDOW raptor biologist Jerry Craig was consulted to analyze the nest location and its proximity to the proposed transmission line (EDM 2011). Eagle responses to disturbance can vary and are influenced by many factors including type of human activity, intervening terrain, individual eagle tolerance and experience, and pre-existing site conditions. These conditions affect the effectiveness of nesting buffers. Existing factors that were taken into account in the recommendations provided by Jerry Craig included the fact that the nest is located along an existing ranch road which has frequent human traffic from the landowner as well as ditch riders maintaining the irrigation canals in the area. In addition, the ranch road is not accessible to the general public due to a locked gate at the entrance to the parcel. In order to mitigate direct impacts to nesting eagles in the project area, construction within 0.5 mile of the active nest site would not occur within the golden eagle breeding season (December 15-July 15). The seasonal closure within 0.5 mile would also apply to routine maintenance activities if possible. If maintenance is needed during the breeding season, incursions should be brief (less than 2 hours), and crews should keep moving through the project area. If emergency access is needed during the breeding season, crews should act as needed; however USFWS and a qualified wildlife biologist should be contacted to mitigate disturbance and possibly monitor the nest, so that remedial actions can be taken if necessary. Without the implementation of these seasonal restrictions and disturbance buffers, the Proposed Action could result in direct and indirect impacts to nesting eagles in the project area. DMEA and Tri-State have committed to conducting pre-construction surveys for nesting raptors, which would help in planning construction to avoid or minimize impacts to golden eagles and other raptors (EPM BR-9).

Brown-capped rosy finches aggregate in flocks during winter within the project area and are highly mobile during foraging, making it unlikely that the project or its operations would affect this species on its winter range. Impacts to this species from the EMP are assessed as low.

Permanent loss of habitat from the placement of structures or access route improvements would have a low, undetectable impact on raptors and migratory birds in general. Incidental disturbance to migratory birds may occur during construction activities, resulting in the temporary displacement of birds or a decrease in reproduction due to disturbance of nesting birds. Surveys for active migratory bird nests would be conducted prior to construction to ensure the project does not result in the take of any migratory bird nest, eggs, or birds. Successful reclamation of construction areas should result in pre-construction habitat values being restored to those areas. With the implementation of the EPMs (*Table 5*), the Proposed Action may impact individuals, but is unlikely to have a measurable impact on species distribution, abundance, or population viability of migratory birds on a landscape scale in the East Montrose area.

Collision and Electrocutation Hazards

Larger, heavy bodied species such as cranes and herons would have higher potential to incur mortalities from collisions with the power lines or static line than smaller migratory species. Waterfowl are also vulnerable to collision due to their high flight speed. Waterfowl habitat in the project area is confined to irrigation ditches on public lands, but includes other waterways and agricultural fields on nearby private land. Waterfowl species are limited in the area, although mallards (*Anas platyrhynchos*) were observed using the ditches and other waterways in the project area during the 2008 biological surveys (BIO-Logic 2008). Raptors are infrequently involved in collisions. However, certain behaviors, such as hunting, can make them more vulnerable. Raptors, in general, utilize the salt desert scrub habitats on public land lightly, and with the exception of the burrowing and barn owls, there are limited suitable breeding habitats for the other raptors along the proposed project

The transmission line would be designed, constructed, and maintained in compliance with the latest Avian Power Line Interaction Committee (APLIC 1994, 2006) standards (EPM BR-8). With implementation of EPM BR-8, potential electrocution mortalities would be reduced and projected impacts low.

▪ No Action Alternative

Under the No Action Alternative, the impacts of the EMP to migratory birds would not occur, including construction disturbances and the potential for mortality from collisions and electrocution hazards. Migratory birds and raptor nests would most likely remain present, as described under the Affected Environment. Existing activities on private lands, including agricultural practices, such as equipment operations and maintenance of irrigation systems, would continue to create potential disturbances to migratory birds and nesting raptors. BLM would continue to manage public lands in accordance with public land health standards which minimize potential effects to wildlife from on-going public land activities.

7.2.9 WILDLIFE, TERRESTRIAL (INCLUDES A FINDING ON STANDARD 3)

Affected Environment:

The mat saltbush shrubland, salt desert scrub, and semi-desert grasslands provide habitat for a wide variety of terrestrial wildlife species, on either a seasonal or year-round basis.

CDOW considers the BLM land in the project area to be a limited use area for mule deer. Mule deer are expected to use the project area infrequently, and primarily during the winter. The BLM land at the southern end of the project area is mapped by CDOW as mule deer winter range. Critical winter range occurs to the east and west of the project area, coming within 0.5 to 2 miles of the ROW on the east side

of the proposed transmission line. A deer crossing area is mapped by CDOW where US highway 50 passes through the project area.

The project area is outside of elk and pronghorn seasonal habitat, as mapped by CDOW in their Species Activities Maps (CDOW 2007b). A resident population area for elk is mapped a little over three miles to the east of the southern portion of the transmission line ROW, and severe winter range approaches to within approximately one mile of the ROW along the length of the project. The project area generally provides limited forage for elk, and extensive public lands with more suitable winter habitat occur to the east; as a consequence, elk seldom occupy the project area. According to CDOW, the project area is outside of habitat for pronghorn.

Predators known to be present in the project area include coyote, red fox, badger, striped skunk, and occasionally bobcat and mountain lion. Small mammals include cottontail rabbits, white-tailed prairie dogs, and a variety of rodents. Chukar and Gambel's quail are present in small numbers in salt desert scrub and grassland habitats within the project area. Mourning dove, a species adapted to a wide variety of habitats, also occurs in these habitat areas. While nesting habitats on salt desert scrub habitats are limited for raptors, foraging opportunities exist for numerous species. Common raptor species utilizing the area for hunting include golden eagle, red-tailed hawk, American kestrel, barn owl, long-eared owl and great-horned owl.

A large number of smaller species of migratory birds occur as breeding residents in summer, winter visitors, or migrants. All migratory species are protected under the federal MBTA, and are discussed in more detail in Section 7.2.8. Reptiles such as horned lizard, garter snake, western rattlesnake, and gopher snake are present throughout the project area.

Environmental Consequences/Mitigation:

▪ Proposed Action

Potential impacts to wildlife have already been discussed in Sections 7.2.7 (Threatened, Endangered and Sensitive Species) and 7.2.8 (Migratory Birds). The project would result in some risk of resident bird mortality from collisions with transmission line wires or electrocution, but the impacts are not likely to result in impacts to avian populations in Montrose County.

At present there are two known raptor nests in the vicinity of the proposed project: a golden eagle nest on private land adjacent to public land, and a nest occupied by an unknown species, probably a barn owl. Timing restrictions or No Surface Occupancy buffers may be imposed on construction activities around these nests should they be active in the year of construction, as directed by the BLM Authorized Officer. Pre-construction surveys in suitable habitat for nesting raptors would be conducted if surface disturbance activities would occur from December 15 through August 15. For burrowing owls, surveys would be conducted in suitable nesting habitats, which are 150 feet from areas of surface disturbance. If active nests were located, no surface disturbance activities would occur within the 150-foot buffer during the nesting period of March 15 to October 31 as recommended by CDOW (CDOW 2008). Surveys for other nesting raptors would be conducted in suitable habitat within a ½-mile buffer of the project area. If active nests are located, No Surface Occupancy buffers or timing restrictions may be imposed on construction activities, depending on the species sensitivity and site-specific criteria as directed by the authorized BLM officer.

Large and mobile wildlife could be temporarily displaced by construction and maintenance activities. It is possible that some loss of the annual production of young could occur as a consequence. Small, less mobile wildlife species may suffer direct mortality from vehicles and construction/maintenance

equipment. Once in operation, the transmission line would not create any barriers to wildlife movement or habitat selection. Due to the narrow nature of the proposed access roads and their infrequent use, they are not likely to create barriers to wildlife movement or habitat selection.

Habitat permanently lost to roads (14.3 acres) and structure sites (0.01 acres) would be long-term. Temporary disturbances from access road improvements (28.7 acres), construction sites and TUAs (22 acres) would be relatively short-term until reclamation work has been completed. After reclamation, some habitat values would be restored, but habitat conditions may be altered, especially with regard to plant community composition. The above modifications to habitat would be unlikely to cause a measurable impact to any wildlife species in the project area. Impacts to wildlife habitat are assessed as low.

- **No Action Alternative**

Under the No Action Alternative, the impacts of the EMP to terrestrial wildlife would not occur, including the removal of habitat and potential for direct mortality or disturbance from project construction and operation. Terrestrial wildlife and their habitats would remain as described under the Affected Environment. Existing activities on private lands, including agricultural practices, such as equipment operations and maintenance of irrigation systems, would continue to create potential disturbances to wildlife. BLM would continue to manage public lands in accordance with public land health standards which minimize potential effects to wildlife from on-going public land activities.

- **Finding on the Public Land Health Standard for plant and animal communities** (partial, see also Vegetation; Invasive, Non-native Species; and Wildlife, Aquatic):

The Proposed Action would not contribute to improved public land health for Standard 3. However, with DMEA's and Tri-State's commitment to the EPMS in *Table 5*, the Proposed Action would not result in a detectable change in landscape health in this unit as it relates to healthy animal communities.

