Environmental Report

# PNM Exhibit IE-4

Is contained in the following 263 pages.

Mid-State Transmission LLC

# Mid-State Transmission Project

## Environmental Report

September 2026

# Document Distribution

## Mid-State Transmission Project

## Environmental Report

September 2026

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# Summary

## Project Overview

On behalf of the Public Service Company of New Mexico, Mid-State Transmission LLC proposes to construct the Mid-State Transmission Project (Project), a new 345-kilovolt transmission line extending approximately 102.8 miles between the Western Spirit Switchyard in Torrance County and the Hidden Mountain Substation in Valencia County, New Mexico. The Project would provide additional transmission capacity to support the reliable delivery of electrical generation resources, strengthen regional grid reliability, and improve operational flexibility within the existing transmission system. The Project includes a new transmission line, associated access roads, optical ground wire, switchyard and substation improvements, and a new Fixed Series Compensation Station.

## Environmental Review and Key Resources

The Transmission Study Corridor (0.5 mile on either side of the centerline) extends across approximately 66,000 acres of central New Mexico and traverses a diverse landscape that includes rangelands, grasslands, shrublands, pinyon-juniper woodlands, irrigated agricultural lands, the Rio Grande corridor, and developed areas near Los Lunas and Belen. The Transmission Study Corridor crosses portions of public lands administered by the Bureau of Land Management, United States Forest Service, New Mexico State Land Office, and the National Park Service, in addition to privately owned lands. Numerous natural and cultural resources occur within the corridor, including ephemeral stream systems, the Rio Grande, wildlife habitats, agricultural lands, archaeological sites, historic properties, scenic byways, and utility infrastructure.

This Environmental Report evaluates existing environmental conditions within the one-mile-wide Transmission Study Corridor and assesses the potential environmental effects of constructing, operating, and maintaining the Project within the proposed 200-foot-wide right-of-way resulting from construction and operation of the Project.

Resource areas evaluated include air quality, noise, geology and mineral resources, soils, paleontological resources, water resources, biological resources, cultural resources, visual resources, land use, socioeconomics, communication systems, hazardous materials, safety, transportation infrastructure, and other environmental values identified by the New Mexico Public Regulation Commission and stakeholders.

## Key Environmental Effects

Potential environmental effects associated with the Project would occur primarily during construction and are expected to be temporary and localized. Construction activities would result in vegetation disturbance, soil disruption, temporary increases in noise and dust, localized effects on wildlife habitat, and temporary impacts to land use and transportation activities. Long-term impacts would primarily consist of limited habitat conversion associated with access roads and structure locations and visual changes to portions of the landscape. The Project has been designed to avoid and minimize impacts where practicable through route selection, micrositing of facilities, co-location with existing transmission facilities, use of existing disturbed corridors, and implementation of Project-specific protection measures.

## Avoidance, Minimization, and Protection Measures

The Project has committed to implementing a comprehensive suite of protection measures and best management practices during construction and operation of the Project. These measures include but are not limited to erosion and sediment control practices, stormwater management, habitat avoidance buffers, migratory bird protection measures, cultural resource avoidance and discovery protocols, revegetation and reclamation requirements, hazardous material management procedures, wildfire prevention measures, and coordination with applicable federal, state, tribal, and local agencies. Project-specific surveys, permitting, and environmental compliance programs would further reduce potential impacts to sensitive resources.

## Conclusions

Based on the analyses presented in this Environmental Report, implementation of the Mid-State Transmission Project, together with the Project's committed protection measures and applicable permit requirements, is not expected to result in undue environmental impacts. While some unavoidable environmental effects may occur, those effects are generally anticipated to be temporary, localized, and capable of being avoided, minimized, or mitigated through established engineering, environmental, and operational practices.

The Project would provide substantial electric reliability and transmission system benefits while minimizing environmental impacts through careful planning, design, and implementation of protection measures.

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# Abbreviations

| Abbreviation | Description |
|---|---|
| ACSR | aluminum conductor steel-reinforced |
| ACSS | aluminum conductor steel-supported |
| APLIC | Avian Power Line Interaction Committee |
| ATSF | Atchison, Topeka and Santa Fe |
| BISON-M | Biota Information System of New Mexico |
| BLM | Bureau of Land Management |
| BMP | best management practice |
| BNSF | Burlington Northern Santa Fe |
| CO | carbon monoxide |
| Commission | New Mexico Public Regulation Commission |
| DOE | United States Department of Energy |
| ER | Environmental Report |
| ESA | Endangered Species Act |
| FAA | Federal Aviation Administration |
| FCS | Fixed Series Compensation |
| FEMA | Federal Emergency Management Agency |
| FIRM | Flood Insurance Rate Map |
| FUSRAP | Formerly Utilized Sites Remedial Action Program |
| GIS | geographic integration systems |
| HCPI | Historic Cultural Properties Inventory |
| I- | Interstate |
| IPaC | Information for Planning and Consultation |
| IUCN | International Union for Conservation of Nature |
| kcmil | thousand circular mil |
| kV | kilovolt |
| LA | Laboratory of Anthropology |
| LandCAN | Land Conservation Assistance Network |
| MBTA | Migratory Bird Treaty Act |
| MLTS | Material Licensing Tracking System |
| MRLC | Multi-Resolution Land Characteristics Consortium |
| MW | megawatts |

| Abbreviation | Description |
|---|---|
| NAIP | National Agriculture Imagery Program |
| NESC | National Electrical Safety Code |
| NHD | National Hydrography Dataset |
| NLCD | National Land Cover Database |
| NMAC | New Mexico Administrative Code |
| NMCRIS | New Mexico Cultural Resources Information System |
| NMDGF | New Mexico Department of Game and Fish |
| NMDOT | New Mexico Department of Transportation |
| NMEMNRD | New Mexico Energy, Minerals, and Natural Resources Department |
| NM MMD | New Mexico Mining and Minerals Division |
| NM OCD | New Mexico Oil Conservation Division |
| NMRPTC | New Mexico Rare Plant Technical Council |
| NMSA 1978 | New Mexico Statutes Annotated 1978 |
| NMSLO | New Mexico State Land Office |
| NMTRD | New Mexico Taxation & Revenue Department |
| $NO_2$ | nitrogen dioxide |
| NPDES | National Pollutant Discharge Elimination System |
| NPS | National Park Service |
| NRC | Nuclear Regulatory Commission |
| NRHP | National Register of Historic Places |
| NWI | National Wetlands Inventory |
| O&M | Operation and maintenance |
| $O_3$ | ozone |
| OPGW | Fiber optic ground wire |
| Pb | lead |
| pCi/l | picocurie per liter |
| PFYC | Potential Fossil Yield Classification |
| PLJV | Playa Lakes Joint Venture |
| $PM_{2.5}$ and $PM_{10}$ | particulate matter pollution |
| PNM | Public Service Company of New Mexico |
| Project | Mid-State Transmission Project |
| RADINFO | Radiation Information Database |
| ROW | right-of-way |
| SH | State Highway |
| SHPO | State Historic Preservation Office |

