

**APPLICATION FOR SITE SELECTION AND CONSTRUCTION
OF MAJOR FACILITIES OF A PUBLIC UTILITY
BURLINGTON-LAMAR 230-KILOVOLT TRANSMISSION
PROJECT**

PROWERS COUNTY

May 2022

Submitted by:



Tri-State Generation and Transmission Association, Inc.

This page intentionally left blank.

Contents

Introduction	1
6.303 Submission Requirements	1
6.303.(2) Final Application.....	1
Project Description	1
Major Activities	8
Project Schedule	10
Powerline Trails.....	10
6.303.2.(a) Submittal of Application Documents	10
6.303.2.(a)i Delineation of Base Area.....	10
6.303.2.(a)ii Delineation of Impact Area	10
6.303.2.(a)iii Objectives of the Proposed Site Selection and Facility	13
6.303.2.(a)iv Description of Need for the Project.....	14
6.303.2.(a)v Support Facilities Needed.....	15
6.303.2.(a)vi Employment and Economic Opportunities.....	16
6.303.2.(a)vii Description of Visual Conditions	16
6.303.2.(a)viii Description of Noise Conditions	18
6.303.2.(a)ix Description of Socio-economic Environment	18
6.303.2.(a)x Description of Atmospheric Conditions	20
6.303.2.(b) Submittal of Application Documents—Site Selection and Construction of Transmission Lines.....	20
6.303.2.(b)i Geologic and Pedologic Conditions	20
6.303.2.(b)ii Description of Biotic Conditions.....	25
6.303.2.(c) Final Application—Site Selection and Construction of Pipelines or Storage Areas	27
6.303.2.(d) Final Application—Construction of a Power Plant	27
6.303.2.(e) Final Application—Analysis of Impacts	27
6.303.2.(e)i Summary of Major Natural and Socio-economic Environmental Constraints	27
6.303.2.(e)ii Utilization of Land, Water, Air, Biotic, Geologic, and Socio-economic Resources.....	27
6.303.2.(e)iii Description of Alternative Uses of Land, Water, Air, Biotic, Geologic, and Socio-economic Resources.....	27
6.303.2.(e)iv Effects of the Proposed Site Selection and Construction upon the Natural and Socio-economic Environment of the Impact Area	28
6.303.2.(e)v Long-Term Effects of the Proposed Site Selection and Construction Upon Physical and Socio-economic Development	28
6.303.2.(e)vi Justification for the Proposed Site Selection and Construction.....	29
6.303.2.(e)vii Program To Minimize and Mitigate Adverse Impacts and Maximize Positive Impacts	29
6.303.(3) Wind Power Plant Standards.....	31
6.304 Action on Permit Application	31

Tables

Table 1: Typical 230-kV Transmission Line Characteristics	2
Table 2: Equipment and Personnel Required Per Activity	10
Table 3: Action on Permit Application	31

Figures

Figure 1: Project Location	3
Figure 2: Project Alternatives	5
Figure 3: Typical H-Frame Structure.....	7
Figure 4: Base and Impact Area.....	11
Figure 5: Visual Effects of 230-kV Transmission Line (Burlington–Wray 230-kV Transmission Line) ..	17
Figure 6: Existing Conditions	23

Appendices

Appendix A: Application Form

Appendix B: Detailed Route Maps

Appendix C: Environmental Protection Measures

Introduction

Tri-State Generation and Transmission Association, Inc. (Tri-State) is pleased to submit this Application for Site Selection and Construction of a Major Facility of a Public Utility for the Prowers County portion of the proposed Burlington–Lamar 230-kilovolt (kV) Transmission Project (Project).

This permit application addresses each of the requirements described in Chapter 6, Article 3 of the Prowers County Guideline and Regulation for Area and Activities of Sate Interest, Adopted 2004 and Amended in 2006 and 2017. Tri-State coordinated with the Prowers County Land Use Office prior to submittal of this application in order to informally discuss the Project and determine the requirements for this application.

6.303 Submission Requirements

6.303.(2) Final Application

Tri-State is proposing to construct approximately 110 miles of new 230-kV transmission line extending from Tri-State’s existing Burlington Substation to its existing Lamar Substation (Figure 1). The transmission line will be located in Kit Carson, Cheyenne, Kiowa, and Prowers Counties and will cross areas served by Tri-State Member Systems K.C. Electric Association and Southeast Colorado Power Association. The Application Form is provided in Appendix A.

Project Description

The Project is being developed to alleviate existing and anticipated transmission constraints and reliability issues. It will provide increased operational flexibility for maintenance outages, better system performance, and efficiencies during contingencies. The Project will also increase transmission capacity in a region with a high potential for new renewable resources.

The Project will be constructed entirely on State and privately owned lands. Approximately 22 miles (533 acres) of the transmission line will be constructed in Prowers County. The preferred route was developed by balancing a variety of elements, including proximity to homes, impacts to agricultural production, and environmental concerns as well as considerations related to access, engineering, construction, and operation and maintenance of the line. Routing of the Project in Prowers County focused heavily on following the existing Xcel Energy transmission line in order to minimize disturbance. The proposed right-of-way (ROW) would be directly adjacent to the Xcel Energy ROW for approximately 17 miles (77% of the route in Prowers County). Alternatives are shown on Figure 2.

Access for the Project in Prowers County will occur via existing county roads and overland travel within the transmission line ROW with approval of the affected landowners. Nearly the entire route in Prowers County (approximately 90%) occurs adjacent to County Roads SS and 30. Some new access driveways may be required off the county roads to access the ROW; however, existing driveways will be used when possible.

The proposed transmission line will require a 150-foot to 200-foot permanent non-exclusive easement (75 to 100 feet on each side of the transmission line). The proposed transmission line will be constructed primarily using two-pole wood H-frame structures to support the conductors on straight-line tangent sections of the transmission line. These structures typically range in height from 52 to 103 feet. Structure height is dependent on the distance between structures, conductor tensions, and the area topography. Taller structures may be used for spanning features such as wetlands, crossing streams, roads/highways, other distribution or transmission lines or where uneven terrain exists. The distance between structures typically ranges from 650 feet to 1,300 feet depending on topography.

The H-frame structures would be designed to support three conductors on individual insulators located horizontally approximately 17 to 19 feet from the top of the structure. At the top of the structure, two overhead ground wires, or shield wires, would be installed to protect the transmission line from lightning strikes. One of the shield wires would contain fiber optics to be used solely by Tri-State and its partners for internal (not commercial) communication needs.

Depending on local conditions, other types of structures may be used as well. For example, turning structures and dead-end structures may be built out of steel placed in concrete foundations in order to avoid the use of extensive guy wires or when the loads exceed the capacity of the wood structures.

Table 1 summarizes the typical characteristics of H-frame structures and Figure 3 shows a typical H-frame structure, including dimensions.

Table 1: Typical 230-kV Transmission Line Characteristics

Description of Design Component	Wood H-Frame Structures
Voltage	230 -kV
ROW Width	150-200 feet
Average Span	650–1,300 feet
Typical Range of Structure Heights	52–103 feet
Number of Structures	6–9 per mile
Minimum Ground Clearance Beneath Conductor at Maximum Operating Temperature	28 feet

Figure 1: Project Location

This page intentionally left blank.