7.2.10 WILDLIFE, AQUATIC (INCLUDES A FINDING ON STANDARD 3)

Affected Environment:

The streams within the project area are either ephemeral or intermittent. Consequently, aquatic species are largely absent from the majority of drainages in the project area. The incised drainage that parallels the transmission line between structures 42 and 51 does support patches of riparian vegetation. Fish are most likely absent from this drainage, but mallards, cliff swallows, and raccoon sign have been observed there. Woodhouse's toad and bats may also occur.

Environmental Consequences/Mitigation:

- **Proposed Action**

Impacts to aquatic wildlife are expected to be none or low, given that direct impacts to the drainage between structures 42 and 51 would be avoided.

- **No Action Alternative**

Under the No Action Alternative, there would be no impacts to aquatic wildlife, resulting from the construction and operation of the EMP. BLM would continue to manage public lands in accordance with public land health standards which minimize effects from on-going public land activities.

- **Finding on the Public Land Health Standard for plant and animal communities** (partial, see also Vegetation; Wildlife, Terrestrial; and Invasive, Non-native Species):

The BLM's 2001 *Land Health Assessment* of the Gunnison Gorge Area (BLM 2001) determined that 87% of the landscape unit meets the standard, with 51% of that subset meeting the standard "with problems". The Proposed Action falls in an area (D2) that meets, with reservations, the objectives for healthy wildlife. Creating larger grass/forbs patches is the landscape unit objective for the project area.

The Proposed Action would not contribute to improved public land health for Standard 3, but with DMEA's and Tri-State's commitment to the EPMs in **Table 5**, the Proposed Action would not be likely to result in a detectable change in landscape health in this unit as it relates to healthy animal communities.

7.2.11 WETLANDS AND RIPARIAN ZONES (INCLUDES A FINDING ON STANDARD 2)

Affected Environment:

A large unnamed drainage runs northwest adjacent to the EMP 115 kV transmission line structures 42 through 51. This heavily incised drainage supports patches of riparian vegetation consisting of willow (*Salix* spp.), cottonwood (*Populus deltoides*), and tamarisk, with some limited wetland herbaceous vegetation, including cattails (*Typha latifolia*), rushes (*Juncus* spp.), Aster (*Aster* sp.), reed canary grass (*Phalaroides arundinacea*), and a variety of other grasses. A number of unnamed arroyos occur in the project area. These arroyos are ephemeral drainages, passing runoff after storm events or snow melt, and do not support wetland or riparian vegetation inside the project limits.

An alkali wetland occurs on public land between structures 60 and 62, and appears to be supported by seepage from the irrigation ditch that runs along the ridge to the south. Vegetation includes sea-blite (*Suaeda nigra*), alkali muhly (*Muhlenbergia asperifolia*), Nuttall's alkali grass (*Puccinellia nuttalliana*), and arctic rush (*Juncus arcticus*). This wetland is primarily or entirely supported from irrigation ditch seepage and is not considered a fundamental part of the BLM stream and riparian resource.

Environmental Consequences/Mitigation:

- **Proposed Action**

The proposed project would not directly affect wetlands or riparian areas on public lands as the proposed EMP access routes would not cross any drainages on public lands that support riparian or wetland vegetation.

Drainage crossing improvements are proposed at six locations on public land: two locations west of structure 29, and one each near structures 30, 43, 47, and 62. Five of the six crossing sites are dry washes, and none of the six support riparian or wetland vegetation. With implementation of EPMs WQ-1 to 5, effects to wetlands and riparian vegetation would be avoided. Potential impacts to wetlands and

riparian vegetation on public lands are, consequently, assessed as low to no identifiable effect. Potential impacts to private lands are described in EA Section 7.4, Cumulative Impact Summary.

▪ **No Action Alternative**

The No Action Alternative would have no impacts to wetlands and riparian areas. Conditions on public and private lands would remain similar as described under the Affected Environment. BLM would continue to manage public lands in accordance with public land health standards which minimize effects from on-going public land activities.

▪ **Finding on the Public Land Health Standard for riparian systems:**

BLM's 2001 *Land Health Assessment* of the Gunnison Gorge Area (BLM 2001) determined that the landscape unit meets Public Land Health Standard 2, with 62 % of it (all outside of the project area, largely in the Upper Gunnison River) meeting the standard "with problems".

Direct effects to riparian systems would be avoided by the Proposed Action. With DMEA and Tri-State's commitment to the EPMs in **Table 5**, the Proposed Action would not affect the current status of Public Land Health Standard 2.

7.2.12 FLOODPLAINS

Affected Environment:

Floodplains are defined as land areas susceptible to being inundated by flood waters from any source. One-hundred year floodplains have a one percent chance of being flooded in any given year. The Federal Emergency Management Agency (FEMA) floodplain mapping as depicted on the Flood Insurance Rate Maps (FIRMs) for Montrose County were reviewed with respect to the project. The effective date of the published mapping is 1984. The project is located on community panel numbers: 080124 0075B (north extent of project; 080124 0226C; 080124 0250B; and 080124 0233C (south extent of the project) (FEMA 2010). The project alignment was approximated onto the FIRM maps and is not exact due to scale and age of FIRM maps. United States Geological Society (USGS) topographic maps for the area were also reviewed for drainage names and extent of associated watershed areas. In addition, floodplain delineation studies, conducted by Tri-State for the Loutzenhizer Arroyo near the Peach Valley Substation site, were also reviewed (Goff, 2010).

The following floodplains were identified in the vicinity of the EMP Project 115 kV transmission line on BLM lands:

- Near transmission structure 32, (adjacent to Elephant Skin Road) the spur access road for structure 32 and also the access road heading north and south to adjacent structures are within a designated floodplain of an unnamed drainage. The FIRM Map shows the floodplain to be approximately 350-feet wide.
- A second unnamed drainage at transmission structure 37 has a designated floodplain with a boundary in the vicinity of structure 37. The transmission structure and access road running northwest and southeast from the structure are within the floodplain. The FIRM Map shows the floodplain to be approximately 400-feet wide.

In addition, the following drainage, which does not have an identified floodplain on the FIRM maps, is located near EMP structures on public lands:

- Between transmission structures 41 and 52 the transmission route crosses and then parallels an unnamed drainage that has an extensive watershed area. Based on aerial maps and the USGS topographic maps it appears several of the structures and short segments of the access road are close to this drainage. All structures would be above and on the edge of the drainage. Short segments of the access road would be close or in the drainage.

On private lands, the Peach Valley Substation and the East Montrose Substation would be located near the Loutzenhizer Arroyo and Cedar Creek, respectively. Both substation sites are outside the 100-year floodplain limits. Several 115 kV transmission structures are also located near floodplains on private lands.

Environmental Consequences/Mitigation:

▪ Proposed Action

The EMP facilities would be designed and constructed to avoid and minimize impacts to the 100-year floodplain and surface waters in the project area. Structures within floodplains would be designed to withstand potential flooding conditions and to not alter the functioning of the 100-year floodplain. Prior to construction, a county floodplain permit will be obtained, if required (EPM FL-1). Structure erection is not expected to result in significant impacts to the floodplain structure or function. With implementation of this measure, impacts to floodplains would be low to no identifiable effect.

▪ No Action Alternative

Under the No Action Alternative, the Proposed Action would not be constructed and potential impacts to floodplains would not occur. Conditions within the project area would be expected to remain the same, or similar, to those described under the Affected Environment.

7.2.13 WATER QUALITY, SURFACE AND GROUND (INCLUDES A FINDING ON STANDARD 5)

Affected Environment:

There are multiple surface water crossings found throughout the project area. Most of them are intermittent or ephemeral in nature. Waters of the U.S. include intermittent and perennial drainages that are under jurisdiction of the U.S. ACOE and are subject to Section 404 of the Clean Water Act. There are several potentially jurisdictional waters within the project area, most of them characterized by intermittent or ephemeral flow.

The project area is northeast and east of Montrose, Colorado. The climate of the area is semi-arid with an average annual precipitation of approximately nine inches (Western Regional Climate Center 2009). Surface water originates primarily as snowmelt runoff during spring. Peak flooding events are caused by snowmelt and summer thunderstorms. Stream channels are typically incised.

The project area is generally within the Gunnison River drainage basin, a major subbasin of the Upper Colorado River basin. Major surface waters in or near the Project area include the Uncompahgre River, Loutzenhizer Arroyo and Cedar Creek which are perennial streams. The Uncompahgre River lies approximately 3 to 4 miles southwest of the proposed transmission line. The proposed transmission line roughly parallels Loutzenhizer Arroyo or its tributaries from its beginning at the proposed Peach Valley

Substation to the Flat Tops area (transmission structures 1-6 and 8-16). The proposed transmission line crosses Cedar Creek near its terminus at the proposed East Montrose Substation.

The proposed transmission line and access crosses a number of irrigation canals and ditches. All are on private land with the exception of one unnamed ditch in Sections 17 and 18, T. 49 N., R. 8 W., NMPM. The access along the ditch is classified in the POD as IL 1 - Existing. The ditch would be spanned by the proposed transmission line where it crosses.