| Abbreviation | Description |
|---|---|
| SIO | Scenic Integrity Objective |
| $SO_2$ | sulfur dioxide |
| SPCC | Spill Prevention, Control, and Countermeasure |
| Staff | Commission Staff |
| SWPPP | Stormwater Pollution Prevention Plan |
| UDP | Unanticipated Discoveries Plan |
| UMTRA | Uranium Mill Tailings Remedial Action |
| USACE | United States Army Corps of Engineers |
| USCB | United States Census Bureau |
| USDA | United States Department of Agriculture |
| USEPA | United States Environmental Protection Agency |
| USFS | United States Forest Service |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |
| US Hwy | United States Highway |
| WOTUS | waters of the United States |

# 1. Introduction

On behalf of the Public Service Company of New Mexico (PNM), Mid-State Transmission LLC is developing and intends to construct the “Mid-State Transmission Project” (Project) a 345-kilovolt (kV), high-voltage transmission line to be located in Torrance, Socorro, and Valencia Counties, New Mexico.

The New Mexico location control statute, New Mexico Statutes Annotated 1978, Section 62-9-3, Subsection F (NMSA 1978 §62-9-3.F), provides that the New Mexico Public Regulation Commission (Commission) shall approve the location of any transmission line of 230 kV or greater associated with a large-capacity power plant capable of 300 megawatts (MW) or more of generation unless the Commission finds that the location would unduly impair important environmental values. This Environmental Report (ER) responds to the requirement of the Commission for a report, in the form provided in Code of Federal Regulations, Title 40, Section 1502.10, as outlined in New Mexico Administrative Code (NMAC) (17.9.592.10 (E)).

Further, this ER addresses the environmental resource categories identified by the Commission in 17.9.592 New Mexico Administrative Code (NMAC), as well as other issues identified by Commission Staff (Staff), applicable stakeholders, and the Project.

## 1.1 Background

The Project would serve as a system upgrade to the existing PNM transmission system within New Mexico and would allow for optimal delivery of up to 800 MW of new generation resources. This ER includes location analysis of the proposed 102.8-mile transmission line within a one-mile-wide “Transmission Study Corridor” (0.5 mile on either side of the centerline), encompassing approximately 66,000 acres. The Transmission Study Corridor traverses a mix of federal, state, and privately-owned lands, including approximately 1,625 acres of federal land, 10,340 acres of state land, and 53,815 acres of privately owned land. Construction is anticipated to start in Q4 2027 with a proposed commercial operation date of Q4 2029.

## 1.2 Proposed Project

The Project would be located in Torrance, Socorro, and Valencia Counties, and would consist of a new, 102.8-mile (542,608.7linear feet), 345-kV transmission line connecting the existing Western Spirit Switchyard (Torrance County) and the existing Hidden Mountain Substation (Valencia County). The Project would be located within the Transmission Study Corridor analyzed in this ER. The Project would traverse approximately 2.1 miles of United States Forest Service (USFS) land, 16.5 miles of New Mexico State Land Office (NMSLO) land, 0.3 miles of New Mexico Department of Game and Fish (NMDGF) land, 0.3 miles of Middle Rio Grande

Conservancy District (MRGCD) land, 0.1 miles of New Mexico Department of Transportation (NMDOT) land, and 83.4 miles of privately owned property. In addition, the Project would include an aerial crossing of approximately 0.02 miles over land administered by the Bureau of Land Management (BLM). No Project facilities or ground-disturbing activities are proposed on BLM-administered lands.

Exhibit 1 in Appendix A provides a geographic overview of the Project vicinity.

The Project would be constructed in two primary configurations:

- To the extent practicable, the Project would be constructed by rebuilding portions of the existing PNM WL 115-kV transmission line that connects the existing Willard and Los Morros substations. These portions would expand the existing WL 115-kV right-of-way (ROW) to accommodate the additional infrastructure and result in a shared ROW and new, shared structures for the new Mid-State Transmission 345-kV and the existing WL 115-kV circuit.
- Where co-location of the Project with the WL 115-kV is not practicable given engineering, environmental, land use, construction, cost, or other constraints, the Project would be constructed as a new, stand-alone 345-kV transmission line and ROW.

For the purposes of this ER, a maximum ROW width of 200 feet has been assumed for the impact analysis (hereby referred to as the Project ROW). The actual permanent ROW may be narrower in some locations along the proposed alignment to accommodate site-specific engineering requirements, existing infrastructure, land ownership, terrain, and environmental constraints. Accordingly, the Project would utilize a variable-width ROW where appropriate rather than a uniform corridor width. For portions of the Project co-located with the existing WL 115-kV transmission line, the ROW would be configured to accommodate both facilities within a single, shared corridor. The 200-foot ROW represents the maximum anticipated permanent ROW and serves as the conservative (“worst-case”) assumption for evaluating potential environmental impacts.

This ER provides a review of the existing environment within the Transmission Study Corridor and analyzes the potential environmental impacts within the Project ROW resulting from construction and operation of the Project. The affected environment (existing condition) for the environmental values provided in NMSA 1978 § 62-9-3.M, Commission Rule 17.9.592 NMAC, and additional resource areas identified to be of interest by Staff, applicable stakeholders, and the Project are evaluated in this ER. The resources addressed in this ER include: air quality; noise levels; geology and mineral resources; soils; paleontological resources; water resources; flora and fauna (biological resources); cultural, historic, and archaeological resources; religious resources, including cemeteries; visual resources and scenic areas; land use (including farm, range, and recreational use); socioeconomic conditions; communication signals; radioactive waste and radiation hazards; hazardous materials; safety; geographic resources (access to infrastructure); military activities and aviation; and roads.