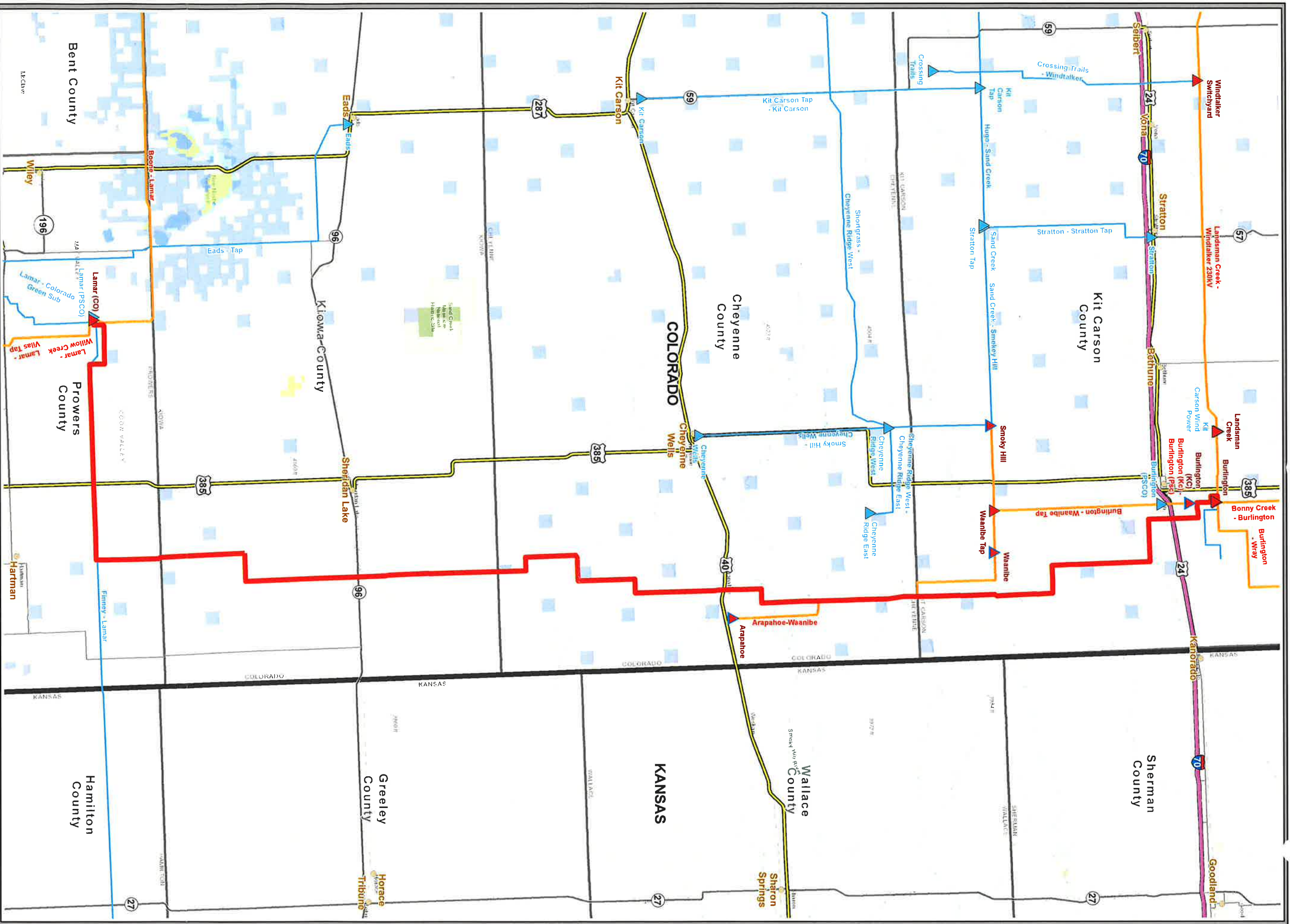


Figure 1. Project Area

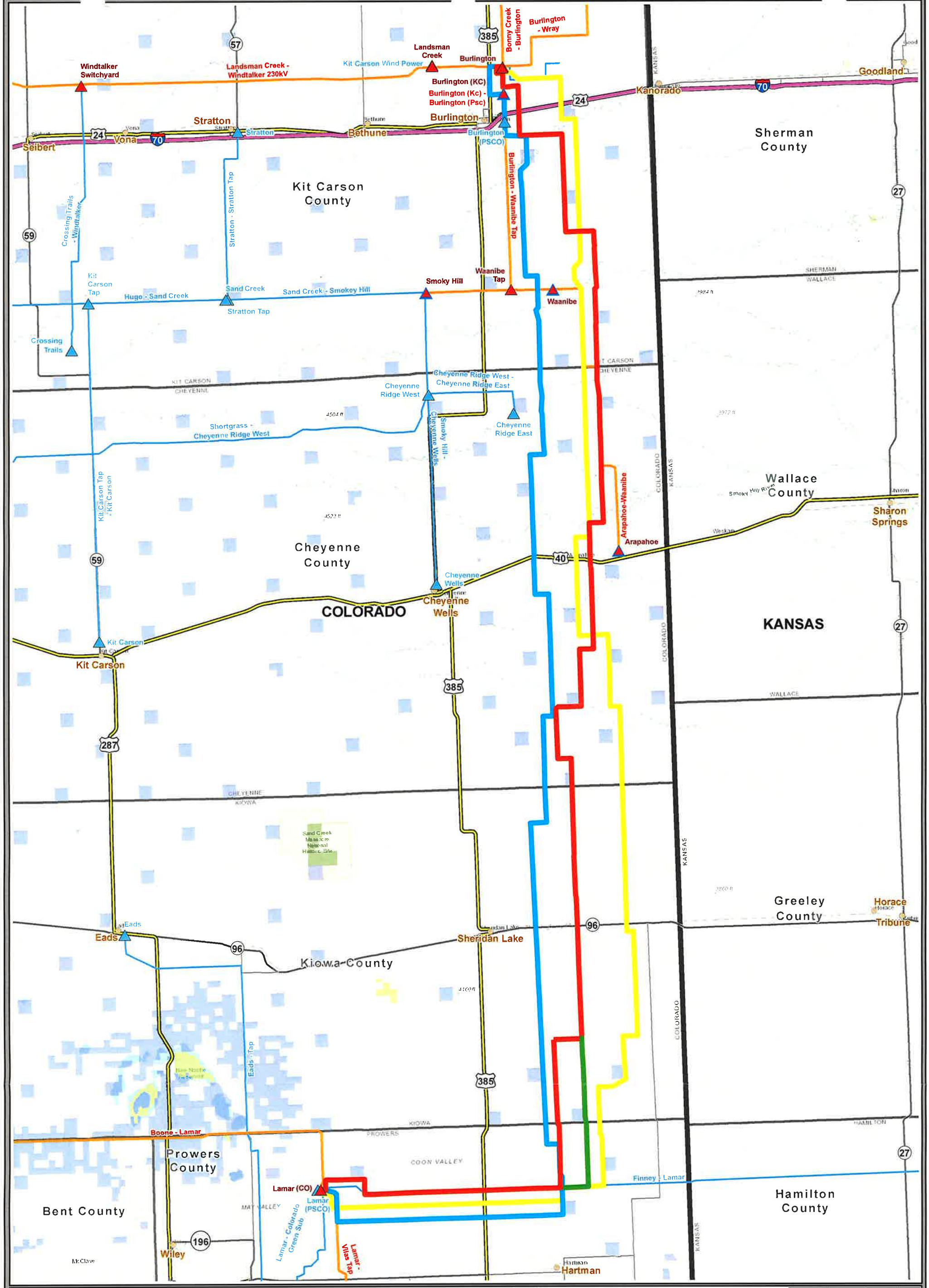
- | | |
|--|---|
| <ul style="list-style-type: none"> ▲ Tri-State Generation and Transmission ▲ Station - Tri-State/Member ▲ Station - Other Utility — Proposed Route — Transmission Line - Tri-State — Transmission Line - Other Utility — Interstate Highway — U.S. Highway | <ul style="list-style-type: none"> — State Route — Other Major Road □ County Boundary □ State □ Bureau of Land Management (BLM) □ National Park Service (NPS) □ State Land □ City and County Land |
|--|---|

Updated By: kateel
 Updated: 5/5/2022

This map includes confidential information of Tri-State and possibly third parties. The user agrees to keep this map and the GIS data included within it confidential, and more specifically, user will not duplicate, forward, sell, or otherwise disclose this map or any of the data contained within, whether regarding the accuracy or completeness of the map or the data contained within it. Users are encouraged to independently verify Tri-State GIS data and are solely responsible for such verification. All information depicted on this map is subject to revision as better data is made available. Questions regarding this map or the GIS data contained within it should be directed to Tri-State's GIS Manager.

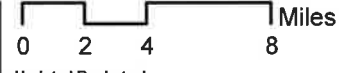
Figure 2: Project Alternatives

This page intentionally left blank.



Tri-State Generation and Transmission
Burlington - Lamar 230kV
Figure 2.
Proposed and Alternate Routes

- | | | |
|---------------------------------|-------------------------------------|-------------------------------|
| Routes | — Transmission Line - Other Utility | ▭ State |
| — Alternative 1 | — Interstate Highway | — U.S. Highway |
| — Alternative 2 | — State Route | — Other Major Road |
| — Alternative 2b | — Bureau of Land Management (BLM) | — National Park Service (NPS) |
| ▲ Proposed Route | — State Land | — City and County Land |
| ▲ Station - Tri-State | — County Boundary | |
| ▲ Station - Tri-State/Member | | |
| ▲ Station - Other Utility | | |
| — Transmission Line - Tri-State | | |



Updated By: katsel
 Updated: 5/5/2022
 This map includes confidential information of Tri-State and possibly third parties. The user agrees to keep this map and the GIS data included within it confidential, and more specifically, user will not duplicate, forward, sell, or otherwise disclose this map or any of the data contained within it to third parties. Tri-State makes no representation or warranty whatsoever regarding the accuracy or completeness of this map or the data contained within it. Users are encouraged to independently verify Tri-State GIS data and are solely responsible for such verification. All information depicted on this map is subject to revision as better data is made available. Questions regarding this map or the GIS data contained within it should be directed to Tri-State's GIS Manager.