Surface water quality varies and depends substantially on local geology. The State of Colorado has developed a *303(d) List of Water Quality Limited Segments Requiring Total Maximum Daily Loads (TMDLs)* (Colorado Department of Public Health and Environment – Water Quality Control Commission [CDPHE – WQCC 2008a]) that identifies stream segments that are not currently meeting water quality standards with technology based controls alone. The Uncompahgre River and its tributaries are on the state's 303(d) list for impaired water quality and the priority rating is High. Selenium concentrations in reaches of the Lower Uncompahgre River exceed the State Water Quality Standard of 5 parts per billion. Elevated levels derive from both natural and man-made causes, but are principally associated with Mancos Shale. The State of Colorado has also developed a Monitoring and Evaluation List of stream segments of concern (CDPHE – WQCC 2008b). The Uncompahgre River is listed as having concerns for sediment loads.

Groundwater resources vary by geologic formations. The Dakota Sandstone and Quaternary alluviums containing a size component of sand and larger are the principle aquifers in the region. Water quality varies considerably, and is generally better in unconsolidated valley fill than sedimentary rock aquifers. (Morgan 2007, Noe 2007) Mancos Shale dominates the formations on public lands and little groundwater is naturally associated with this formation. The alluviums on public lands are clays and silts deposited as mudflows and fan valley fill deposits and have poor ground water potential. No ground water wells were identified on BLM lands in the project area. One monitoring hole, BLM 33396MH, was identified and is approximately 0.5 mile northeast of structure 53 (Colorado Division of Water Resources, 2009).

Environmental Consequences/Mitigation:

▪ Proposed Action

Without implementation of EPMs, the types of adverse impacts that could result to water resources in the project area include: (a) impaired surface water quality due to increased erosion and sedimentation from exposed, disturbed ground; (b) reduced capacity of natural drainages at road crossings; (c) physical damage to the function of drainages and irrigation ditch structures; and (d) impaired water quality (surface or ground) due to spillage or inappropriate disposal of construction materials or vehicle fluids.

Runoff-producing storm events could increase sediment loads in ephemeral channels. Additionally, increased erosion of area soils could result in additional selenium loading. The magnitude of these impacts is dependent on the amount of surface disturbance and climatic conditions during the time the soils are exposed to the elements. Impacts of increased soil erosion would typically continue until remedial actions are implemented.

The Proposed Action is expected to have low and localized impacts to surface water and water quality, since soil disturbances would be limited to localized areas where maintenance of existing access roads may be required, or at sites where poles would be placed. These types of impacts would be minimized by EPMs AR-3, AR-4, AR-6, BR-2, BR-4, BR-5, and WQ-1 through WQ-5 as part of the Proposed Action, including the development of a Stormwater Management Plan.

The proposed transmission line crosses a number of intermittent streams and drainages. Drainages would be spanned by the transmission line. Larger drainages posing difficult crossings would also be avoided by access routes to the extent possible. The EMP POD identifies locations where access restrictions would apply through drainage crossings. Smaller ephemeral drainages crossed by access routes would be crossed perpendicular to the drainage to minimize disturbance to the drainage profile to the extent possible. Drainage crossings would follow the parameters described under Arroyo Crossings in Section 3.2.5, BLM Access Routes and Proposed Improvements.

The majority of the drainages in the project area can be crossed by pulling back the banks to allow for safe vehicle passage. Six drainages would require permanent improvements in the form of rock armoring to protect the function of the drainage and allow for construction and long-term maintenance access. Post-construction, all areas that are temporarily disturbed would be restored to pre-construction conditions. Short term and long term impacts to surface waters and water quality are assessed as low. No impact to groundwater resources is anticipated.

Prior to construction, Tri-State and DMEA would obtain the necessary permit(s) from the U.S. Army Corps of Engineers (ACOE) to construct the EMP in accordance with the Clean Water Act (CWA), Section 404. The transmission line itself would span all drainages and there would be no impacts to waters of the U.S. from placement of structures. Access roads may impact some jurisdictional waters, and the necessary compliance with Section 404 would occur. Analysis of the expected impacts to waters of the U.S. is currently underway for the proposed 115 kV transmission line and East Montrose Substation. Tri-State previously submitted a wetlands delineation report to the ACOE for the Peach Valley Substation Site in 2010. It is expected that all activities associated with the Proposed Action would result in less than 0.5 acre of impact to waters of the U.S.; and therefore, would be covered under Nationwide Permit 12 (See EA Section 7.4 Cumulative Impact Summary).

- **No Action Alternative**

Under the No Action Alternative, the EMP facilities would not be constructed and project-related effects to water resources and water quality would not occur. Surface waters and water quality would be expected to remain the same or similar to the conditions described under the Affected Environment. On public lands, drainages and waters of the U.S. would continue to be managed by BLM in accordance with public land health standards for water quality.

- **Finding on the Public Land Health Standard for water quality:**

The BLM has completed a *Land Health Assessment* for the Gunnison Gorge Area (BLM 2001). The BLM has determined that, in the project area, the conditions are meeting the criteria for Standard 5.

With Tri-State's commitment to the EPMS in **Table 5**, the Proposed Action would not decrease the chance of achieving or maintaining Public Land Health Standard 5. Under the No Action Alternative, there would also be no effect to water quality that would influence the Public Land Health Standard 5.

7.2.14 WASTES, HAZARDOUS OR SOLID

Affected Environment:

There are no known existing hazardous materials documented by Montrose County within the project area (S. White, personal communications, 2008). Environmental Site Assessments (Phase I, II, and III) have been conducted by Tri-State for the Peach Valley Substation site (SME, 2008 and 2010). Two recognized environmental conditions have been identified and mitigated on private lands.

Environmental Consequences/Mitigation:

▪ **Proposed Action**

The proposed EMP construction and maintenance activities may produce small volumes of solid waste in the form of materials packaging and scrap material. Solid waste generated during project activities would be disposed of in appropriate off-site waste collection containers. There may also be small volumes of other hazardous materials present (e.g., ethylene glycol, oil, transmission/hydraulic fluids, etc.) and used for emergency maintenance of vehicles and equipment. Small spills or leaks of these fluids and/or vehicle fuels may occur as part of the project activities.

In accordance with EPM HM-1, Tri-State would comply with all applicable federal laws and regulations existing or hereafter enacted or promulgated regarding toxic substances or hazardous materials. No fuel storage would occur within the public lands portion of the ROW project. All fuel and fluid spills within BLM authorized ROW area would be handled in accordance with appropriate state and federal spill reporting and response requirements.

Any waste generated as a result of the Proposed Action would be properly disposed of in a permitted facility. Solid waste generated during the construction and subsequent periodic maintenance periods would be minimal. All hazardous materials would be stored, handled, and disposed of in accordance with applicable local, state and federal hazardous material statutes and regulations. No burning of trimmed material or solid waste would be performed within the proposed project area. Impacts associated with hazardous materials are, consequently, assessed as low.

▪ **No Action Alternative**

Under the No Action Alternative, potential EMP-related impacts associated with wastes and hazardous materials would not occur. Known environmental conditions on private lands, which have been identified and mitigated by the Applicants, would no longer exist as potential hazards in the future.

7.2.15 ENVIRONMENTAL JUSTICE

Affected Environment:

Under Executive Order 12898 (published in the Federal Register February 11, 1994), federal agencies are required to identify and address disproportionately high or adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. A specific consideration of equity and fairness in resource decision-making is encompassed in the issue of environmental justice. As required by law and Title VI, all federal actions must consider potentially disproportionate negative impacts on minority or low-income communities. Within the EMP project area,

minimal minority populations would be affected. During the EA process, efforts were made to ensure that property owners within the affected areas were informed of the proposed project and alternatives, and were provided opportunities to provide comments.

Table 10 summarizes the income and race characteristics of Montrose County and the State of Colorado, as estimated by the Census Bureau in 2008.

Table 10. Summary of Income and Minority Statistics – State of Colorado and Delta County, Colorado

Summary Statistics by Income and Race	Montrose County	State of Colorado
Total Population	41,412	5,029,196
Persons Below Poverty Level (percentage 2008)	11.9	11.2
Racial Breakdown by Percentage (2009):		
White	95.8	89.5
Black	0.7	4.4
American Indian	1.4	1.2
Asian	0.6	2.7
Hispanic	18.2	20.3
Other Races	1.6	2.2

Source: U.S. Census Bureau, State and County Quick Facts, Montrose County Colorado and State of Colorado (2008, 2009 and 2010).

Environmental Consequences/Mitigation:

▪ Proposed Action

The EMP would not disproportionately affect minorities or persons with low incomes in Montrose County. In addition to the public lands affected, the EMP would directly affect private lands that are owned by numerous landowners and businesses (e.g., ranch organizations) in Montrose County. Land ownership characteristics are typical of Montrose County as a whole for income levels and racial composition. Consequently, no disproportionate impacts to minorities or low income populations would occur.

▪ No Action Alternative

Under the No Action Alternative, there would be no effects to minorities and persons with low incomes. Demographic conditions, summarized under the Affected Environment, would be expected to continue into the future.

7.3 OTHER ELEMENTS

Other elements, applicable to the Proposed Action, are identified in **Table 11** and considered in this EA. Only those elements that could be impacted are brought forward for analysis.