The discussion of each resource includes data sources used, regional baseline conditions, and existing conditions within the Transmission Study Corridor, a one-mile-wide corridor encompassing approximately 66,000 acres along the total length of the Project. The environmental consequences (potential impacts) for the resources identified above were evaluated to determine whether the proposed Project within the 200-foot ROW would "unduly impair important environmental values," as stated in NMSA 1978 § 62-9-3.F. Impact analyses for each resource are discussed in the context of the Project alongside typical construction practices and specific protection measures that the Project has committed to implement.

## 1.3 Purpose and Need

The Project is essential for integrating new generation resources located in eastern New Mexico into the existing PNM grid, enabling delivery to the Albuquerque area. The Project would facilitate the efficient utilization of current transmission and generation assets while enhancing overall system reliability.

## 1.4 Alternatives Considered

The Project is proposing to construct the Project, consisting of a new 345-kV transmission line that would connect to the existing electric grid. The final locations of Project facilities within the Transmission Study Corridor would be determined based on several factors, including landowner coordination; geographic features; environmental constraints; and micrositing of transmission structures. To the extent practicable, the Project would implement measures to reduce potential impacts to important environmental resources from the Project.

### 1.4.1 No-Action Alternative

Under the No-Action Alternative, the Project would not be constructed, and the potential environmental impacts associated with the Project would not occur. However, selection of the No-Action Alternative would not meet the purpose and need of the Project and would limit the Project's ability to develop and support sufficient power reliability for customers in the region. Furthermore, the benefits of the Project, including enhanced grid reliability and resilience, increased employment, secondary spending, and increased tax revenues, would not be realized under the No-Action Alternative. If the Project is not constructed, similar transmission and power infrastructure would be expected to be developed in the same region to meet the demand for additional power supply to end users. As a result, the environmental impacts and benefits associated with meeting this purpose and need would likely be shifted to alternative projects and delayed in time rather than avoided altogether. Additionally, such projects may not incorporate the same comprehensive protection measures described herein.

### 1.4.2 Proposed Transmission Project Alternative

The Project would result in an action to construct, operate, and maintain a new 345-kV transmission line located within the region of the Transmission Study Corridor. It is anticipated that there would be 102.8 miles (542,608.7 feet) of 345-kV transmission line, along with access roads and other associated facilities, described further in Section 2.

# 2. Project Description

The Mid-State Transmission Project would include 102.8 miles of new and upgraded steel-pole transmission infrastructure between the Western Spirit Switchyard and Hidden Mountain Substation. The Project would consist of a new 345-kV transmission line, conductors, optical ground wire, switchyard expansions, a Fixed Series Compensation (FSC) Station, access roads, and temporary construction support facilities. Typical structure spans would range from approximately 600 feet to 1,200 feet, and the Project is anticipated to require approximately 750 structures. The following sections provide a description of the major Project components, supporting facilities, and associated infrastructure.

## 2.1 Transmission Structures

The proposed transmission structure types for the 345-kV transmission line would be steel monopole, two-pole H-frame, and/or three-pole angle structures. For portions of the Project to be co-located with the existing WL 115-kV, project structures would be designed to accommodate both the WL 115-kV and the Mid-State Transmission 345-kv circuits on the same structures. Most structures would be self-supporting; although guy wires may be used in some locations to provide additional support. Taller or larger structures may be required where longer spans are needed, such as at riparian areas or stream crossings. In areas where the line turns, the transmission line would be supported by three-pole angle structures or guyed structures. Typical structure heights would range from approximately 80 feet to 150 feet above existing ground surface, depending on terrain and the span length between adjacent structures. This range applies to tangent structures, which primarily support the line with minimal tension; dead-end structures, which carry line tension; and angle structures, which support changes in line direction and also carry tension.

In many locations, transmission structures would be directly embedded into the ground; however, drilled-pier concrete foundations would be used where geotechnical conditions require them. Transmission structure pole diameters would typically range from approximately three feet to five feet, depending on framing configuration and the angle to adjacent structures.

## 2.2 Conductors and Associated Hardware

The 345-kV transmission line would consist of three electrical phases, with each phase consisting of bundled conductors composed of two 1,272 thousand circular mils (kcmil) aluminum conductor steel-supported (ACSS) cables. Each conductor is approximately 1.2 inches in diameter. Minimum conductor height above ground surface for the 345-kV transmission line is 30.3 feet at 167 degrees Fahrenheit based on National Electrical Safety Code (NESC) and Special Protection System standards. At road crossings, minimum clearance

would typically increase to approximately 37.3 feet above ground surface. Similar sized aluminum conductor steel-reinforced cables or conductors may also be utilized.

## 2.3 Optical Ground Wire

Optical ground wire (OPGW) 72 core single mode fiber would be installed on top of each transmission structure for the entire length of the line. The OPGW serves a dual purpose; the internal fiber optic cable provides substation-to-substation communications and system control, while the outer steel core acts as a shield wire to protect the conductors from lightning strikes. The overall cable diameter would be approximately 0.55 inch.

## 2.4 Power System Facilities

The Project would include expansions of both the existing Western Spirit Switchyard and Hidden Mountain Substation, and construction of a new FSC Station. The substation and switchyard expansions would accommodate interconnection of the new 345-kV transmission line and would include installation of electrical equipment, foundations, control and protection systems, communications infrastructure, and associated support facilities. The FSC Station would be located approximately midway between the Western Spirit Switchyard and Hidden Mountain Substation, immediately adjacent to the Transmission Line, and would provide series compensation to enhance transmission system performance and power transfer capability. The FSC Station would occupy approximately four acres. Final facility layouts, equipment configurations, and ratings would be determined during detailed engineering and system studies.

## 2.5 Access Roads

The Project would use existing roads and overland travel routes where practicable to reduce the need for new access routes and minimize surface disturbance. New temporary or permanent access roads, including short spur roads, may be needed to reach transmission structure locations within the ROW. Portions of existing roads outside the proposed ROW may also require improvements, and additional temporary or permanent access may be developed as needed to support construction, operation, and maintenance of the Project.