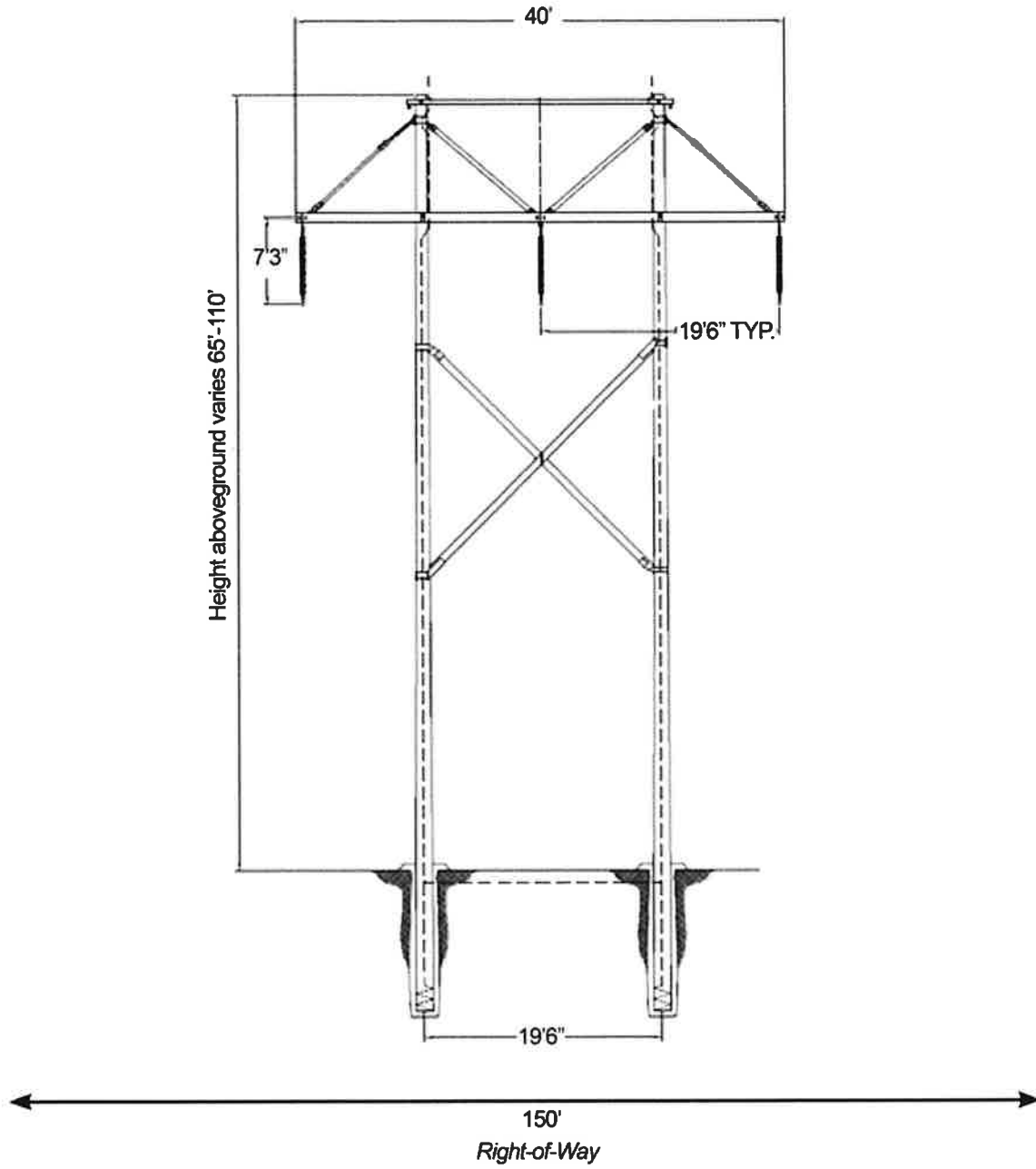


Figure 3: Typical H-Frame Structure

Major Activities

Tri-State would hire licensed contractors specializing in construction of transmission systems to construct the proposed Project. Construction of the transmission line would include the following major activities performed in sequence by small crews. Seasonal or environmental requirements will influence the location of construction activities during the construction.

Traffic Control—Traffic could be temporarily stopped or rerouted for activities that affect public safety, such as stringing of conductors across roads. Tri-State will coordinate public safety measures with local and state officials to minimize traffic disruption and to continue to provide for emergency vehicles.

Right-of-Way Clearing and Construction Preparation—Prior to construction, the ROW would be cleared of any vegetation that may interfere with the safe and reliable construction and operation of the transmission line. This would normally apply to all trees within the ROW that may have the potential to grow, blow, or fall into the energized conductors. Low ground cover may be removed or driven over during construction depending on the size of the vegetation. For structures being installed in active agricultural fields, attempts will be made to minimize crop damage by using the most direct access to the structure site, minimizing the area required for structure installation, and constructing in non-production seasons where possible. In areas for which construction matting has been identified to support construction equipment, mats would be installed immediately prior to construction in that area. Due to the time lags associated between the various construction activities, mats would be removed after the structures have been installed. Temporary access to the site for conductor stringing operations will be by tracked vehicle, light duty trucks, or other approved means.

Materials Hauling—Poles, cross arms, bracing, insulators, and the necessary hardware would be staged and delivered to each individual structure site using approved access routes. Deliveries of materials are normally made using flatbed trucks. Owing to the amount of material, multiple deliveries may be required to fully stock the construction site. For material deliveries to structures located near county roads, materials may be offloaded and set along the road ROW out of the ditch line and any travel way.

Staging Areas—Temporary construction staging areas will be used for the duration of construction at various locations along the transmission line route or access roads. Staging areas will be used to store equipment and stage construction and will include construction trailers, multiple storage containers, and other heavy equipment. Water service will not be required at the staging areas as bottled water will be provided. Dumpsters would be provided for construction waste and would be emptied on a regular or as-needed basis. Electrical service may be requested, where available, for construction office trailers. Tri-State will compensate willing landowners for temporary use of staging areas.

Foundation Excavation—It is anticipated various excavation methods would be required for the foundations. Foundation holes would be drilled with an auger. In areas having soft soils prone to sloughing, the excavation may need to be temporarily cased until the structure is installed or the casing may be left permanently. Dewatering methods would need to be employed on excavations having a high

water table prior to setting the structure. In the event holes need to be left open overnight, the holes would be covered, flagged, and fenced to protect the safety and welfare of livestock and the public.

Structure Assembly and Erection—Structure assembly would occur at the structure location. Structure assembly would include attaching cross arms, braces, stringing blocks, insulators, and down guys if required. The installation of the structure would be by aerial methods during which each individual component of the structure is installed and assembled in place assembled on the ground and then raised as a single piece and set in place. The structure would be straightened to the appropriate degree and the excavations backfilled with native material if it is deemed suitable, or with imported fill. The fill is tamped into place with a hydraulic powered tamper. It is possible that certain structures on the existing Xcel Energy transmission line would have to be raised or lowered to facilitate crossings. Tri-State would make the required changes as part of this Project.

Conductor Stringing—Installation of the conductor, shield wire, and fiber optic wire will require establishing pulling sites at various intervals along the alignment for equipment setup. The maximum anticipated distance between the pulling sites will be approximately 4 miles for the conductor being used. Pulling sites for the fiber optic wire will be closer together based upon the manufacturer's stringing requirements and may not coincide with the conductor pulling sites. Temporary guard structures will be installed, at a minimum, at all overhead utility crossings, highway crossings, and railroad crossings. All wires will be installed using aerial stringing techniques and none of the wires will be allowed to come into contact with the ground. Installation of the initial pilot line that will eventually lead to pulling in the wires will be by overland methods. Depending on construction restrictions, helicopters may be used to pull in the pilot line. Once the wires have been installed between the pulling sites, the conductor will be properly tensioned and brought up to the appropriate sag. After sagging, clipping crews will move down the sagged line and clamp the wires in place at each structure location, and the stringing blocks removed. Any additional attachments such as vibration dampers will be installed at this time. Fiber optic wire will also require the installation of splice boxes at various locations. Locations of splice boxes will be as accessible as possible.

Cleanup, Reclamation, and Revegetation—Trash would be removed from the construction site daily. Any remaining or extra construction materials would be removed from the ROW at the conclusion of construction. Slash piles or woody debris would be disposed of in a manner acceptable to the county and landowner. Spoils leftover from the pole excavations will be removed or spread around the site so as not to disrupt existing drainage patterns. Areas disturbed by construction activities would be disked and brought back to the original grade and revegetated with a certified weed-free seed mix. Seed mixes would be coordinated with individual landowners.

The approximate number of personnel and types of equipment required for construction of the proposed transmission line is summarized in Table 2.

Table 2: Equipment and Personnel Required Per Activity

Activity	Number of Workers*	Possible Equipment Requirements
ROW Clearing and Access Roads	5–10	Pickup truck, tracked dozer, backhoe, dump truck
Materials Hauling	5–10	Tractor trailers, flatbed pickup trucks, helicopter
Structure Assembly and Erection	10–15	Line truck, bucket truck, pickup truck, boom truck
Conductor Stringing	12–18	Reel trailer, tensioner, puller, winch truck, flatbed truck, bucket trucks, pickup trucks, stringing cat, helicopter
Cleanup, Reclamation, and Revegetation	5–10	Tractor, flatbed truck, Bobcat, disc, drill seeder, pickup truck , bucket truck

* Number of workers for each activity will vary depending on the contractor’s crew composition. Workers also will participate in multiple activities such as a structure setting crew will also be involved in the conductor stringing activity.

Project Schedule

Construction on the proposed transmission line is anticipated to begin in 2024 and be completed in 2025 or 2026. Construction is expected to take approximately 8 to 12 months and will include staging materials, framing and erecting the structures, stringing conductor, and reclaiming areas disturbed during construction. Because of the length of the line and contractor resources, it is currently uncertain as to the exact time frame in which the contractor would begin work in Prowers County.

Powerline Trails

Tri-State is aware of the newly passed state law in the State of Colorado called the “Powerline Trails Act” (HB 22-1104). In compliance with the Act, prior to May 1, 2023, Tri-State will develop and provide informational resources and notify local governments regarding the potential for powerline trails when planning for the expansion or construction of transmission corridors. In the meantime, Tri-State would be available to discuss the potential for powerline trails upon the County’s request.

6.303.2.(a) Submittal of Application Documents

6.303.2.(a)i Delineation of Base Area

The area subject to land use changes as a result of the project is limited to the 150- to 200-foot proposed transmission line ROW. This area is shown on detailed route maps in Appendix B. No other lands are expected to be directly impacted by the Project.