Table 11. Other Non-Critical Elements Applicable to EMP

Other Elements	Not Applicable or Not Present	Present, But No Impact	Applicable & Present; Brought Forward for Analysis
Access			X
Transportation			X
Cadastral Survey	X		
Realty Authorizations		X	
Rangeland Management			X
Forest Management	X		
Fire	X		
Hydrology/Water Rights		X	
Noise		X	
Recreation			X
Visual Resources			X
Geology and Minerals	X		
Paleontology	X		
Law Enforcement		X	
Socio-Economics		X	

7.3.1 ACCESS AND TRANSPORTATION

Affected Environment:

The project area for transportation includes the regional and local area that may be used to access the project ROW, structure sites, and substation facilities. The transportation system in the region is predominantly federal, state and county roads that form a network of primary, secondary and local roads in Montrose County, Colorado. Public roads in Montrose County that would be used to access the project area include U.S. Highway 50, Falcon Road, 6400 Road, Holly Road, Ida Road, Elephant Skin Road, Landfill Road and Miguel Road. On public lands, a network of off-road unpaved trails exist that would be used to access the transmission line during construction and operation phases. Most of the existing trails on public lands are part of the BLM's Flat Top-Peach Valley OHV Recreation Area. *POD Map Exhibits 1-11* show the existing transportation network in the project area.

In addition to the local roads which would be used to access the EMP ROW and substations, nearby major transportation systems include the Montrose Regional Airport and the Union Pacific Railroad. The Montrose Regional Airport north-south runway lies approximately 1.25 miles south of the EMP transmission line, east of 6400 Road. The Union Pacific Railroad generally parallels U.S. Highway 50 to the west.

Environmental Consequences/Mitigation:

- **Proposed Action**

Impacts to Roads and Traffic

Access to the transmission line ROW would be from both private roads and public roads and trails. Some road segments within or adjacent to the ROW would need to be improved to allow the safe passage of construction equipment and vehicles. Access routes would deviate from the transmission line ROW where necessary due to terrain conditions (canyon crossings, steep hillsides, etc.). Access roads would

typically be 14 feet wide, with a cross-slope no more than two percent and a maximum grade not exceeding 12 percent. In areas of steep slopes or broken terrain, access routes would be from short spur roads rather than from within the transmission line ROW.

The proposed access road improvements on public lands administered by the BLM are shown on the *Attachment 1 POD Map Exhibits 5-10*. Road and trail improvements would be made in accordance with the level of improvements shown on each road segment, and as described in the POD.

Impacts to roads and road surfaces during construction would occur from the transportation of materials, supplies and work crews to the project ROW during the six month construction phase. The presence of construction equipment and vehicles to and from the project ROW would be intermittent and occur in conjunction with the various construction activities, described in EA Section 3.2.6. The types of construction equipment required are described in the POD, and photos of representative equipment are contained in *POD Attachment 1, Appendix A*. Equipment and vehicles would be staged from construction yards, which would be located in previously disturbed lands under private ownership. It is anticipated that one or two staging areas would be required and most likely located near the Peach Valley and East Montrose Substations, which would be constructed as part of the EMP facilities on private lands. Staging areas would be located to avoid impacts to wetlands, cultural resources and TES species.

Traffic delays or interferences with the highway and county road systems would be minor (low impacts) and short-term. Tri-State's contractors would work with state and county road departments to ensure crossings are posted and detours provided, when and where necessary.

Adverse impacts to unpaved roads could occur if roads are accessed during wet weather conditions. Access to the project area on public BLM lands would be closed seasonally during wet weather conditions (BLM 2004). The project area would be accessed in wet weather conditions only in the event of an emergency repair. Tri-State has committed to mitigation measures to avoid and minimize impacts to unpaved roads to low levels (EPMs AR-3, AR-4, AR-5 and AR-6).

Impacts to Aviation and Montrose Airport

The EMP transmission line would be routed north and east of the Montrose Regional Airport. The transmission line is designed to comply with the Federal Aviation Administration's (FAA's) requirements for clearances of obstructions (FAA CFR title 14, 77.23). Structures 7 through 53 are within the FAA's Notification Area. Required information for each structure was submitted to FAA in January 2011. FAA issued a 'determination of no hazard to air navigation' in February 2011 (ESC February 2011). The FAA's determination further stated that no lighting or marking of the transmission line structures or wires is required. In accordance with FAA requirements, Tri-State will file FAA form 7460-2, Notice of Actual Construction or Alteration, within five days of when the structures are erected. Consequently, the EMP is expected to have no identifiable effect on aviation safety at Montrose Regional Airport.

▪ No Action Alternative

Under the No Action Alternative, potential adverse impacts to traffic and transportation systems, resulting from the EMP construction and operation, would not occur. On public lands, road improvements, proposed as part of the EMP, would not be made. Existing roads and trails, proposed for use for the EMP construction and operation, would continue to be used for OHV and other public land activities, thus contributing to on-going changes to natural resources including air quality, soil, vegetation, and water resources.

7.3.2 RANGELAND MANAGEMENT

Affected Environment:

The proposed project crosses the lower southwest part of Adobe South # 05030 allotment and the Brush Point #05008 allotment. For both allotments, use is allowed either in winter (December-February) or spring (April-May). The Adobe South Allotment is currently in non-use. On the Brush Point Allotment the permittee in recent years has elected to graze in April-May.

Environmental Consequences and Mitigation:

- **Proposed Action**

Construction of the proposed project would result in the permanent removal of approximately 14.3 acres of vegetation for structures and improved access routes (IL 3 to 6) (*Table 4*), primarily in rangeland within the mat saltbush and salt desert scrub communities. Invasive plants could increase in the area disturbed by construction activities. This would result in a long-term direct impact of lost forage availability in the allotments. However, the amount of lost forage would be very small and the impact to forage available in the allotments would be very low. Construction of the proposed project would also result in temporary disturbance during construction of approximately 36.4 acres of similar vegetation. Temporarily impacted areas would be revegetated according to BLM guidelines and standards, and the short-term loss of available forage would be negligible. With the implementation of EPMs for revegetation and to control the invasion and spread of invasive plants, the impacts of the proposed project on available forage in the allotments would be low.

If construction is done during the grazing period in the Brush Point allotment (currently April-May), short-term indirect impacts to grazing operations in the allotments could occur during construction from vehicle collisions with livestock, and from construction personnel leaving fence gates open or closing fence gates that should remain open. As part of the Proposed Action, Tri-State would implement EPM's LU-8 and LU-9, which would minimize impacts by reducing speeds across the allotment to 25 miles per hour, and ensuring gates are not affected (i.e. gate closures or openings). With EPM's LU-8 and LU-9, impacts to grazing would be minimized, and the overall impacts of the proposed project on rangeland management would be low.

- **No Action Alternative**

Under the No Action Alternative, potential impacts to range management, resulting from the construction and operation of the EMP, would not occur. Range management within the project area would most likely continue, as described under the Affected Environment. BLM would continue to manage public lands for range management, in accordance with federal plans and regulations.

7.3.3 RECREATION

Affected Environment:

Public lands within the EMP area are primarily undeveloped and used for non-motorized and motorized OHV activities. Other dispersed recreational activities include hunting, horseback riding, mountain biking and hiking. The Flat Top communications site, Flat Top Off-Highway Vehicle (OHV) Recreation Site west of Flat Top, Elephant Skin OHV Recreation Site northwest of Flat Top and other public land visitors are the main developed uses on public lands near the project.

Public lands crossed by the EMP transmission line and access routes are classified as either *Open OHV Use* or *Limited OHV use*. Only the Fairview ACEC, which is adjacent to the project ROW, is designated as *Closed to OHV Use*.

Environmental Consequences and Mitigation:

▪ Proposed Action

The EMP 115 kV transmission line route would primarily result in short-term impacts to recreational uses and the BLM's policies for recreation in the BLM GGNCA RMP management unit (MU) 2 during the construction phase of the project. Construction of the EMP transmission line would occur in stages along the ROW, and is anticipated to last approximately 6 months. Long-term impacts to OHV activities would result in limited areas where OHV activities and trails (single track or two track) are permanently modified (i.e. widened and graded) to create access routes for the transmission line. These types of impacts would be long-term changes to the quality of existing trails, as Tri-State would maintain the access routes over the life of the project for both routine and emergency maintenance needs. During construction and operation of the EMP transmission line, the movement of vehicles and maintenance equipment would also temporarily impact public lands open to OHV activities.

Impacts to recreational OHV use would primarily be limited to OHV trails located on, north, east and southeast of Flat Top Mesa. During construction, impacts to recreational OHV use and public safety would be minimized by Tri-State's implementation of EPM LU-7, which would provide for signage and flaggers during construction in areas where trail closures are required and/or where construction equipment and vehicles may interfere with OHV activities. This EPM describes the measures that would be taken prior to and during construction to reduce potential recreation impacts:

- Prior to initiation of project activities there will be information signs posted at the trail map locations in the Flat Top, Elephant Skin, and Peach Valley OHV staging areas that describes the nature of the activities, the anticipated period of implementation, and the general location of the OHV trail system that will be impacted. BLM recreation staff will be consulted regarding the design and placement of the informational signs.
- During project activities there will be signs located at the OHV track trail entrances to the ROW and access routes to warn trail users of the project activities that are occurring on the trails. Access will be kept open for all the trails through the area other than restricting access to the transmission line work areas for public safety.
- If temporary trail closures are required, flaggers will be present along the trails to maintain the trail closures.
- Construction staff will be informed of the nature of the recreation activities that will be occurring on the BLM lands during the project implementation phase.