Permanent access roads would be retained only where needed for long-term Project operation and maintenance and may include existing roads, improved roads, or newly constructed roads, depending on site-specific requirements.

New access not needed for long-term Project operation and maintenance would be coordinated with the affected landowner. Existing and newly installed gates would be closed and/or locked consistent with landowner agreements. Access roads on private property may be maintained with landowner consent.

## 2.6 Laydown / Material Staging Areas

Temporary laydown and material staging areas would be needed during Project construction to store equipment and materials and to support structure assembly. These areas would be located on existing disturbed lands or other suitable private property along the Project ROW. Laydown areas would be used for material and equipment storage prior to transport to structure sites, vehicle parking, and, where necessary, placement of portable construction trailers. Prior to use, each area would be assessed for potential environmental constraints. If sensitive resources are identified, the location would be adjusted or designed to avoid impacts. Following construction, all staging and laydown areas would be reclaimed and revegetated. Potential impacts and mitigation measures associated with the micrositing of staging areas, as well as ground-disturbing activities, are discussed further in Section 4.0 (Environmental Effects).

## 2.7 Right-of-Way and Easements

As outlined in Section 1.2, for the purposes of this ER, a maximum ROW width of 200 feet has been assumed for the environmental effects analysis (Section 4.0). The permanent ROW may vary along the alignment to accommodate site-specific engineering requirements, existing infrastructure, land ownership, terrain, and environmental constraints. In areas where the proposed 345-kV transmission line is co-located with the existing WL 115-kV transmission line, the final 200 ft ROW for the Project would include the current 50 ft ROW for the WL 115-kV, with both circuits sharing the same, new structures.. The ROW would accommodate the anticipated transmission structure types, span lengths, and heights for the transmission line; provide compliance with applicable electrical safety codes; provide adequate logistical space for construction, operations, and maintenance of the line; and provide sufficient flexibility for siting structures within the ROW. Final design would determine specific structure locations and characteristics.

Easements or leases from private landowners, and agencies such as the BLM, USFS, the NMSLO, New Mexico Department of Game and Fish, and Middle Rio Grande Conservancy District may be required for the transmission line ROW, temporary work areas, and temporary access roads. Some upgrades to existing public roads may be necessary to support delivery of equipment and would be negotiated through the appropriate county agencies and administrative departments, as applicable.

## 2.8 Construction Activities

The Project would be constructed, operated, and maintained using standard engineering, construction, and operational practices commonly employed for other high-voltage transmission projects throughout the western United States. Construction of the Project is expected to take approximately 18 to 24 months, beginning in Q4 2027. The commercial operation date of the Project is expected to occur by Q4 2029.

### 2.8.1 Sequence of Activities

The construction of the Project is expected to proceed in the following sequence:

1. Surveying and staking of new structure locations.
2. Clearing and preparation of laydown/materials staging and work areas, as needed.
3. Construction or improvement of access roads, where necessary.
4. Distribution of materials along the transmission centerline.
5. Installation of structure foundations or direct embedment of poles.
6. Assembly/installation of transmission structures.
7. Installation of conductors and communication lines.
8. Decommissioning and removal of existing WL 115-kV facilities within co-located rebuild segments.
9. Site cleanup, reclamation, and reseeding.

Construction activities may occur concurrently at multiple locations along the Project alignment, requiring several construction crews to operate simultaneously.

### 2.8.2 Surveying

Construction-related survey activities for the Project would include evaluation of soil and geotechnical conditions to support foundation design, identification of final transmission structure locations, delineation of ROW and work area boundaries, establishment of access routes, and flagging and/or staking of avoidance areas and other construction constraints, as necessary.

### 2.8.3 Drainage and Stormwater Management

Construction activities would be conducted in accordance with applicable federal, state, and local stormwater management requirements. Where Project construction results in the disturbance of one acre or more, the Project would obtain coverage under the applicable National Pollutant Discharge Elimination System (NPDES) Construction General Permit prior to the initiation of construction. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and implemented to identify potential pollutant sources and establish best management practices (BMPs) to minimize erosion, sedimentation, and stormwater runoff associated with construction activities.

Appropriate erosion and sediment controls would be installed prior to land-disturbing activities. BMPs would be maintained (or repaired and replaced as necessary) throughout construction until permanent vegetative cover or another form of site stabilization has been established.

BMPs installed prior to land-disturbing activities may include but are not limited to: perimeter and downgradient sediment controls such as silt fence and fiber logs; slope stabilization controls; ditch checks; culvert extensions as necessary for turning radii, temporary intersections, and crane walks; and construction mats to facilitate access across sensitive resources.

Additional BMPs to be utilized prior to or during construction activities may include, but are not limited to: segregation of topsoil and subsoil; stockpiling and temporary stabilization of spoils or loose soil; repair or cleanout of existing culverts to accommodate construction-related discharge volume and flow; use of dewatering bags or other settling mechanisms for groundwater pumping or stormwater diversion; use of concrete washout basins; construction entrances/exits to public roads; proper replacement of soil and decompaction of topsoil following construction; seeding of disturbed areas to establish temporary or permanent vegetation cover; application of mulch; and installation of erosion-control blankets.

For any construction work area, temporary stabilization would be implemented prior to any planned pause in activities spanning 14 days or longer, including seasonal work stoppages. Temporary stabilization measures may include installation of erosion and sediment controls, temporary seeding, mulch application, soil stabilization products, runoff control features, and other BMPs appropriate for site conditions. Upon completion of construction, temporary construction work areas, staging areas, and laydown areas would be reclaimed and restored to conditions compatible with surrounding land uses.

### 2.8.4 Access Road Construction

Portions of the Project would be near public roads. Where practicable, existing overland disturbances, including two-track roads, trails, and other previously disturbed routes, would be used to access the ROW and limit the need for new routes. Where existing access is unavailable, overland drive-and-crush travel may be used, where practicable, to reduce surface disturbance and avoid new road construction. Temporary access roads or overland travel may be needed for construction equipment to reach transmission structure locations. Construction may require localized vegetation clearing, mowing, or crushing. Where recontouring is unnecessary, disturbance would generally be limited to overland travel, where feasible, to minimize changes to existing contours. Large rocks and vegetation may be temporarily moved to allow vehicle and equipment access.