6.303.2.(a)ii Delineation of Impact Area

The area likely to be impacted, beneficially and adversely, by the site selection and construction of the proposed facility is shown on Figure 4.

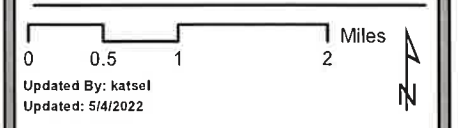
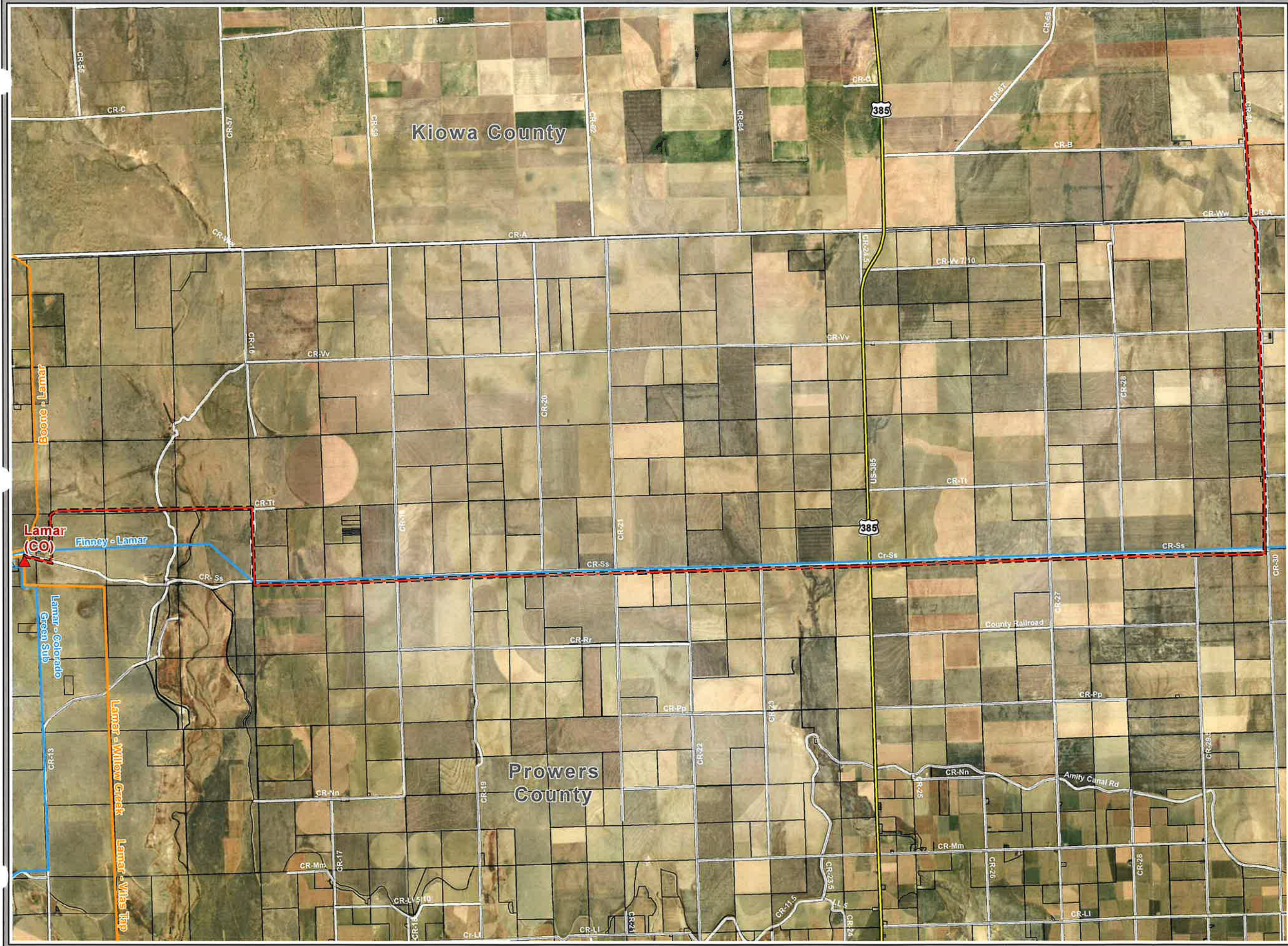
Figure 4: Base and Impact Area

This page intentionally left blank.

Tri-State Generation and Transmission

Burlington - Lamar 230kV
Figure 4.
Base and Impact Area

- Substation - Tri-State
- Substation - Other Utility
- Transmission Line ROW
- Proposed 230kV Transmission Line
- Transmission Line - Tri-State
- Transmission Line - Other Utility
- U.S. Highway
- Other Major Road
- Parcels
- County Boundary



This map includes confidential information of Tri-State and possibly third parties. The user agrees to keep this map and the GIS data included within it confidential, and more specifically, user will not duplicate, forward, sell, or otherwise disclose this map or any of the data contained within it to third parties. Tri-State makes no representation or warranty whatsoever regarding the accuracy or completeness of this map or the data contained within it. Users are encouraged to independently verify Tri-State GIS data and are solely responsible for such verification. All information depicted on this map is subject to revision as better data is made available. Questions regarding this map or the GIS data contained within it should be directed to Tri-State's GIS Manager.



6.303.2.(a)iii Objectives of the Proposed Site Selection and Facility

6.303.2.(a)iii(A) Local Land Use Policies

The Project complies with the following applicable Goals of the Prowers County Master Plan:

Goal 2: Protect and conserve the County's environmental resources.

With implementation of Tri-State's Environmental Protection Measures (EPMs; Appendix C), impacts to the environment from the Project are expected to be minimal as described in detail below. In accordance with the Master Plan, no structures will occur within a 100-year floodplain, and the line would not be routed in the sand hills. Portions of the project east of U.S. Highway 385 will occur above the High Plains Aquifer, but there will be no impacts to the aquifer from construction or operation.

Goal 3: Conserve the agricultural and rural character of the County in appropriate areas.

Although transmission lines are not an agricultural use, it is a land use that is commonly located in agricultural areas and does not conflict with the goal outlined in the Master Plan. Ground disturbance for transmission lines is generally limited to the area immediately around the base of each pole, and there will be only a localized loss of agricultural land quality. Agricultural practices could continue on lands adjacent to the Project.

Goal 9: Promote economic development within the County by creating reasonable and positive incentives for new development.

The Project is being developed, in part, to increase transmission capacity in the region. Existing and new generation in the area is currently limited by transmission constraints. The Project could attract large-scale energy producers and accommodate future generation sources, which would contribute to the economic growth of the County.

Goal 10: Designate appropriate locations for different uses of land, coordinating them with future placement of utilities, roads, and other infrastructure services.

The Project will be located almost entirely along existing roads or transmission line corridors. Efforts were made during the routing of the transmission line to consolidate disturbance and minimize impacts to landowners. The Project ROW will occur directly adjacent to the Xcel ROW and structures will be placed outside of County Roads 30 and SS ROWs to allow for future road expansion if it becomes needed.

The Project also supports the Prowers County Framework Plans within the Master Plan, which serves as a guide for future development within unincorporated parts of the county. Energy-related facilities are identified as a Recommended Use for the Rural Policy Area.

Tri-State will also coordinate with regulatory agencies for compliance and to develop appropriate mitigation measures that are compatible with Project goals and that will minimize impacts to natural

resources along the transmission line. Environmental permits are secured prior to construction as standard operating procedure. Tri-State will submit the following permit applications:

- Kit Carson County Development and Building Permit
- Cheyenne County Conditional Use Permit
- Kiowa County 1041 Permit
- Colorado Department of Transportation—Crossing Permits
- Union Pacific Railroad—Permission for Private Crossing
- Colorado Department of Public Health and Environment—Construction Stormwater Permit
- U.S. Army Corps of Engineers (USACE)—Section 404 Clean Water Act, Nationwide Permit

Additionally, Tri-State received a Certificate of Public Convenience and Necessity (CPCN) from the Colorado Public Utilities Commission (PUC) for the proposed Project in April 2015.

6.303.2.(a)iii(B) Relationship of the Project to Other Existing and Planned Utility Facilities

The Project aligns with other Tri-State transmission projects in the region including a proposed 230-kV transmission line from Big Sandy to the Hoyt area and a proposed 230-kV line from Boone to Huckleberry, near Pueblo. Together, these projects close a transmission gap in Tri-State’s four-state system, improve reliability in the Lamar area, reduce generation curtailment, and accommodate new resource development.

6.303.2.(a)iv Description of Need for the Project

6.303.2.(a)iv(A) Public Convenience and Necessity for the Facility

Tri-State received a CPCN from the Colorado PUC for the proposed Project in April 2015.

The transmission network in the Lamar area now consists of a 115-kV load serving network and the Boone–Lamar 230-kV line. The Burlington area transmission system now consists of two systems: an underlying 115-kV load serving network and a single 230-kV line connecting Burlington, via Landsman Creek, to the Big Sandy–Lincoln–Midway 230-kV system. Following an outage of the Burlington–Big Sandy–Lincoln–Midway 230-kV system, the generation in northeast Colorado is transmission-constrained under present conditions. Overloads on the underlying 115-kV network in the area occur during periods of high generation. This condition is exacerbated during low-load, high-wind conditions. To ensure 115-kV overloads do not occur, the Burlington area generation is restricted through operating procedures and agreements.