Short-term impacts of noise and dust would also impact passive recreation uses in MU2, during construction and maintenance activities. The movement of vehicles and equipment could temporarily disrupt and affect the quality of recreational experiences, including hiking, horseback riding and hunting. With implementation of EPMs LU-1, LU-4, LU-5 and LU-7, the short-term construction impacts to recreation and BLM's recreational policies for MU-2 are assessed as moderate.

The EMP transmission line and access routes may cause some long-term conflicts with existing OHV trails and uses. The transmission line and access routes have been designed to minimize direct conflicts with OHV trails and users, to the extent feasible, and all trails would be open following the construction phase. Once the transmission line is constructed, access roads to the transmission line would be maintained by the Tri-State. Access roads that are open to public use would be maintained commensurate

with Tri-State's use of the roads. Periodic and intermittent impacts to OHV trails and uses may occur when maintenance of the transmission line is needed and maintenance crews and vehicles access the line and structures. Typically, maintenance crews would inspect the EMP transmission line from the air or ground once or twice a year. Due to the intermittent and temporary nature of potential disruptions to recreational OHV activities and trails during project operation, long-term impacts are assessed as low.

- **No Action Alternative**

Under the No Action Alternative, the short-term impacts to recreational activities would not occur; and limited disruptions to public land activities, which would result from the EMP construction and operation, would be avoided. Allowable recreational activities and developments on public lands would be unchanged, as permitted by the BLM's GGNCA RMP. OHV activities and planned developments associated with the Flat Top Off-Highway Vehicle (OHV) Recreation Site west of Flat Top and the Elephant Skin OHV Recreation Site northwest of Flat Top would continue as planned and allowed.

7.3.4 VISUAL RESOURCES

Affected Environment:

VRM Classifications for Public Lands

The BLM utilizes the Visual Resource Management (VRM) system to document visual resources and determine applicable management objectives for MUs within RMPs. The VRM system includes four management classes, ranging from no visible changes allowed (Class 1) through maximum modifications permitted (Class V). BLM lands affected by EMP are classified as VRM Class II, III and IV.

- **VRM Class II** – The objective of VRM Class II is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. VRM Class II applies to public lands in MU 6 which would be crossed by EMP structures 53 and structures 56 through 63.
- **VRM Class III** –The objective of VRM Class III is “to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer.” (BLM 1986). VRM Class III applies to public lands in MU 2 that would be crossed by the EMP between structures 27 and 41.
- **VRM Class IV** –The objective of VRM Class IV is “to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention” (BLM 1986). The EMP crosses VRM Class IV lands in MU 2, between structures 42 and 50.

Landscape Character and Scenic Quality

The project area for visual resources encompasses the lands crossed by the EMP facilities and access routes and lands within foreground to middle-ground viewing distances (generally within 3 miles). Public lands in the project area are predominantly characterized as adobe badlands and mesas. The visual qualities of the landscape are dominated by Mancos shale hills and flats, arid tan and light grey soils,

sparse vegetation, and broad open vistas. The visual quality of the project area landscape is generally characterized by panoramic and open views to broad expanses of adobe hills. Vegetation patterns are sparse, with patterns of shrubs and grasses mainly occurring along the drainage courses. Soils are highly erodible and saline. The most distinctive physiographic feature within proximity to the EMP area is Flat Top Mesa, which rises prominently above the valley floor. This feature is visible from various parts of the Uncompahgre Valley at viewing distances of 10 plus miles away. Distant views to the Black Canyon National Park and other areas of the GGNCA are also possible to the north and northeast. **Figure 6** shows the existing setting of the project area, from Flat Top Mesa. Overall the visual quality of the EMP visual project area is typical, or Representative, of the adobe and upland landscapes in this part of Western Colorado (Class B scenic quality).

Environmental Consequences and Mitigation:

▪ Proposed Action

Visual impacts from the EMP would primarily be the long-term visual changes to the environment that would result from the operation and maintenance of the project facilities and access routes over the life of the project. The visual effects of the project facilities on public lands encompass the EMP 115 kV transmission line, structures and access routes on public lands. In total, the EMP transmission line would cross public lands for 4.7 miles, and require the use of 9.5 miles of existing roads and access routes on public lands. Thirty-two (32) transmission structures would be installed on public lands, including wood H-frame structures and three pole wood structures. Construction-related visual impacts, resulting from the presence of construction crews, equipment and activities would be short-term in duration, with impacts generally lasting less than 3 years after construction is completed.

The long-term visual impacts of the EMP are described below according to the degree of visual contrast that the project facilities and actions would cause. Impacts to landscape character/scenic quality and visual sensitivity are described according to three levels of visual contrast – weak, moderate, and strong. These contrast levels are used in the BLM's VRM system to measure the degree of change in line, form, color and texture elements that a given action would cause.

EMP 115 kV Transmission Line

Landscape Character Changes

The EMP 115 kV transmission line would introduce a new utility corridor on public lands for 4.7 miles. Transmission structures along this part of the project would consist of 22 H-frame wood and 10 three-pole wood structures, ranging in height above ground from 47.5 to 83.5 feet.

The visual character of the EMP 115 kV transmission line would be very similar in character to other 115 kV transmission lines in the valley, including the North-Mesa-Hotchkiss 115 kV line, which would connect to the Peach Valley Substation. Typical wood H-frame and three pole structures are shown on EA **Figures 2, 3 and 4**.

Visual contrasts from the new 115 kV wood structures are assessed as moderate. Visual contrasts would primarily result from the introduction of new structural forms and lines in landscapes that are currently undeveloped open space. **Figure 7** is a visual simulation of the proposed EMP wood as seen from Flat Top Mesa, where OHV use is high. Although the EMP would introduce a new structural form on public lands, the facility's impact is minimized by the natural adobe landscape against which the transmission line would be seen in most instances. The project action also requires the use of natural wood and non-

reflective conductor materials that would minimize the visibility and contrasts of the EMP transmission line.

The EMP conductor would be non-specular. The conductor would be 1.108 inches in diameter, and the ground wire would be 3/8 inch galvanized steel. The OPGW would be 0.55 inch in diameter, which is not a non-specular product, and would likely look brighter than the non-specular conductor. Insulators would be lightweight polymer rubber with a non-reflective light gray color. Other hardware would be galvanized steel, which would dull to a non-reflective condition within a couple of years. The visual contrasts of the conductor and hardware are assessed as weak to moderate due to the variety of materials that would be used.

The visual impacts of the EMP on landscape character and scenic quality would be mitigated with implementation of EPM A-1 through A-6. EPMs would reduce the potential visual contrasts of the EMP facility and access routes to low-moderate impact levels.

Changes to Public Views

The 115 kV transmission line structures and line would be most visible where the transmission line and structures are seen within foreground viewing distances (within 0.5 mile). These conditions would occur on public lands used for OHV and other types of recreation, as well as where the transmission line would cross and/or be within 0.5 mile of public roads. A number of dispersed residences also are within a foreground viewing distance, including homes along or near Highway 50, Falcon Road, Holly Road, 6900 Road, 6950 Road, 6400 Road and Miguel Road.

Views to the EMP 115 kV transmission line on public lands would primarily occur where OHV recreational activities occur. Almost all of the public lands crossed by the EMP allow OHV use and other activities. The visibility of the EMP could vary from weak to strong, depending on time of day, viewing distance and whether the line and structures are back screened by topography or skylined.

The transmission line would be visible on public lands from several public roads, including Elephant Skin Road and Landfill Road. Visual contrasts from public roads and dispersed residences would generally result in low to moderate impacts, given the presence of other similar structures and development (e.g. distribution lines, other transmission lines, etc.)

Access Route Improvements

The proposed EMP would entail making various levels of improvements to the transmission line access routes and maintaining those route improvements over the life of the project. EA Section 3.2.5 describes the level of improvements proposed throughout the project, according to five improvement levels. Photographs of each improvement level are contained in the EMP POD. Visual changes to the landscape character would occur where access routes are improved to ILs 3, 4 and 5. IL 2 improvements are typically limited to clearing of vegetation and would not occur on public lands due to the sparse low-lying grass and shrub vegetation cover present. IL 3 access route improvements typically result in less than one foot of cut and fill for road grading. IL 3 road improvements would result in weak visual changes associated with landform and vegetation modifications, and would occur on 4.4 miles of access routes. IL 4 road improvements require moderate grading, typically in the range of 1 to 3 feet of cut and fill. IL 4 road improvements would result in weak visual changes along 0.2 mile of access routes on public lands. IL 5 road improvements typically require 3 to 6 feet of cut or fill. This level applies to less than one-tenth (0.03) mile of access routes on public lands. Visual contrasts for IL 5 are assessed as moderate due to landform changes. IL 6 road improvements would result in weak visual changes where drainage culverts and/or armoring are required at arroyo crossings. These types of visual contrasts are expected along 0.1 mile of the access routes on BLM lands.