Where practicable, new temporary roads and cross-country routes would follow existing topography and landform contours. Temporary access roads no longer needed after construction would be reclaimed and revegetated. Where substantial ground disturbance occurs, reclamation may include loosening compacted soils, reseeding with native species or approved seed mixes, installing erosion-control features such as water bars or cross drains, and restoring temporary ditches or swales as needed to reestablish drainage and stabilize the site.

Access road construction equipment would include hand tools, bulldozers, and graders. Specific BMPs would be implemented to reduce construction impacts. For example, access roads would

be located and constructed to cross streams at or near right angles, where practicable, to minimize crossing length and potential impacts. Existing public roads would be used to the extent possible, appropriately sized culverts would be installed where needed, and dust-control measures would be implemented during construction, as required. Standard erosion-control techniques, including water bars and dips, would be used on slopes. Additional measures would reduce rutting and soil compaction in sensitive areas and during periods when soils are particularly susceptible to damage.

Public road use, road crossings, and required roadway improvements would be coordinated with the New Mexico Department of Transportation (NMDOT) and applicable county road and public works departments. Access locations and roadway crossing designs would be developed during final engineering and permitting and would comply with applicable agency requirements and safety standards. Final engineering would determine the location and design of specific road crossings and related improvements (see Section 4.21 for additional discussion of potential roadway impacts and protection measures).

### 2.8.5 Transmission Structure Foundations

Excavations for foundations and structure holes would generally be completed using track mounted power auger equipment, a standard-sized backhoe, or large excavator. A truck-mounted power auger would be utilized for structure holes where soil and geotechnical conditions permit. Structure hole excavation and installation would require access for a power auger or drill, a crane, and material trucks. The foundation excavation and installation would require equipment access to the foundation sites.

Foundation excavations and structure holes temporarily left open or unguarded during construction would be covered and/or fenced, where practical, to protect the public, livestock, and wildlife. Soil removed from foundation excavations would be stockpiled within the structure work area and replaced or disposed of, in consultation with landowners.

### 2.8.6 Structure Framing and Assembly

Structural materials, including, but not limited to pole sections and framing, anchors, and guy wires and associated hardware, would be transported to each laydown/materials yard site by truck. Structures may be assembled off-site and transported to the appropriate pole locations by truck or helicopter. Insulator strings and stringing sheaves would be installed at each ground wire and conductor position while the pole is on the ground. Stringing sheaves (pulleys) would be used to guide the conductor during the stringing process for attachment onto the insulator strings. The assembled pole or tower would then be hoisted into place by a crane. Helicopter assisted construction may be utilized for portions of the line.

## 2.8.7 Conductor and OPGW Installation

Once structures are in place, a pilot line would be pulled (strung) from structure to structure and threaded through the stringing sheaves on each insulator. The pilot line would then be used to pull progressively larger and stronger lines, culminating in a pulling line capable of supporting the installation of the overhead ground wire and conductors. This process is repeated until the ground wire and conductor are pulled through all insulator sheaves.

Conductors would be strung using powered pulling equipment at one end and powered braking or tensioning equipment at the other end. To protect the public during wire installation, temporary guard structures would be erected over roadways, transmission and distribution lines, structures, and other obstacles. Guard structures would typically consist of H-frame poles temporarily placed on either side of an obstacle. These structures prevent ground wire, conductor, or equipment from falling on an obstacle. Augers, line trucks, pole trailers, and cranes would be used to install the guard structures. Guard structures may not be needed at minor road crossings where barriers, flaggers, or other traffic control measures would provide adequate protection.

For segments of the Project co-located with the existing WL 115-kV line, new 115-kV conductor would be installed on the Project structures following the methodology described above. The new 115-kV conductor would connect to the existing 115-kV conductor only at the start and end of co-located portions of the Project. The 115-kV conductor and structures currently existing in these co-located segments would be decommissioned, removed from site, and disposed of appropriately.

## 2.8.8 Helicopter Use

Access to each transmission structure location would be required to support construction activities. In areas where terrain, environmental constraints, or limited accessibility restrict the use of conventional ground-based equipment, helicopters may be used to facilitate construction activities and reduce the need for additional surface disturbance. Potential helicopter-supported construction activities may include:

- Transport of equipment and materials to transmission structure sites.
- Placement and installation of transmission structures and associated components.
- Installation of hardware and insulator assemblies.
- Wire and conductor stringing operations.

All helicopter operations would be conducted in compliance with applicable Federal Aviation Administration (FAA) requirements and coordinated as necessary to ensure safe and efficient Project construction.

## 2.8.9 Decommissioning Existing Infrastructure

Decommissioning of the existing WL 115-kV circuit in the rebuild areas would include the removal of Project-associated facilities and implementation of appropriate reclamation and restoration measures. The Project would take appropriate measures to restore disturbed areas to pre-existing conditions. Removal and restoration efforts would generally involve:

- **Tower foundations:** All foundations installed in the ground would be cleared, cleaned, and removed from the ground to at least four feet below the grade of the land affected. Holes or cavities created in the ground as a result of such removal would be filled with native material or topsoil of the same or similar type of material as that found at the site.
- **Tower direct embedment:** Direct-embedded structures would be removed by excavating around the pole until it can be safely extracted. Excavations would be approximately 8 feet in diameter and up to 10 feet deep, depending on the depth of embedment and site-specific conditions. Once the structure has been removed, the excavation would be backfilled with native material or topsoil of the same or similar type as that found at the site. The restored area would be graded to match surrounding conditions and stabilized as necessary to prevent erosion.
- **Conductor and/or communication lines:** Overhead power and/or communication lines for the WL 115-kV line no longer in use would be cleaned and removed from the Project footprint.

## 2.8.10 Power System Facilities

Construction of power system facilities would generally include site grading, excavation, installation of drainage and stormwater controls, foundation construction, grounding systems, underground conduit and cable installation, erection of steel structures, installation of electrical equipment, control buildings, security fencing, and placement of aggregate surfacing. Major equipment may include circuit breakers, switches, disconnects, instrument transformers, surge arresters, capacitor banks, reactors, control and protection systems, station service equipment, communication systems, and associated electrical infrastructure. Construction equipment may include excavators, dozers, graders, cranes, concrete trucks, drill rigs, dump trucks, line trucks, boom lifts, and other specialized equipment necessary for installation and commissioning activities.