Tri-State considered the possibility of constructing the Burlington–Lamar transmission line to be capable of 345-kV operation but determined that the cost of such construction could not be justified based on the present and reasonably anticipated needs. Tri-State also considered the possibility of constructing the Burlington–Lamar transmission line at 115-kV but determined it would be inadequately sized to meet the capacity needs to support new wind and resource development. Further,

the estimated length of the Burlington–Lamar transmission line (>100 miles) exacerbates capacity limitations if operated at 115-kV.

6.303.2.(a)iv(B) Sources of Demographic and Economic Data and Methods of Analysis

The demographic and economic data for this application came from a variety of sources but primarily included the 2020 US Census and the Southern Colorado Economic Development District (SCEDD) Comprehensive Economic Development Strategy (CEDS) documents for 2017 and from 2021 to 2026, available at <https://www.scedd.com/>.

6.303.2.(a)iv(C) Market Function

Electricity generation in northeast Colorado is currently constrained by the limited capacity on existing transmission lines. This project would add an additional transmission line and facilitate future generation development and minimize current generation restrictions.

6.303.2.(a)v Support Facilities Needed

6.303.2.(a)v(A) Water Quality Control

No impacts to surface water, including streams and wetlands, are anticipated from construction of the proposed transmission line. Jurisdictional wetlands and other “waters of the U.S.” are subject to regulation under the federal Clean Water Act. If the final design of the route and associated access roads result in impacts to surface water, wetlands, riparian areas, or other defined bed-and-bank drainages, a Nationwide 57 permit would be required. Project impacts totaling 0.1 acre or more would require mitigation as directed by the USACE District Engineer.

Sediment control measures will be implemented when work is ongoing near water-bearing drainages to mitigate any impacts from runoff and sedimentation. Access will be sited to avoid surface waters and wetland areas, to the extent feasible. Portable toilets will be provided for onsite sewage management during construction and will be pumped and cleaned regularly by the construction contractor.

6.303.2.(a)v(B) Public Services and Facilities

The proposed transmission line project would not degrade public services and facilities. It could, however, benefit public services by increasing the reliability of power in the area. The increase in reliability provides economic vitality by reducing service curtailments and avoiding high-cost outcomes during extreme system conditions. The Project would also result in additional transmission capacity in the region, benefiting local development and providing the opportunity for interconnections and future growth. It would not require additional police or fire protection services. There would be no changes in the quality of educational or health services, and no facilities would be required for water supply or sewage treatment.

Access for the Project will occur along some public roads as well as the transmission line ROW. However, due to the short-term duration of construction in one location, impacts to county roads are not

expected. If rutting or other damage to county roads occurs as a result of the Project, Tri-State will work with the County to restore the road to its original condition.

6.303.2.(a)vi Employment and Economic Opportunities

6.303.2.(a)vi(A) Capital Investment in Facility

Tri-State intends to construct a new 230-kV circuit breaker, four new switches, two bus supports, and a new A-Frame within its existing Lamar Substation. Approximately 140 to 200 wood and steel transmission structures, 69 miles of conductor, 23 miles of static wire, and 23 miles of optical ground wire would be installed in Prowers County. Including labor, equipment, materials, land rights, and permitting necessary for construction, the cost to construct is estimated to be \$15.2 million for the transmission line and \$1.5 million for the substation.

6.303.2.(a)vi(B) Anticipated Revenues Local, State, and Federal Governments and Special Districts

Tri-State's facilities are assessed by the State of Colorado for tax purposes. The state's process is complex, but a rule of thumb for estimating taxes is 0.86% of the value of the facility. Using the estimated cost above, the estimated tax benefit to Prowers County in the year following construction would be $\$16,700,000 \times .0086$ or \$144,000.

6.303.2.(a)vi(C) Employment Opportunities

The Project is not expected to generate any jobs directly. The construction of a transmission line requires highly trained linemen experienced in overhead high-voltage transmission construction, and opportunities for local citizens are often limited. However, the Project will create a boost in demand for local product and services such as at hotels and lodging during construction.

Following construction, reclamation activities will need to occur along the ROW. When available, Tri-State seeks local contractors for this work in order to reduce mobilization costs and make use of local knowledge of soil and weather conditions.

6.303.2.(a)vii Description of Visual Conditions

Photographs of Tri-State's recently completed Burlington–Wray 230-kV transmission line are provided as Figure 5 to show what the visual effects of the proposed Project will be. The landscape and structure type shown in these photographs would be very similar to the proposed Project. While the Project would have a visual impact on the landscape, the route would cross rural and agrarian areas with a low population density. The dark color and small width (or fineness) of the pole structure would minimize the contrast with the existing terrain and landscape under certain lighting conditions. In addition, Tri-State selected the wood structure partially to lower the profile of the line on the horizon and minimize visual impacts.

**Figure 5: Visual Effects of 230-kV Transmission Line (Burlington–Wray
230-kV Transmission Line)**



6.303.2.(a)vii(A) Map of Area within View of the Project

The area within view of the project is shown on Figure 4. However, where the proposed transmission line parallels the existing Xcel Energy 345-kV line, it may be difficult to distinguish between the two from any notable distance.

6.303.2.(a)vii(B) Map of Access and Travel Routes, Public Areas, and Residential Areas within View of the Project

Access to the proposed transmission line will be primarily along County Roads SS and 30 in Prowers County. Other roads, such as U.S. Highway 385, may be used occasionally for material deliveries.

No public or residential areas are within view of the project.

6.303.2.(a)viii Description of Noise Conditions

The primary land use in the Project area is rural agriculture. Ambient noise in rural areas commonly consists of rustling vegetation, farm equipment, and infrequent automobile traffic. Intermittent sources of noise may include aircraft overflights and construction and road maintenance activities. The primary noise-sensitive receptors in the area would be farmers working in their fields, people passing through the area in vehicles, and employees of the hog feeding operations.

The Project would be constructed and maintained in accordance with Colorado Revised Statutes 25-12-101 et seq. (Noise Abatement). However, corona may result in audible noise being produced by the transmission line. Corona is the electrical ionization of the air that occurs near the surface of the energized conductor due to very high electric field strength. The amount of corona produced by a transmission line is a function of the voltage of the line, the diameter of the conductors, the locations of the conductors in relation to each other, the elevation of the line above sea level, the condition of the conductors and hardware, and the local weather conditions. Irregularities (such as nicks and scrapes on the conductor surface or sharp edges on suspension hardware) concentrate the electric field at these locations and thus increase the electric field gradient and the resulting corona at these spots. Raindrops, snow, fog, and condensation accumulated on the conductor surface are also sources of surface irregularities that can increase corona.

Audible noise levels were modeled for the Project and are expected to be below 40 decibels on the A-weighted scale (dBA; roughly comparable to a conversation in the home) at the edge of the 230-kV ROW in rainy conditions, and below 15 dBA (roughly comparable to a whisper) at the edge of the 230-kV ROW in normal conditions.

6.303.2.(a)ix Description of Socio-economic Environment

There are no adverse socio-economic impacts associated with the Project. The Project would generate approximately \$144,000 in additional tax revenue for Prowers County in the year following construction. A similar amount would be expected annually for the life of the line.

6.303.2.(a)ix(A) Characteristics of Existing Population

The communities nearest to the Project area in Prowers County are Lamar, Bristol, and Hartman. These communities are centered around Highways 50 and 287, which serve as major transportation routes. The population of Prowers County was slightly more than 12,000 in 2020, down from 12,550 in 2010. The population has been declining since the mid-1990s. More than half of the population of the County lives in Lamar. There are more than 2,000 people that live in unincorporated parts of the County.

6.303.2.(a)ix(B) Current Employment

The regional household income in 2020 was approximately \$42,600, and the unemployment rate was 3.5% as of February 2022. The sector in Prowers County with the highest average wage per worker was Utilities at \$83,255. The largest share of jobs in the County was in Health Care, employing 1,016 workers in 2020. The next-largest sector was in Agriculture, Fishing and Hunting, which employed nearly 726 workers. The gross domestic product of Prowers County was approximately \$401,500,000 in 2020 with the largest portion coming from agriculture, forestry, fishing, and hunting. The next largest portions come from health care, retail trade and public administration (CEDs 2021). Over the next five years, employment in Prowers County is expected to expand by six jobs.

6.303.2.(a)ix(C) Inventory of Local Governments and Special Districts

The Project area is served by the Prowers County Rural Fire Department, which consists of 16 volunteers who provide service to 1,200 square miles of unincorporated parts of the County. Public roads are maintained by the Prowers County Road and Bridge Department. The nearest hospital to Project area in Prowers County is in the city of Lamar, which is a 27-bed critical access hospital with emergency, surgical, obstetrics, and visiting specialists (CEDs 2017). None of these services is expected to be affected unless emergency situations occur.

6.303.2.(a)ix(D) Housing

The rental vacancy rate in 2019 was 7.9% and the median home value was \$109k. The number of housing units decreased by 8.5% between 2010 and 2020. The housing stock throughout the region is aging and many units are vacant, abandoned, or are in disrepair (CEDs 2021). The Project is not expected to increase the demand on housing in the county. The temporary work force required for construction of the transmission line would likely rely on local hotels or bring their own RVs.

6.303.2.(a)ix(E) Existing Transportation Network

Transportation corridors in the vicinity of the proposed transmission line generally consist of a network of east-west and north-south county roads. The county roads primarily serve the farmers in the area. The county roads are packed dirt with ditches or swales. The county roads generally have low traffic volume that reflects the rural and agrarian nature of the adjacent land use. One north-south state highway, U.S. Highway 385, bisects the Project area.