Road surfaces would be disturbed during construction and maintained as cleared dirt surfaces during the life of the project. Areas outside the road beds would be reclaimed in accordance with EPM BR-7. The long-term visual contrasts of soil and vegetation disturbances would be weak to moderate, given the sparse vegetation cover. Due to the lack of vegetation that would be removed and the presence of numerous roads and trails through most of the public lands affected, the visual effects of the EMP road improvements would be low in most instances.

Conformity with VRM Classes

With the implementation of EPMs, including A-1 through A-6, the BLM's visual objectives for VRM Class II, III and IV landscapes would be met. Long-term visual contrasts would primarily be seen from OHV recreational trails within foreground (0.5 mile distance) or middleground (up to 3.0 miles) viewing distances.

▪ **No Action Alternative**

Under the No Action Alternative, the short-term and long-term changes to landscape character and sensitive public views associated with the Proposed Action would not occur. The existing visual character of the landscape would remain predominantly natural, with the most evident man-made influences on public lands being the network of OHV trails, the Flat-Top communications site, and other existing distribution lines.

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Figure 6: Existing Landscape Character. View from Flat Top Mesa Looking Northeast.

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Figure 7: Visual Simulation of Proposed Project. View from Flat Top Mesa Looking Northeast Towards 115 kV Transmission Line

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7.4 CUMULATIVE IMPACT SUMMARY

The EMP facilities and actions are summarized in this EA section on public lands, as well as on private lands, as they are a connected action to the BLM's decision regarding whether to authorize the EMP on public lands. Other reasonably foreseeable projects considered in this section include: 1) BLM's plans to build recreational facilities at the Flat Top and Elephant Skin OHV recreation sites; 2) DMEA's development of the South Canal Hydroelectric Project, which is currently being planned and evaluated under a separate NEPA process, south of the East Montrose Substation and EMP project area; and 3) general development trends in Montrose County on private lands for residential and community uses. Development of some private land parcels for community and residential uses near the ROW is reasonably foreseeable, given population trends over the past 20 years. Since the early 1990s, a number of subdivisions have been approved in Montrose County and the City of Montrose, which have been developed to varying degrees. Furthermore, approximately 1,200 acres of lands, zoned as 'general agricultural' were rezoned as 'residential' in the past 5 years near the EMP project Area, south of Falcon Road. Development of open space and agricultural lands for reasonably foreseeable future projects on private lands would result in increased impacts to all resources described in this EA.

Cumulative impact contributions from the Proposed Action to physical resources such as soils and water quality would generally be low (imperceptible) and long-term. Loss and alteration of vegetative communities, and fragmentation and reduction of available wildlife habitat would be more evident when cumulatively added to continued development in the project area. Development of private lands near the ROW would be considered long-term cumulative impacts. Increases in area population would also have the potential to cause long-term impacts to cultural resources discovered on private properties and on public lands. The following is a discussion of potential cumulative impacts by resource issue.

Air Quality – The Proposed Action would result in no long-term impacts to air quality. Short-term temporary effects during construction would include fugitive dust and emissions from construction vehicles and equipment. Long-term maintenance of the project may also result in very short-term effects during routine maintenance. Levels of fugitive dust and emissions occurring during construction and operation would be low and similar to those regularly occurring in the project area from traffic along local roads, from farming activities on private lands and from OHV activities on public lands.

Areas of Critical Environmental Concern (ACEC). Cumulative impacts to the Fairview ACEC/NRA could result if future developments on public or private lands occur near the ACEC boundary and indirectly impact the resource values for which the ACEC is designated (i.e. populations of clay-loving wild buckwheat and other sensitive plant species). Direct cumulative impacts are not anticipated, however, as the Fairview North ACEC is fenced for resource protection.

Cultural Resources. The EMP ROWs, substation sites, and proposed access routes, were surveyed for cultural resources on private as well as public lands, as part of planning for the proposed project. A summary of the findings on private lands is provided in the cultural resources report (Moore 2010) submitted to the BLM. In total, six historic sites encountered during the archaeological survey for the project are considered to be eligible for nomination to the NRHP (Moore 2010). Two of these sites are located on public lands (Site 5MN8058.1 and 5MN8059). The remaining 4 historic sites are located on private lands. *Table 8* summarizes the potential impacts to each of these properties. Project impacts to these historic properties (eligible sites) have the potential to cause adverse effect without the implementation of EPMs as discussed below. The potential for impacts to all historic sites considered to be eligible for nomination to the NRHP are described in EA Section 7.2.2. With implementation of the cultural resource EPMs (CR-2, CR-3 and CR-4) and training provided to staff and contractors regarding protection of cultural resources (EPM CR-1), the cumulative impacts to cultural resources, related to the

EMP on private lands, would be low. Because there would not be increased access to cultural resource site areas due to the EMP construction or maintenance, there should be no additional or cumulative impacts over time. Cumulative impacts to cultural resources may occur, however, from development of other reasonably foreseeable projects on public and private lands in Montrose County. The EMP's contribution to cumulative impacts to cultural resources in the county and city is considered low.

Prime Farmlands. Prime farmlands have not been documented by the NRCS for Montrose County. Consequently, the cumulative impacts of the EMP, with other reasonably foreseeable future projects on prime farmlands, is not known. Some prime farmlands may occur in areas used as irrigated farmlands. In total, the 115 kV line would cross approximately 1.3 miles of irrigated agricultural land, some of which may meet the criteria for prime or unique farmlands. Ten (10) H-frame structures would be located in irrigated agricultural fields, and result in a long-term loss of 140 square feet, where structure bases would be installed. Short term impacts to farmlands would be low to moderate in degree, depending on the time of year the EMP is constructed. Temporary disruption of agricultural practices, or the temporary loss of production during the year of construction would result in moderate short term impacts. The development of the Peach Valley Substation and the East Montrose Substation would permanently impact up to 6 to 10 acres of lands historically used as irrigated farmlands. Impacts at substation sites are long term in duration.

Potential residential development, including county and city approved subdivisions and up to 1,200 acres zoned residential by Montrose County, would impact primarily irrigated agricultural lands, which may include prime and unique farmlands. Loss of prime and unique farmlands would be a long-term and permanent impact. The EMP's contribution to cumulative impacts would be expected to be low given the small amount of irrigated lands affected.

Soils. Cumulative impacts to physical resources such as soils would occur as a result of the EMP, as well as other cumulative projects in the region. Cumulative impacts to soils would be long-term. EMP impacts on private lands would be similar to those described for public lands. On-going and future residential developments on private lands, as well as increased OHV facilities near Flat Top, development of the South Canal Project, and other future uses on public lands, would contribute to cumulative soil impacts. The EMP's contribution to cumulative impacts would be expected to be very low.

Biological Resources. The EMP would result in cumulative impacts to biological resources where the project is located on both public and private lands. Cumulative impacts to wildlife, vegetation, invasive species, TES, migratory birds, wetlands and riparian areas are summarized below, in conjunction with other foreseeable actions.

Potential residential development, including county and city subdivisions and 1,200 acres of county land zoned residential, would impact primarily agricultural lands. The county lands rezoned as residential include some natural vegetation and aquatic resources, including pockets of mat saltbush shrubland/salt desert scrub that appear from 2009 aerial photography to receive a moderate degree of recreational or other use, and riparian vegetation along two segments of the Loutzenhizer Arroyo. Residential development would have moderate impacts to the remaining natural vegetation communities, either due to the construction footprint or increased human use of the area. Indirect impacts may occur to riparian and wetland habitats and associated aquatic wildlife found in the Loutzenhizer Arroyo.

Improvements to the Elephant Skin OHV recreation site and the Flat Top Mesa OHV parking and rest area, located just west of the proposed project area, would most likely have low direct impacts on surrounding natural communities, and moderate indirect impacts through increased human use, especially OHV operation, in the surrounding area. Special status plant species are known to occur on and near Flat Top Mesa.

Impacts from the Proposed Action would be additive to impacts from the above two projects. Cumulative impacts would be similar in nature and intensity, although greater in magnitude, to the impacts already described for public lands. Cumulative impacts to biological resources would include the following issues:

Wildlife, Vegetation, Invasive Species. The EMP features on private lands would primarily be constructed on lands used for irrigated agriculture. To a lesser extent, features would also be constructed on rangeland or vacant land with natural vegetation similar to adjacent public lands. Potential impacts to terrestrial and aquatic wildlife and vegetation would be similar to those described above for public lands. On private lands directly affected by the EMP, environmental protection measures (Table 5) would be implemented, as applicable, to minimize potential wildlife, vegetation and invasive species impacts. Impacts to native vegetation from the introduction and spread of invasive species would be moderate; impacts from invasive species to irrigated lands and other private lands without native vegetation would be considered low because of ongoing human disturbance of vegetation in those areas. Potential impacts to wildlife are considered low.

Private land uses, particularly surface-altering actions to support agriculture and residential development, are likely to have various impacts to vegetation and most wildlife, some adverse and some beneficial. Most of the private land in the project area is used for agriculture, commercial, and residential uses. Residential development near the Peach Valley Substation would not occur in an area that provides seasonal habitat to mule deer or other big game, according to Species Activity Maps from CDOW (CDOW 2007b). It would result in loss or impact to a small amount of undeveloped mat saltbush shrubland/salt desert scrub vegetation. The 115 kV transmission line, and especially its access routes, is likely to increase the presence of noxious weeds on public and private lands and cause some loss and degradation of natural habitat, which would add incrementally to the cumulative impacts of past, present, and future land use trends in the area.