## 2.8.11 Construction Waste Disposal

Construction sites, laydown and material storage yards, and access roads would be kept in an orderly condition throughout the construction period. Refuse and trash generated during construction would be regularly collected, removed from the Project, and disposed of or recycled at approved facilities, as appropriate. Where Project-specific assessments indicate a moderate to high potential for bear activity, bear-resistant waste containers would be used for

refuse and food-related waste, as applicable. Oils, fuels, and other regulated wastes would be properly contained, transported, and disposed of at approved facilities in accordance with applicable federal, state, and local regulations. Open burning of construction debris or waste materials would not be permitted at any time.

## 2.8.12 Site Reclamation

Topsoil and subsoil would be segregated and clearly identified, where practicable, to preserve soil productivity, maintain native seedbanks, and support successful reclamation. A noxious weed management plan would be implemented to minimize the introduction and spread of noxious and invasive plant species during construction, operation, and reclamation activities.

Temporary work areas and other disturbed sites would be reclaimed using stockpiled topsoil, excess suitable native materials, and native or approved seed mixes compatible with surrounding vegetation communities. Excess soil, rock, construction debris, and other unsuitable materials that cannot be used for reclamation would be removed and disposed of in accordance with applicable regulations and permit requirements.

Reclamation of temporary disturbance areas would be initiated as soon as practicable following completion of construction activities and would continue into Project operations, as necessary, to achieve reclamation objectives. Although reclamation efforts would seek to meet applicable performance standards as expeditiously as practicable, the timing and implementation of specific reclamation measures would be adapted to site-specific conditions, including seasonal constraints, precipitation patterns, soil moisture conditions, vegetation establishment requirements, and ongoing stabilization and stormwater management needs identified in the Project SWPPP.

## 2.8.13 Typical Construction Equipment

Construction of the Project would require the use of a variety of light-duty vehicles, heavy equipment, and specialized transmission line construction equipment. The specific equipment utilized at any given time would depend on the construction activity, site conditions, access constraints, and final engineering requirements. Equipment may be used at multiple locations throughout the Project, and several construction crews may operate simultaneously during peak construction periods.

The equipment identified below in Table 2-1 represents the principal equipment anticipated for construction of the transmission line, access roads, laydown areas, and power system facilities. Additional support vehicles, tools, and specialty equipment may be utilized as necessary to safely and efficiently complete the work.

**Table 2-1 Typical Construction Equipment Required**

| Vehicle/Equipment Type | Construction Activity |
|---|---|
| Backhoe (10- to 20-ton) - with bucket | Transmission Structure Foundations |
| Backhoe (7- to 9-ton) - with bucket | Transmission Structure Foundations<br>Site Reclamation<br>Conductor Installation |
| Crane (150- to 250-ton) | Structure Framing and Assembly |
| Crane RT (20-ton) | Transmission Structure Foundations<br>Structure Framing and Assembly |
| Crane RT (35-ton) | Conductor Installation |
| Crane RT (75-ton) | Structure Framing and Assembly |
| Dozer - with blade | Access Road Construction<br>Site Reclamation<br>Conductor Installation<br>Transmission Structure Foundations |
| Drill rig - digger | Transmission Structure Foundations<br>Conductor Installation |
| Forklift (10-ton) | Material Hauling<br>Transmission Structure Foundations |
| Grader - road | Access Road Construction |
| Helicopter - pilot line (small) | Conductor Installation |
| Loader - Skid steer | Transmission Structure Foundations |
| Loader - with bucket | Transmission Structure Foundations<br>Site Reclamation |
| Puller - single drum | Conductor Installation |
| Puller - triple drum | Conductor Installation |
| Tensioner - conductor | Conductor Installation |
| Tensioner - shield wire | Conductor Installation |
| Tractor - 4-wheel-drive with chisel and/or seeder | Site Reclamation |
| Trailer - flatbed | Material Hauling<br>Conductor Installation<br>Transmission Structure Foundations |
| Trailer - lowboy | Site Reclamation<br>Conductor Installation<br>Access Road Construction |
| Trailer - reel stand | Conductor Installation |
| Truck - concrete | Transmission Structure Foundations |
| Truck - flatbed with boom (5-ton) | Conductor Installation |
| Truck - fuel | Access Road Construction<br>Transmission Structure Foundations |
| Truck - pickup | All - Activities |
| Truck - semi-trailer | Transmission Structure Foundations<br>Material Hauling<br>Conductor Installation |

| Vehicle/Equipment Type | Construction Activity |
|---|---|
| Truck - splicing | Conductor Installation |
| Truck - water | Access Road Construction<br>Transmission Structure Foundations<br>Site Reclamation<br>Conductor Installation |
| Truck (10 cubic yard) - dump | Transmission Structure Foundations |
| Truck (1-ton) - flatbed | All - Activities |
| Truck (2-ton) - flatbed | Access Road Construction<br>Transmission Structure Foundations<br>Material Hauling<br>Site Reclamation<br>Structure Framing and Assembly<br>Conductor Installation |
| Truck (5-ton) - flatbed with boom | Material Hauling<br>Transmission Structure Foundations |
| Vibratory roller (9- to 10-ton) | Transmission Structure Foundations |
| Wheel loader (7- to 9-ton) | Transmission Structure Foundations |

## 2.9 Operation and Maintenance

Following construction and energization of the Project, land uses that are compatible with applicable safety requirements and operation and maintenance (O&M) activities for the Project would be permitted within and adjacent to the transmission line ROW. Existing land uses, including agriculture, livestock grazing, recreation, and other compatible uses, generally may continue within the ROW, provided they do not interfere with the safe operation, maintenance, or reliability of the transmission facilities. Incompatible land uses include the construction of permanent structures intended for human occupancy and activities that alter surface elevations in a manner that could reduce required electrical clearances or otherwise conflict with NESC requirements.

Safety is a primary concern in the planning and design of the Project. The transmission line would be protected with power circuit breakers and related line relay protection equipment. If a conductor failure occurs, power would be automatically removed from the line. The transmission line also would incorporate lightning protection through the use of overhead shield wires and grounding systems installed along the length of the line. All fences, metal gates, pipelines etc., that cross or are within the ROW or easement of transmission line would be grounded to prevent electrical shock and to meet NESC requirements.