Approximately 90% of the transmission line route in Prowers County occurs adjacent to County Roads SS and 30. Access for the Project in Prowers County will occur via county roads and overland travel

within the transmission line ROW. Some new access driveways maybe required off of the county roads to access the ROW; however, existing driveways will be used when possible.

There is one private airport (Tinnes Airport), located approximately 2 miles from the existing Lamar Substation. The Lamar Municipal Airport is nearly 13 miles from the Project. Because the proposed transmission line parallels the existing Xcel Energy ROW, impacts to airports or aviation are not expected.

6.303.2.(a)ix(F) Historical and Archaeological Resources

Tri-State hired Tetra Tech, Inc (Tetra Tech) to conduct a file search through the Colorado Historical Society Office of Archaeology and Historical Preservation Colorado Cultural Resource On-line Database for the Project in November 2016 and again in 2022. This database includes records of all archaeological investigations that have been conducted and all cultural resources (prehistoric and historic archaeological sites) that have been previously recorded within a 2-mile-wide Research Area. Included in the records are properties listed on the National Register of Historic Places. Tetra Tech also reviewed historic Bureau of Land Management General Land Office (GLO) records and the Glenn R. Scott Historic Trail Map of the Lamar 1° x 2° Quadrangle, Colorado and Kansas (1995) to determine whether vestiges of trails, transportation routes, homesteads, or other historic resources may be present in the Research Area.

No cultural resource sites or potential GLO resources have been recorded within the Research Area in Prowers County despite numerous surveys having been previously conducted, and these primarily for the existing transmission line and other private surveys. It is estimated that more than 80% of the proposed route has previously been inventoried for cultural resources.

Ground-disturbing activities have the potential to disturb intact subsurface artifacts, features, or materials. However, should any previously unknown historic/prehistoric sites or artifacts be encountered during construction, all land altering activities at that location shall be immediately suspended and the discovery left intact until such time that Tri-State is notified and appropriate measures taken to assure compliance with the National Historic Preservation Act and enabling legislation. A similar process shall apply if paleontological resources are discovered during excavations. For these reasons, and because the majority of the transmission line route has been previously surveyed and previously impacted by agricultural activities, Tri-State believes that pedestrian cultural resource surveys are not necessary for this Project.

6.303.2.(a)x Description of Atmospheric Conditions

Not applicable.

6.303.2.(b) *Submittal of Application Documents—Site Selection and Construction of Transmission Lines*

6.303.2.(b)i Geologic and Pedologic Conditions

6.303.2.(b)i(A) *Map Bedrock and Surficial Geology*

Not applicable.

6.303.2.(b)i(B) Map and Describe Areas

Prowers County is within the Great Plains Physiographic Province. The Project occurs in the northeastern part of the County within the High Plains, which is a nearly flat landscape punctuated by occasional sandhills, canyons, cliffs, and escarpments. The County is underlain by limestone, shale, sandstone, and gravel and most of the outcrops are sedimentary.

Most of the soils in Prowers County formed beneath native prairie grasses. Perennial grasses contribute to the accumulation of organic matter in the upper part of the soil. The Project is found in the Natural Resources Conservation Service Major Land Resource Area (MLRA) 67B—Central High Plains, Southern Part. Dominant soil orders in MLRA 67B are Mollisols, Alfisols, Aridisols, and Entisols. These soils are usually very shallow to very deep, generally well-drained, and loamy or clayey. Major soil resource concerns in the resource area include the loss of prime farmland, wind erosion, water erosion, compaction, and salinization.

During construction, the majority of vehicle and equipment travel would be limited to overland travel and County and private roads. Overland travel, staging of materials and the erection of the transmission structures may result in disturbance to soils through compaction and erosion. Soil also could be contaminated by spills from vehicles and heavy equipment or by mishandling of hazardous substances at construction sites. The EPMs summarized in Appendix C would minimize and mitigate any of these potential impacts to soil resources. To prevent or reverse the effects of soil compaction, disturbed areas would be adequately scarified after construction to loosen the soil structure and to aerate the soil in preparation for revegetation. Dust control will be used as necessary to mitigate erosion and dust impacts in the construction zones.

Construction and operation of the transmission line are not expected to impact the geologic or pedologic environment. Geotechnical conditions would be evaluated at proposed structure locations to facilitate design and identify any unknown hazards.

6.303.2.(b)i(C) Map of Extent of 100-Year Floodplains

The Project does not occur within the 100-year floodplain and is approximately 6 miles north of the Arkansas River. Most of the transmission line ROW occurs on the Federal Emergency Management Agency Flood Insurance Rate Maps (FEMA FIRM) as Flood Zone X, which has a 0.2% to 1% chance of flooding. The remainder of the ROW has no base flood elevation (Figure 6).

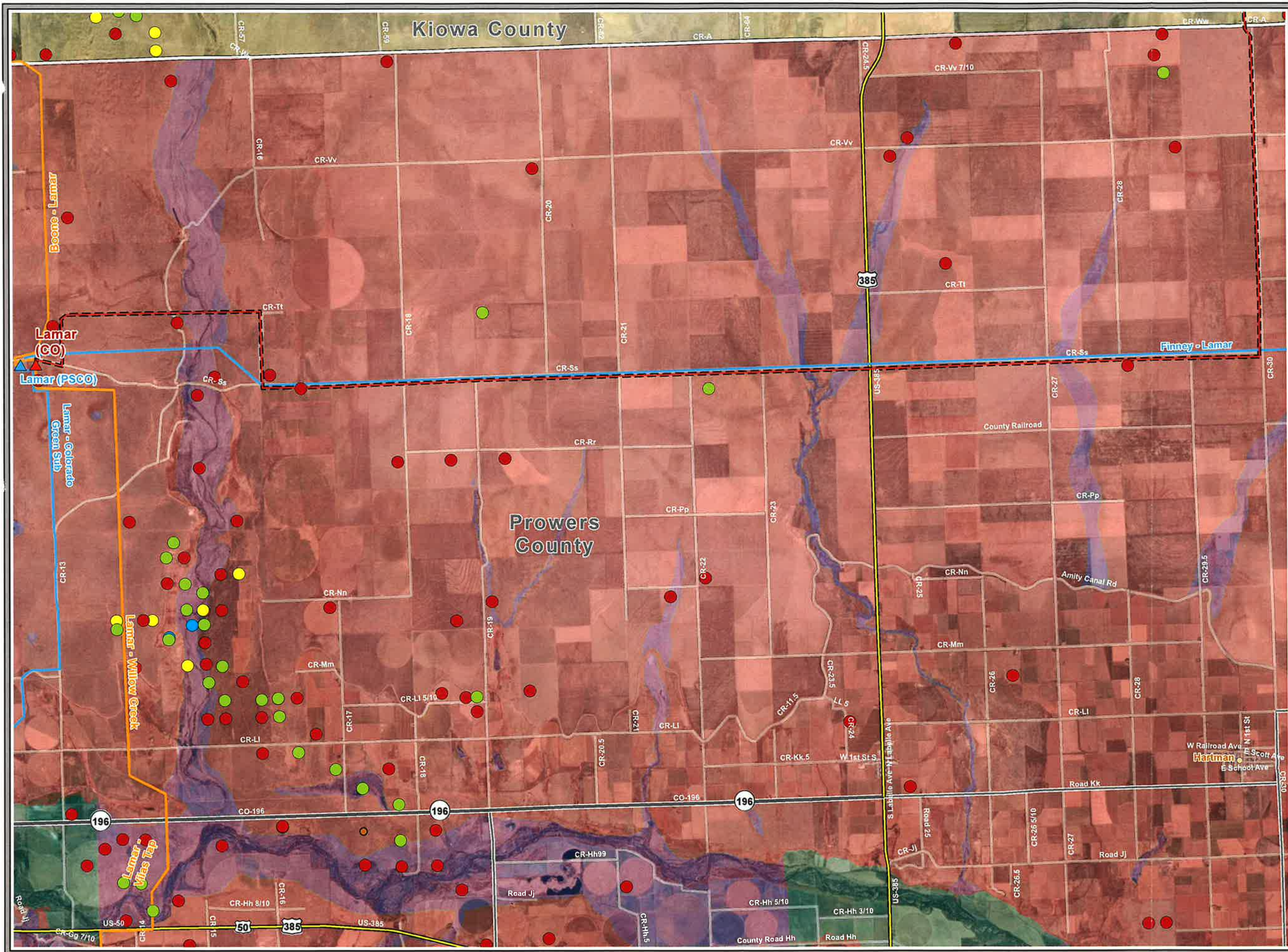
This page intentionally left blank.

Figure 6: Existing Conditions

This page intentionally left blank.