Threatened, Endangered and Sensitive Species. Construction of the EMP may increase short-term and long-term effects on special status species, resulting in a small incremental contribution to cumulative effects on TES species. Environmental protection measures (Table 5) would be implemented, as applicable, to minimize potential impacts to TES species.

The majority of private land in the project area is under agricultural use, including the majority of the land near the Peach Valley Substation that is zoned for residential development. Special status species are unlikely to occur in these areas, but may occur on the private lands between proposed structures 51 to 56, where more natural habitat exists.

Suitable habitats on both public and private lands in the project area were surveyed for the occurrence of federally listed species. The proposed transmission line may affect, but is not likely to adversely affect, the federally endangered clay-loving wild buckwheat. Although there would be no direct effect to this species, indirect effects from the possible loss of potential habitat and increased use of OHVs may result in a small incremental contribution to cumulative effects to clay-loving wild buckwheat. Water depletion effects have been discussed in relation to the Proposed Action. Due to the small quantity of water involved and one-time nature of the depletion, the project is unlikely to make a detectable difference in cumulative effects on Endangered Colorado River fish.

Private lands were not surveyed for BLM sensitive species, although suitable habitat occurs in some of these areas. The Proposed Action would directly impact one occurrence of Colorado desert parsley. Eight occurrences of Colorado desert parsley may be indirectly impacted. White-tailed prairie dogs do not currently occur on public lands inside the project area, but may occur on private

lands. Any effects to these BLM sensitive species on private lands would contribute to cumulative impacts, which are expected to be small.

In 2001, the project area was considered by BLM to occur in a landscape unit that met Public Land Health Standard 4 (BLM 2001). The largest long-term impact from the Proposed Action would be the 6.3 mile network of improved roads on public lands, which may increase public use and OHV use in areas inhabited by special status species, especially plants. Potential impacts from increased OHV traffic would contribute to cumulative impacts on special status species in the landscape unit, but would not be expected to alter the status of Land Health Standard 4 in the area. Human population increases with related shifts in land uses are likely to damage or eliminate portions of clay-loving wild buckwheat and other special status species occupied and potential habitat on private as well as public land, and fragmentation of habitat for TES species is likely to increase. Increases in population, with related conversions of private open space lands to urban developments, would contribute to cumulative impacts on private lands. On public lands, population increases would be expected to result in related increases in OHVs and other recreational uses on public lands, including near Elephant Skin and Flat Top Mesa OHV recreation sites, which would contribute to cumulative impacts to special status species. Considered in the light of pending development in the area, the Proposed Action would contribute to cumulative impacts on TES species.

Migratory Birds. Construction of the transmission line may increase short-term and long-term impacts on migratory bird species resulting in a small incremental contribution to cumulative impacts to migratory species. The Proposed Action would introduce a transmission line into an area that currently does not have one, creating a new potential collision and electrocution hazard for avian species. Avian collisions with are expected to be minimal due to the line's configuration and location, and the Proposed Action would pose little electrocution risk due to the phase-to-phase and phase-to-ground clearances used in transmission construction. Loss of foraging and nesting habitat for sensitive avian species is expected to be small and have a low impact.

Overall, increasing development on private lands, with associated recreation and infrastructure pressure on nearby public lands, is likely to have much greater long-term cumulative impacts on migratory bird species than would the proposed transmission line. Residential development near the Peach Valley Substation and improvements on BLM land on Flat Top Mountain would have moderate short-term and low long-term impacts on terrestrial and aquatic avian species. Considering the Proposed Action in the context of these two other projects, it may contribute incrementally to cumulative impacts to migratory birds.

Wetlands and Riparian Areas. EMP features would impact small areas of federally jurisdictional wetlands and other waters of the U.S. on private land. The transmission line would span surface waters and wetland features and result in no impacts. Construction and improvement of access roads, and construction of the East Montrose Substation, could impact small areas of wetland. The wetlands affected are entirely narrow bands of wetland vegetation along irrigation ditches. An approved jurisdictional wetland determination from the ACOE has been issued for the Peach Valley Substation (SPK-2009-413); no jurisdictional wetlands are expected to be impacted at that site. A preliminary wetland determination for the remainder of the project has been completed for review and approval by the ACOE. It is anticipated that approximately 0.02 acre of jurisdictional wetlands would be impacted by the EMP on private lands. No impacts to riparian zones on private land are expected. Overall impacts to wetlands and riparian areas from the EMP are considered low.

Private land management, particularly surface-altering actions to support agriculture and residential development, are likely to have various impacts to wetland and riparian areas, most of them adverse. Most of the private land in the project area is managed for agricultural, commercial, or residential

uses. Wetland and riparian areas are scarce in the overall project area. The land slated for residential development near Peach Valley is largely developed for agricultural use, although it does include two segments of Loutzenhizer Arroyo that support riparian and possibly wetland vegetation. The cumulative impacts of the EMP on wetlands and riparian areas are not anticipated to be adverse, because the project structures and access routes on private lands and public lands would be sited to avoid these sensitive biological areas whenever possible. The EMP would, consequently, contribute minimally, if at all, to any cumulative impacts on wetlands and riparian areas due to area growth and development in the future.

Floodplains. Cumulative impacts to floodplains could result if the EMP or other future developments on private lands impact 100 year floodplain limits within the project area. On private lands, the Peach Valley Substation and the East Montrose Substation would be located near the Loutzenhizer Arroyo and Cedar Creek, respectively. Several 115 kV transmission structures are also located near floodplains on private land. All structures would be designed to withstand flooding conditions, and would not alter the functioning of the floodplains. There are no other known planned or future projects that would contribute to cumulative impacts to floodplains in the project area.

The Peach Valley substation site is adjacent to the Loutzenhizer Arroyo which does not have a designated floodplain on the FIRM Maps, but does have significant potential for flood flows. In March 2009 Goff Engineering and Surveying completed a delineation of the estimated 100-year flood plain for the Loutzenhizer Arroyo within the limits of the parcel where the proposed Peach Valley electrical substation facility would be located on agricultural lands. The delineated flood plain is approximately 50 to 100 feet wide along the channel. The proposed substation footprint is outside the defined floodplain. The transmission line spans this drainage between structures 3 and 4, to the southeast of the substation site.

Cedar Creek is located along the northerly part of the East Montrose Substation parcel and has a designated floodplain with a boundary in the northwesterly part of the property. Detailed mapping ends at approximately the section line between Section 30 and Section 29, T.49 N., R.8 W., NMPM. Survey work completed by Mesa Surveying Associates, Inc. (Mesa 2008) for the East Montrose Substation parcel shows the substation site would be located in flood zone C. Flood zone C is defined as areas of minimal flood hazard, usually depicted on FIRMs as above the 500 year flood level. Other transmission structures located on private lands, near drainages, canals, and ditches with potential flooding concerns, include structures 18 to 27 (near the Selig Canal, Loutzenhizer Canal and two waste ditches) and 64 to 66 (where the line crosses the AB Lateral and ABC Lateral). However, none of these areas are identified on the FIRM maps for Montrose County.

All EMP facilities would be engineered and designed to avoid potential conflicts with floodplains and related flooding effects. Structure erection is not expected to result in significant impacts to the floodplain structure or function. Prior to construction, a county floodplain permit will be obtained (EPM FL-1). With implementation of EMP FL-1, there would be no significant contribution to cumulative impacts of the EMP on floodplains or with other planned developments in the project area.

Water Quality, Surface and Ground. The cumulative impacts to water quality would be similar on private lands, as described in Section 7.2.13 for the Proposed Action on public lands. The Proposed Action would cross or be in close proximity to the Loutzenhizer Arroyo in the northern portion of the EMP transmission line and would cross Cedar Creek near its terminus. Numerous irrigation ditches are crossed. As EMP facilities would span and avoid all ditches, rivers, creeks, and ephemeral drainages; cumulative impacts of the EMP facilities would be low. With respect to access routes, EPMs BR-2, BR-3, BR-4, BR-5 and WQ-1 through WQ-5 would ensure that potential impacts to surface waters and water quality and floodplains, resulting from access route improvements, are avoided and minimized to low

impact levels. No permanent new access roads are planned on private lands that would directly impact rivers, streams, or other water courses.

Other reasonably foreseeable projects may further impact surface and ground waters in Montrose County. On-going and future developments on private lands, as well as increased OHV use on public lands would contribute to cumulative impacts along with the Proposed Action. The EMP's contribution to cumulative impacts is assessed as low, based on EPMs which will be implemented for the project on both public and private lands. Cumulative impacts to physical resources such as water quality would occur and would be long-term.

Wastes, Hazardous or Solid. The cumulative impacts of the EMP to wastes, hazardous or solid, would be similar on private lands, as described in Section 7.2.14 for the Proposed Action on public lands. There are no known existing hazardous materials documented by Montrose County within the project area (S. White, personal communications, 2008). Environmental Site Assessments (Phase I, II, and III) have been conducted by Tri-State for the Peach Valley Substation site (SME, 2008 and 2010); and DMEA has completed a Phase I Environmental Site Assessment for the East Montrose Substation Site. Two recognized environmental conditions have been identified and mitigated on private lands at the Peach Valley Substation Site. No sites were identified on the East Montrose Substation site.