Maintenance of the transmission line would be performed as needed to ensure the continued safe and reliable operation of the Project. Routine maintenance activities may include inspections, access road maintenance, repair or replacement of transmission line components, vegetation management, and emergency repairs. When access is required for non-emergency maintenance and repairs, existing roads and established access routes would be used to the maximum extent practicable to minimize disturbance.

Vegetation management may be conducted periodically within the transmission line ROW to maintain required electrical clearances, preserve safe access to facilities, and support reliable system operation. Vegetation management activities may include mechanical mowing, trimming, selective removal of woody vegetation, and treatment of noxious or invasive plant species, as appropriate. Vegetation management practices would be implemented in accordance with applicable landowner agreements, agency requirements, and utility safety standards.

Emergency maintenance and repair activities may require the immediate mobilization of personnel, equipment, and materials to address outages, damaged facilities, or conditions affecting public safety and system reliability. During emergency response activities, crews would take reasonable measures to avoid and minimize impacts to vegetation, wildlife, cultural resources, water resources, and other environmental features while restoring service as quickly and safely as possible. Because regular and emergency access requirements for O&M are generally infrequent and involve a limited number of personnel and vehicles, traffic-related impacts are anticipated to be minor.

Following completion of any maintenance or repair activities, any areas temporarily disturbed would be restored, stabilized, and reclaimed, as appropriate. Reclamation measures would generally be consistent with those implemented during Project construction and may include grading, soil stabilization, erosion control, revegetation, and restoration of affected access routes and work areas.

# 3. Affected Environment for the Transmission Study Corridor

## 3.1 Introduction

The affected environment is described below for the environmental values provided in NMSA 1978 §62-9-3.M, Commission Rule 17.9.592 NMAC, and additional resource areas identified to be of interest by Staff, relevant stakeholders, and the Project. These are: air resources; noise, geology and mineral resources; soil resources; paleontological resources; water resources; flora and fauna, including biodiversity; archaeological and historic-age cultural resources; religious and cemetery sites; visual and scenic resources; socioeconomics; communication signals; radioactive waste and radiation hazards; hazardous materials; safety; geographic resources; military activities and aviation; and roads.

This section of the ER describes the existing conditions of these resources within the Transmission Study Corridor, defined as a one-mile-wide area (extending 0.5 miles from each side of the Project centerline) and associated facilities, including substations and access roads for maintenance or operation of the line. The Transmission Study Corridor and an overview of the Project vicinity are shown in Exhibit 1.

## 3.2 Air Resources

### 3.2.1 Data Sources

The following data sources were reviewed to assess the current air quality conditions of the Transmission Study Corridor across Torrance, Socorro, and Valencia Counties correlated with the Project.

- AirNow. 2026. *U.S. Air Quality Index*. Accessed June 2026. https://www.airnow.gov/?city=false&country=false.
- United States Environmental Protection Agency (USEPA). 2026a. *Nonattainment areas for criteria pollutants (Green Book)*. Accessed June 2026. https://www.epa.gov/green-book.
- USEPA. 2026b. *Criteria Air Pollutants.* Accessed June 2026. https://www.epa.gov/criteria-air-pollutants.

### 3.2.2 Current Conditions and Trends, Regional Overview

The Clean Air Act requires the USEPA to set National Ambient Air Quality Standards for six principal pollutants, carbon monoxide (CO), lead (Pb), nitrogen dioxide ($NO_2$), ozone ($O_3$),

particulate matter pollution ($PM_{2.5}$ and $PM_{10}$) and sulfur dioxide ($SO_2$). Using technical information provided by each state, counties are designated as nonattainment, attainment, or attainment/unclassifiable to indicate whether it meets the standards (USEPA 2026a). Available resources, including real-time air quality data from USEPA's AirNow platform (AirNow 2026), do not identify any unique air quality conditions within the Transmission Study Corridor for the Project. The Project crosses Valencia, Socorro, and Torrance Counties, all of which are designated attainment/unclassifiable because available data indicate they meet the National Ambient Air Quality Standards (USEPA 2026b). These designations are consistent with the counties' low population density and predominantly agricultural or rural land uses.

# 3.3 Noise

## 3.3.1 Data Sources

The following data source was reviewed to assess the existing noise conditions of Socorro, Torrance, and Valencia Counties for the Mid-State Transmission Project.

- Socorro County InfoNet. 2021. Public Nuisance Ordinance of Socorro County. Accessed August 2026. https://www.socorrocounty.net/general-information/ordinances
- United States Census Bureau (USCB). 2020a. *Decennial Census Data Tables*. Accessed June 2026. https://data.census.gov/table/DECENNIALPL2010.P1.
- American Legal Publishing Code Library. 2023. Valencia County, New Mexico Code of Ordinances. Accessed August 2026. https://codelibrary.amlegal.com/codes/valenciacounty/latest/valenciaco_nm/0-0-0-1939#JD_92.21

## 3.3.2 Current Conditions and Trends, Regional Overview

Torrance and Socorro Counties in central New Mexico are rural, sparsely populated areas with relatively low ambient noise levels. Valencia County is more densely populated, has a rural-suburban character, and is growing rapidly (USCB 2020a). Higher population density typically contributes to elevated ambient noise from increased vehicle traffic and concentrated residential and commercial development. Noise levels within the Transmission Study Corridor range from quiet in rural areas to higher near towns, highways, and agricultural operations during cultivation. Aircraft using nearby airspace may also contribute to local noise. Socorro and Valencia Counties have noise ordinances outlining acceptable decibel levels for vehicular and non-vehicular noise (see Tables 3-1 and 3-2). Both county ordinances have exceptions for construction noise between 7 a.m. and 10 p.m. (Socorro County InfoNet 2021; and American Legal Publishing Code Library 2023). Torrance County does not have any noise or nuisance ordinances.