Tri-State Generation and Transmission
Burlington - Lamar 230kV
Figure 6.
Existing Conditions

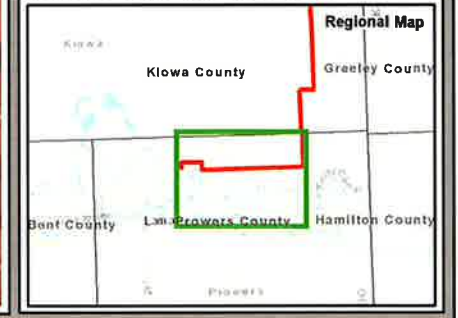
- City
- ▲ Substation - Tri-State
- ▲ Substation - Other Utility
- - - Transmission Line ROW
- - - Preferred Transmission Line
- - - Transmission Line - Tri-State
- - - Transmission Line - Other Utility
- - - U.S. Highway
- - - State Route
- - - Other Major Road
- ▭ County Boundary
- Oil/Gas Well Status**
- Abandoned
- Dry & Abandoned
- Plugged & Abandoned
- Producing
- Shut In
- FEMA FIRM Flood Zone**
- Zone A - No Base Flood Elevation
- Zone AE - Base Flood Elevation
- Zone X - Areas of 0.2% - 1% annual chance of flood



0 0.5 1 2 Miles

Updated By: katsel
 Updated: 5/4/2022

This map includes confidential information of Tri-State and possibly third parties. The user agrees to keep this map and the GIS data included within it confidential, and more specifically, user will not duplicate, forward, sell, or otherwise disclose this map or any of the data contained within it to third parties. Tri-State makes no representation or warranty whatsoever regarding the accuracy or completeness of this map or the data contained within it. Users are encouraged to independently verify Tri-State GIS data and are solely responsible for such verification. All information depicted on this map is subject to revision as better data is made available. Questions regarding this map or the GIS data contained within it should be directed to Tri-State's GIS Manager.



6.303.2.(b)i(D) Map of Topography To Determine Adequacy of Facility Design

The topography surrounding the proposed transmission line ROW is generally flat. In general, the Project is not expected to alter the natural topography. The topography at structure locations may be modified very slightly where spoils from the excavation of foundation holes, that are not able to be backfilled, are distributed on the ROW.

6.303.2.(b)i(E) Map of Mineral and Energy Resources Evaluation

The Project was sited to avoid active oil and gas wells and would not affect the future development of mineral resources. There are no producing oil and gas wells within 0.5 mile of the proposed transmission line route (Figure 6). The nearest active well is approximately 3,000 feet southwest of the existing Lamar Substation and would not be affected by Project activities.

6.303.2.(b)i(F) Map of Agricultural Resources Evaluation

The entire transmission line route is located in the Agricultural Zoning District, A-2 Non-Irrigated Land. All parcels that would be crossed by the Project are currently or have historically been used for agriculture.

Although the transmission line is not an agricultural use, it is a land use commonly located in agricultural areas and does not conflict with the Goals and Objectives identified in the Prowers County Master Plan to protect conserve the agriculture character of the County. Only a temporary, localized loss of agricultural land quality is expected. Ground disturbance generally would be limited to an area immediately around the structures. Agricultural productivity would be minimally impacted through operation of the transmission line and landowners would be compensated for damages to crops, if they were to occur, during construction. The presence of existing transmission lines and continued agricultural uses in the area provide an example of the complementary nature of the two uses.

6.303.2.(b)ii Description of Biotic Conditions

The Project is located in the High Plains Level III ecoregion. Native portions of this High Plains ecoregion are dominated by grama and buffalo grasses. This ecoregion is also typically the northern limit of cultivated winter wheat and sorghum, and the southern limit of spring wheat. Most of the shortgrass prairie habitat throughout the Project area has been moderately to heavily disturbed by livestock grazing and agricultural production.

Construction of the transmission line and access roads could result in vegetation removal and trampling of vegetation. Ground disturbance also could result in propagation of noxious weeds, particularly in areas that have existing weed infestations. Propagation of noxious weeds can result in the loss of native plant communities and alteration of natural drainage patterns. Implementation of EPMs as discussed in Appendix C would mitigate any long-term impacts to vegetation found in the ROW. Any areas surrounding the transmission structures that are temporarily impacted in pasture areas would be restored with native grass species or using a seed mix approved by the local landowner once the structures are in

place. Any noxious weed infestations in the ROW would be treated prior to construction in the growing season to minimize further spread.

The grassland habitat and open nature of the Project area provide habitat for wildlife compatible with agricultural and range land uses. Wildlife in the area includes coyotes, mule deer, white-tailed deer, and small mammals such as skunks, badgers, rabbits, prairie dogs, and fox. Raptors are present throughout the area, as are ground-nesting birds and other migratory birds.

Construction impacts to wildlife are expected to be minor. Wildlife may temporarily avoid the ROW during construction. Big and small game animals might be temporarily impacted during Project construction due to noise, human presence, and minor impacts to forage (vegetation). After construction, revegetation of areas impacted by construction and noxious weed management would mitigate impacts to wildlife foraging habitat.

Tri-State has corresponded with the U.S. Fish and Wildlife Service (USFWS) and Colorado Parks and Wildlife (CPW) throughout the development of the Project to identify sensitive habitats and species of concern that have the potential to occur in the Project area.

Comments on the proposed Project were received from CPW in a letter dated October 18, 2016. In the letter, CPW noted the species of concern within the Project study area are migratory birds, aquatic species, Lesser Prairie-Chickens, and Black-Footed Ferrets. The letter also states that by selecting the Proposed route the majority of impacts to wildlife would be avoided.

The transmission line route in Prowers County overlaps the estimated occupied range of the Lesser Prairie-Chicken in eastern Colorado. Tri-State is currently considering its options to comply with the Endangered Species Act (ESA) for the proposed Project in light of potential listing outcomes for the lesser prairie-chicken. Tri-State has conducted habitat field surveys and preliminary discussions with USFWS and CPW to better understand potential impacts and mitigation costs of the Project. Depending on the outcome of the ESA listing, Tri-State will likely enroll in the Renewable (Wind and Solar) Energy, Power Line, and Communication Tower Habitat Candidate Conservation Plan to mitigate impacts while allowing the project to proceed.

Western Burrowing Owls are known to occur near the proposed transmission line alignment. Should construction extend into the breeding season between March 15 and October 31, surveys will be conducted within prairie dog colonies. Should a nest be located, a buffer of 200 meters around the Burrowing Owl nest will be implemented.

Prior to construction Tri-State will conduct surveys for raptor nests along the route to locate any active nests and identify the species inhabiting the nest. Construction is expected to occur over a period of approximately 8 to 12 months; however, construction will proceed in phases, and it is possible that construction in areas with nests can be scheduled to occur outside the nesting season. Tri-State abides by

CPW seasonal buffers and time constraints during construction projects to the greatest extent feasible to mitigate impacts to nesting migratory birds. If it is not feasible to construct entirely outside of the nesting season, Tri-State will consult with USFWS and CPW to identify appropriate mitigation measures. Tri-State has used nest monitors in the past to ensure construction activities do not impact nesting raptors.

Tri-State incorporates the Avian Power Line Interaction Committee’s best practices into Project design in order to minimize electrocution risk. Other EPMs designed to protect avian species and other resources are listed in Appendix C.

6.303.2.(c) Final Application—Site Selection and Construction of Pipelines or Storage Areas
Not applicable.

6.303.2.(d) Final Application—Construction of a Power Plant
Not applicable.

6.303.2.(e) Final Application—Analysis of Impacts

6.303.2.(e)i Summary of Major Natural and Socio-economic Environmental Constraints

There were no major natural or socio-economic environmental constraints that affected the site selection or construction of the proposed transmission line route. There are no residences, schools, or historic resources in the vicinity of the ROW. The area is exclusively used for crops, grazing, and hog and pig farming. The topography is flat with very few drainages and is exclusively grassland.

6.303.2.(e)ii Utilization of Land, Water, Air, Biotic, Geologic, and Socio-economic Resources

The proposed transmission line ROW will be between 150 and 200 feet wide for approximately 22 miles in Prowers County. However, the transmission line easements will allow for continued uses such as farming, grazing or other operations that do not interfere with the safe and reliable operation of the transmission line. The footprints of the proposed structures would be the only land removed from current use. The actual amount of impacts will be limited to an area approximately 250 square feet around each structure. The total amount of land disturbed is estimated to be less than 1 acre in all of Prowers County.

6.303.2.(e)iii Description of Alternative Uses of Land, Water, Air, Biotic, Geologic, and Socio-economic Resources

If the proposed transmission line were not built, the ROW would likely continue to be used for agriculture and farming. Other uses of these resources could occur, such as from windfarms, but the development would likely be limited due to the lack of transmission capacity in the region.

6.303.2.(e)iv Effects of the Proposed Site Selection and Construction upon the Natural and Socio-economic Environment of the Impact Area

6.303.2.(e)iv(A) Analysis of Hydrologic, Atmospheric, Geologic, Pedologic, Biotic, Visual, and Noise Impacts

As described above for each resource, the effects of the proposed project upon the natural and socio-economic environment is expected to be minimal. Any effects would be temporary and limited to a very small area.

6.303.2.(e)iv(B) Analysis of Surface and Subsurface Drainage

There would be no effects to surface or subsurface drainage. The topography at structure locations may be modified very slightly where spoils from the excavation of foundation holes are distributed, but this would be done in a way that would not modify drainage and would be coordinated with the landowners.

6.303.2.(e)iv(C) Analysis of Socio-economic Impact

It is anticipated that the Project would have a small beneficial impact to the County economy. Construction contractors, regardless of origin, would likely spend some money in local communities for fuel, food, or other supplies. During the construction period, the local economy may see a small influx of dollars and a small increase in sales tax revenue. Additionally, the Project would generate approximately \$144,000 in additional tax revenue for Prowers County in the year following construction, and a similar amount annually for the life of the transmission line.

6.303.2.(e)iv(D) Analysis of Transportation Impacts

No impacts to the transportation network in the county are expected. Construction of the transmission line will result in use of county roads, particularly County Road SS and 30, but the use would be short term.