The proposed EMP construction and maintenance activities may produce small volumes of solid waste in the form of materials packaging and scrap material on private lands as well as public lands. Solid waste generated during project activities would be disposed of in appropriate off-site waste collection containers. There may also be small volumes of other hazardous materials present (e.g., ethylene glycol, oil, transmission/hydraulic fluids, etc.) and used for emergency maintenance of vehicles and equipment. Small spills or leaks of these fluids and/or vehicle fuels may occur as part of the project activities. In accordance with EPM HM-1, Tri-State and DMEA would comply with all applicable federal laws and regulations existing or hereafter enacted or promulgated regarding toxic substances or hazardous materials. All fuel and fluid spills would be handled in accordance with appropriate state and federal spill reporting and response requirements. Any waste generated as a result of the Proposed Action would be properly disposed of in a permitted facility. All hazardous materials would be stored, handled, and disposed of in accordance with applicable local, state and federal hazardous material statutes and regulations. No burning of trimmed material or solid waste would be performed within the proposed project area. None of the other foreseeable projects are expected to generate substantial amounts of hazardous or solid wastes. The EMP's contribution to cumulative impacts would be very minimal.

Environmental Justice. The Proposed Action would not disproportionately affect minorities or low-income communities on private lands or public lands. Within the EMP project area, minimal minority populations would be affected. In addition, none of the other foreseeable projects would likely contribute to cumulative impacts on minorities or low income communities. Consequently, there are no cumulative impacts anticipated from the EMP on public or private lands.

Access and Transportation. Cumulative impacts to transportation systems, resulting from the construction of the EMP on private lands, would primarily be short-term traffic delays or interferences with the highway and county road systems. Tri-State's contractors would work with state and county road departments to ensure crossings are posted and detours provided, when and where necessary.

The U.S., state, and county road systems have adequate capacity to handle increased short-term traffic impacts that would occur during construction and intermittently during project operation. It is not anticipated that adverse impacts would occur to existing transportation systems due to construction or operation of the transmission line.

Adverse impacts to unpaved roads could occur if roads are accessed during wet weather conditions. Access to the project area on public BLM lands would be limited seasonally during wet weather conditions (BLM 2004). The project area would be accessed in wet weather conditions only in the event of an emergency repair. Tri-State has committed to mitigation measures to avoid and minimize impacts to unpaved roads (EPMs AR-3, AR-4, AR-5 and AR-6).

The EMP transmission line would be routed north and east of the Montrose Regional Airport. The transmission line is designed to comply with the Federal Aviation Administration's (FAA's) requirements for clearances of obstructions (FAA CFR title 14, 77.23). Structures 7 through 53 fall within the FAA's Notification Area. Required information for each structure was submitted to FAA in January 2011. FAA issued a 'determination of no hazard to air navigation' in February 2011 (ESC February 2011). The FAA's determination further stated that no lighting or marking of the transmission line structures or wires is required. In accordance with FAA requirements, Tri-State will file FAA form 7460-2, Notice of Actual Construction or Alteration, within five days of when the structures are erected. With implementation of the EPMs (*Table 5*), impacts to all transportation systems are expected to be low.

Recreation. There are no developed recreation facilities that would be affected by the EMP. In addition, no recreation sites are expected to be affected by other foreseeable projects on private lands. Cumulative impacts on recreation may result from BLM's development of recreational facilities (parking and rest area) at Elephant Skin and Flat Top Mesa OHV sites and related increased use of BLM lands for OHV activities. These developments would likely increase the amount of recreational OHV use occurring on public lands in the EMP project area. With the continued growth of Montrose County and the surrounding region, some increased use of the BLM's OHV recreation areas (MU 2) would be expected. The EMP transmission line access routes in this area would contribute to the overall system of routes available to the public. The EMP's contribution to cumulative impacts to recreation would be mitigated with implementation of EPM LU-7. Cumulative impacts on recreation are expected to be low, as this area is managed for this type of use and development.

Visual Resources. The cumulative impacts of the EMP Project on private lands would be similar to the effects previously described for public lands. Additional weak to moderate visual contrasts and associated impacts to landscape quality would occur on private lands in Montrose County that are currently agricultural uses, residential uses, highways and local county roads. Viewers on private lands primarily consist of local residents, and travelers along Highways 50 and local county roads.

The visual impacts of the EMP on private lands would entail the introduction of new transmission structures, hardware and conductor, access routes and substation facilities on private lands between the Peach Valley Substation and the East Montrose Substation. The Peach Valley Substation and northern portions of the EMP transmission line would be visible from dispersed residences and travelers along Falcon Road. Visual contrasts from the Peach Valley Substation would be low to moderate, given the intervening middleground viewing distance from the road and residences. The 115 kV transmission line would also be visible from dispersed residents and travelers along and near 6400 Road, Holly Road, 6900 Road, 6950 Road, Miguel Road and US Highway 50. Visual contrasts of the transmission line in agricultural and rural private lands would be low to moderate, given the presence of other developments with similar visual characteristics (e.g. line, form, color and texture elements). At the southern extent of the EMP, the visual impacts of the 115 kV transmission line and East Montrose Substation would result in an overall moderate visual contrast from US Highway 50. From Highway 50, the East Montrose Substation would be visually screened by Project 7 Water Treatment Plant, resulting in low to moderate visual contrasts. The visual contrasts of the East Montrose Substation would be moderate from Miguel Road where several rural residences are located. Visual impacts would be partially mitigated, however,

since the substation would be located adjacent to, and back screened by, the Project 7 Water Treatment Plant, which is of similar scale and industrial character.

Cumulative visual impacts resulting from development of open space and agricultural lands for residential uses could occur on private lands, particularly near the vicinity of the East Montrose Substation and Highway 50, as well as south of Falcon Road, where approximately 1,200 acres have been zoned by the county as residential. Over time, private lands are expected to continue to convert from open space to residential and other community uses in these areas of the county. Future additional transmission lines connecting to the EMP substations (e.g. due to South Canal Project and future residential power needs), would also contribute to the cumulative visual impacts near the substation sites. The conversion of open space and irrigated agricultural lands for residential uses east of the City of Montrose, and near the Peach Valley Substation would be most evident. In these settings, the visual contrasts of the EMP transmission structures, lines, and substations would become part of the built environment.

Private Land Use. Private lands within the EMP project area are primarily within unincorporated Montrose County, and are zoned as General Agriculture. The EMP Project was approved by Montrose County in 2009 and with amendments in 2010 (Montrose County, 2009, 2010). A Special Use Permit has been issued for the EMP's construction and operation on unincorporated private lands in Montrose County. The cumulative impacts of the EMP on private lands primarily entail the conversion of agricultural lands and undeveloped open space for the EMP facilities and ROW. Land use impacts on private lands would occur where a new utility corridor and 100-foot-wide ROW would be established, and where agricultural lands are converted to utility land uses for the EMP Peach Valley and East Montrose Substations. The EMP 115 kV transmission line would cross several private properties that are currently used for irrigated and non-irrigated agriculture and related businesses, ranching, or rural residential uses. No displacements of any occupied homes would occur from the cumulative effects of the EMP. Cumulative impacts to irrigated agricultural lands are discussed above under prime farmlands. Tri-State is not proposing any new permanent access roads in irrigated farmlands and would implement EPMs AR-3, LU-1, LU-2 and LU-3 to minimize any adverse impacts to agricultural lands and prime farmlands.

Cumulative impacts to private land uses, resulting from other past, present and reasonably foreseeable projects also entail the conversion of open space and agricultural lands for community developments. Cumulative impacts on agriculture and open space would primarily result from residential and community developments, including 1,200 acres of lands zoned general residential near the Peach Valley Substation, as well as other subdivisions approved in the county and city of Montrose. The EMP's contribution to these cumulative impacts is low and incremental in nature.

PERSONS / AGENCIES CONSULTED:

Montrose County

Mr. Steve White, Land Use and Planning Director, 2008, 2009, 2010.

Mr. Maurice Cutler, Montrose County Planning Department, 2011.

City of Montrose

Mr. Kerwin Jensen, Planning Director, 2008.

INTERDISCIPLINARY REVIEW:

The following BLM personnel have contributed to and have reviewed this environmental assessment.

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Teresa Pfifer	Supervisor	Lands
Missy Siders,	Wildlife Biologist	Wildlife, T&E, Birds
Glade Hadden	Archaeologist	Cultural
Kurt Kubik (or Lynae Rogers)	Rangeland Management Specialist	Range Management
Lynae Rogers	Rangeland Management Specialist	Invasive Species
Amanda Clements	Ecologist	Wetlands and Riparian, Vegetation
Jedd Sondergard	Hydrologist	Water resources, soils, hydrology, farmlands
Julie Jackson	Recreation Planner Hazardous Materials	Recreation, VRM
Alan Kraus	Coordinator	
Bruce Krickbaum	Planning and Environmental Coordinator	NEPA compliance, document review

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Attachment 1 – EMP Plan of Development (POD)

POD Appendix A – POD Map Exhibits

POD Appendix B – Engineering Data – Transmission Line Staking Sheet and Equipment Photographs

Attachment 2 – Public Outreach Program and Scoping Record

Attachment 3 – Supplemental Technical Reports

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