6.303.2.(e)iv(E) Provide Analysis of Impacts upon Agricultural Productivity and Agricultural Resources

Only a temporary, localized loss of agricultural land quality is expected. Ground disturbance generally would be limited to an area immediately around the structures. Agricultural productivity would be minimally impacted through operation of the transmission line and landowners would be compensated for damages to crops, if they were to occur, during construction.

6.303.2.(e)v Long-Term Effects of the Proposed Site Selection and Construction Upon Physical and Socio-economic Development

The long-term effects from the proposed transmission line are expected to be positive. The increase in reliability provides economic vitality by reducing service curtailments and avoiding high-cost outcomes during extreme system conditions. The Project would also result in additional transmission capacity in the region, benefiting local development and providing the opportunity for interconnections and future growth.

6.303.2.(e)vi Justification for the Proposed Site Selection and Construction

The proposed route selection would result in only short-term, minor impacts related to construction and only long-term beneficial impacts to the County. This, along with the need for improved reliability and transmission capacity in the region serves as justification for the Project.

6.303.2.(e)vii Program To Minimize and Mitigate Adverse Impacts and Maximize Positive Impacts

No adverse impacts are expected; therefore, no mitigation has been proposed.

6.303.2.(e)vii(A) Analyze Alternatives

The general location for the transmission line was initially identified based on the location of the existing substations, property lines, agricultural operations, and residences. The locations of these features heavily influenced the area of consideration for the transmission line. Additionally, a route that was developed for a previous unrelated project which was never built, the Eastern Plains Transmission Project, was considered.

An opportunities and constraints analysis was then completed to help determine potential routes for the Project. This process includes the collection of resource data and land use information. Data were reviewed and classified as either an opportunity or a constraint depending on whether they had characteristics that would support the development of a transmission line or whether they had characteristics that would preclude the development of a transmission line. Opportunity areas include existing linear facilities/corridors and associated alternatives that may provide suitable opportunities for co-locating a transmission line. Avoidance areas include sensitive areas that could potentially incur environmental impacts or result in land use conflicts if directly affected by a project. Although the goal of the routing process is to maximize routing a transmission line in areas identified as opportunities and to minimize routing in areas identified as constraints areas, a final route often includes both opportunity and constraint areas because land uses can vary within an area of interest, and it is often difficult to avoid all sensitive land use and environmental resources within a linear corridor.

Three potential routes from the proposed Burlington Substation to the Lamar Substation (Figure 2) were created based on the opportunity and constraints analysis that included, but was not limited to, the following criteria:

- Shortest length between the substations
- Minimization of impacts to agricultural operations
- Existing linear corridors such as County roads and transmission lines
- Property lines
- Distance to existing oil and gas wells, water wells, and wind turbines
- Distance to residences
- Buffer zones surrounding airports

- Avoidance of habitat for the Lesser Prairie Chicken
- Avoidance of the Sand Creek Massacre National Historic Site
- Avoidance of undisturbed and environmentally sensitive areas

The initial route was selected because of its overall length, and because it crossed the fewest number of parcels, crossed the fewest number of center pivots, and avoided sensitive environmental areas.

Tri-State mailed a letter to all landowners along the route explaining the Project and the purpose that it would serve. The letter identified the purpose and location of the proposed Project, and requested permission to assess their properties. Recipients were provided with contact information and were invited to call Tri-State with comments or questions about the Project. Tri-State followed up with direct contact by phone or in person with the owner of each potentially affected property.

The final route was selected and modified based on landowner concerns and comments. For example, some landowners preferred that the line cross their parcels on the east side compared to the west. Accommodations for landowners were made wherever possible. Consultation with the USFWS and CPW regarding the Lesser Prairie Chicken also determined the final location of the route, particularly around the May Valley Ranch. Routing of the Project in Prowers County also focused heavily on following the existing Xcel transmission line. While overhead transmission lines cannot entirely share easements due to operation, maintenance and safety concerns, the proposed transmission line would be directly adjacent to the Xcel ROW for approximately 17 miles (77% of the route in Prowers County).

6.303.2.(e)vii(B) Non-Structural Alternatives

Taking no action would result in the continued system constraints on the power system in the Burlington/Lamar area. The No Build Alternative would not meet Tri-State's needs to alleviate existing and anticipated transmission constraints and reliability issues and provide increased transmission capacity in the region for renewable resources. The option to take no action within Prowers County (and build the transmission line elsewhere) could not be considered given the location of the existing Lamar Substation and the need for reliability in the County.

6.303.2.(e)vii(C) Analysis of Management Alternatives

Not applicable.

6.303.2.(e)vii(D) Analysis of Air and Water Pollution Control Alternatives

Not applicable.

6.303.2.(e)vii(E) Analysis of Design Alternatives

Wood H-frame structures were selected for the majority of the transmission line due to their economical and reliable performance across much of the western United States. Wood poles with bracing typically blend in with Colorado's natural terrain and last for a long time in the relatively arid climate. Self-supporting steel poles with a weathered finish were selected for locations where the line changes

direction, to avoid the installation of guy wires, reduce the foot print of the structures for landowners, and minimize impacts to farming and ranching.

Structure types such as galvanized lattice steel and concrete poles were considered but not carried forward due to their higher costs (both in materials and labor), aesthetics, and global supply chain risks.

6.303.2.(e)vii(F) Program to Meet “Front End” Costs of Providing Necessary Services And Facilities

Tri-State is a wholesale electric power supplier, owned by the more than 40 members that it serves. Tri-State purchases, generates and delivers electricity across a 200,000 square-mile service territory, serving approximately 1.5 million consumers in Colorado, Nebraska, New Mexico, and Wyoming. Tri-State has been in business since 1952 and had \$4.9 billion in total assets in 2021, including over 5,600 miles of transmission line. We have successfully built and operated projects in Prowers County including the Boone – Lamar transmission line. We also purchase power from the 75-megawatt Twin Buttes II Wind Power Project south of Lamar. Tri-State has the technical and financial ability to develop and operate the proposed transmission line project and meet the front-end costs of the proposed facilities.

6.303.(3) Wind Power Plant Standards

Not applicable.

6.304 Action on Permit Application

Table 3: Action on Permit Application

Permit Action	Section/Notes
The Permit Authority shall approve an application for permit for site selection and construction of a major facility of a public utility (with reasonable conditions, if any, in the discretion of the Permit Authority) only if the proposed site selection and construction complies with all of wing criteria:	
(a) The health, welfare and safety of the citizens of this County will be protected and served;	Section 6.303.2(a)v(B)
(b) The natural and socio-economic environment of this County will be protected and enhanced;	Sections 6.303.2.(a)iv and 6.303.2(e)iv
(c) All reasonable alternatives to the proposed action, including use of existing rights-of-way and joint use of rights-of-way wherever uses are compatible, have been adequately assessed and the proposed action represents the best interests of the people of this County and represents the best utilization of resources in the impact area;	Section 6.303.2(e(viii)(A)
(d) A satisfactory program to mitigate and minimize adverse impacts has been presented;	Section 6.303.2.(e)viii
(e) The nature and location or expansion of the facility complies with all applicable provisions of the master plan of this County, and other applicable regional, metropolitan, state, and national plans;	Section 6.303.2.(a)iii

Permit Action	Section/Notes
(f) The nature and location or expansion of the facility complements the existing and reasonably foreseeable needs of the service area and of the area immediately affected by the facility;	Section 6.303.2(a)iv
(g) The nature and location or expansion of the facility does not unduly or unreasonably impact existing community services;	Section 6.303.2.(a)v
(h) The nature and location or expansion of the facility will not create an expansion of the demand for government services beyond the reasonable capacity of the community or region to provide such services, as determined by the Permit Authority	Section 6.303.2.(a)v
(i) The facility site or expansion area is not in an area with general meteorological and climatological conditions which would unreasonably interfere with or obstruct normal operations and maintenance;	Not applicable.
(j) The nature and location of the facility or expansion will not adversely affect the water rights of any upstream, downstream, or adjacent communities or other water users;	Section 6.303.2(a)v
(k) Adequate water supplies are available for facility needs;	Not applicable.
(l) The nature and location of the facility or expansion will not unduly interfere with any existing easements for or rights-of-way, for other utilities, canals, mineral claims, or roads;	Section 6.303.2(e)ii
(m) The applicant is able to obtain needed easements for drainage, disposal, utilities, access, etc.;	Section 6.303.2(e)viii(F)
(n) Adequate electric, gas, telephone, water, sewage, and other utilities exist or shall be developed to service the site;	Not applicable.
(o) The nature and location for expansion of the facility will not interfere with any significant wildlife habitat or adversely affect any endangered wildlife species, unique natural resource or historic landmark within the impact area;	Section 6.303.2(b)ii
(p) The nature and location or expansion of the facility, including expected growth and development related to the operation and provision of service, will not significantly deteriorate air quality in the impact area;	Not applicable.
(q) The geological and topographic features of the site are adequate for all construction, clearing, grading, drainage, vegetation, and other needs of the facility construction or expansion;	Section 6.303.2.(b)i
(r) The existing water quality of affected state waters will not be degraded below state and federal standards or established baseline levels;	Not applicable.
(s) The benefits of the proposed developments outweigh the losses of any natural resources or reduction of productivity of agricultural lands as a result of the proposed development.	Section 6.303.2(e)iv(E)