**Table 3-1 Socorro and Valencia Counties Vehicular Noise Levels**

| Type of Vehicle | Speed Limit of 35 MPH hour or less | Speed Limit of More than 35 MPH |
|---|---|---|
| Vehicles with a manufacturer's gross vehicle rating of 10,000 lbs. or more, and any combination of vehicles towed by such a vehicle | 90 dB(A) | 90 dB(A) |
| All other vehicles | 80 dB(A) | 84 dB(A) |

**Table 3-2 Socorro and Valencia Counties Non-Vehicular Noise Levels**

| Time of Day | Intrusive Noise Level |
|---|---|
| 7 a.m. to 10 p.m. | 80 dB(A) or 10 dB(A) above ambient noise level |
| 10 p.m. to 7 a.m. | 70 dB(A) or 10 dB(A) above ambient noise level |

# 3.4 Geology and Mineral Resources

## 3.4.1 Data Sources

The following data sources were reviewed to assess the geological and mineral resource conditions within the Transmission Study Corridor:

- New Mexico Mining and Minerals Division (NM MMD). Mine Registrations and Permits Database. Accessed June 2026. https://wwwapps.emnrd.nm.gov/MMD/MMDWebInfo/
- New Mexico Oil Conservation Division (NM OCD). Oil and Gas Map Viewer. Accessed June 2026. https://nmemnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75
- United States Geological Survey (USGS) Mineral Resources Data System (USGS 2026a). Accessed June 2026. https://mrdata.usgs.gov/mrds/map-graded.html
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Web Soil Survey. Accessed June 2026. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
- USGS U.S. Landslide Inventory and Susceptibility (USGS 2026b). Accessed June 2026. https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=ae120962f459434b8c904b456c82669d
- USGS Volcano Hazards Program (USGS 2026c). Accessed June 2026. https://www.usgs.gov/programs/VHP
- USGS Quaternary Fault Viewer (USGS 2026d). Accessed June 2026. https://apps.usgs.gov/earthquakes/faults/qfault_index.html

- National Park Service (NPS). 2026d. NPMS Public Viewer. Accessed August 2026. https://pvnpms.phmsa.dot.gov/PublicViewer/
- Karst Landscapes - Caves and Karst (U.S. National Park Service). Accessed August 2026. https://www.nps.gov/subjects/caves/karst-landscapes.htm

## 3.4.2 Current Conditions and Trends, Regional Overview

This section summarizes existing geology and mineral resources within the Transmission Study Corridor. Topics include regional geologic conditions, oil and gas resources and infrastructure, mineral resource occurrences and mining activities that characterize the Transmission Study Corridor and provide the baseline conditions for the impact analysis presented in Section 4.0.

### Geologic Setting

#### Regional Geology and Soils

The Transmission Study Corridor is located in central New Mexico, generally within the western portion of the Great Plains Physiographic Province and transitioning toward the Basin and Range margins. The landscape is characterized by thin soils over gently sloping bedrock surfaces, with localized uplifts and volcanic features. The Transmission Study Corridor is underlain primarily by Permian-aged sedimentary formations, including sandstone, limestone, siltstone, and dolomite consistent with regional deposition on an ancient continental shelf. In select areas, igneous intrusions and volcanic flows occur, particularly near uplifted ridges and isolated highlands.

Soils across the Transmission Study Corridor are typically shallow, with caliche-rich horizons, sandy loams, and cobbly to gravelly textures. Soil type parent materials as mapped by the USDA's NRCS are shown in Exhibit 2 (USDA NRCS 2026). Remnants of the Ogallala Formation and younger alluvial deposits may be present in drainage corridors or erosional benches.

### Landslides and Slope Stability

Most of the Transmission Study Corridor occurs within areas of relatively low landslide susceptibility. However, localized areas of steeper terrain occur within portions of the corridor, particularly between the Manzano and Los Pinos Mountains and near El Cerro de Los Lunas. These areas exhibit a greater potential for slope instability compared to surrounding terrain.

### Seismic and Volcanic Hazards

Regional seismic activity within central New Mexico is generally low to moderate. Available mapping indicates no major active faults occur within the immediate vicinity of the Transmission Study Corridor. The corridor is also located near El Cerro de Los Lunas, a volcanic butte of

historic geologic origin. No active volcanic features or volcanic hazards have been identified within the Transmission Study Corridor.

## Karst and Subsurface Conditions

Portions of the Transmission Study Corridor overlie limestone and dolomite formations where karst features may develop through the dissolution of soluble bedrock. Karst refers to a landscape formed by the dissolution of limestone, dolomite, or other soluble rocks and may include sinkholes, caves, fractures, and subsurface voids. Although no extensive mapped karst systems occur within the Transmission Study Corridor, isolated dissolution features or subsurface voids may be present.

## Flooding and Erosion

Seasonal monsoon storms can produce localized flooding, arroyo flows, and erosion throughout central New Mexico. Portions of the Transmission Study Corridor, particularly near drainage crossings and areas associated with the Rio Grande watershed, may be subject to periodic flooding and erosion processes. These conditions represent the primary geologic hazards within the study area.

## Oil and Gas Resources

No active oil or natural gas wells occur within or immediately adjacent to the Transmission Study Corridor (Exhibit 3) (NM OCD 2026). While historic leases exist across central New Mexico, most are closed or inactive, and the region does not contain major producing hydrocarbon basins.

Pipeline infrastructure is present within Torrance, Socorro, and Valencia Counties. National Pipeline Mapping System data indicate that active natural gas transmission pipelines and hazardous liquid pipelines occur within or adjacent to the Transmission Study Corridor. In Socorro County, the Transmission Study Corridor is located near interstate natural gas transmission pipelines operated by El Paso Natural Gas Company and Transwestern Pipeline Company. In Valencia County, the Transmission Study Corridor intersects an active natural gas transmission pipeline operated by New Mexico Gas Company and a hazardous liquid pipeline operated by Magellan Pipeline Company, LP. In Torrance County, the Transmission Study Corridor intersects active natural gas transmission pipelines operated by E.M.W. Gas Association.

## Mineral Resources

Mining has historically contributed to the economy of central New Mexico, but active mining operations are limited within the Transmission Study Corridor. Based on New Mexico Mining and Minerals Division records:

- Most mining registrations in the region involve aggregate, caliche, and dimension stone.
- A smaller number involve metallic minerals such as iron, copper, gold, and silver.
- Only a few mines within the broader region remain active, primarily aggregate operations.

The USGS' Mineral Resources Data System indicates that several past producers, prospects, and mineral occurrences are located within or near the Transmission Study Corridor (Exhibit 4). In addition, NM MMD records identify several registered mining facilities within the corridor. These include the permanently closed Abo Viejo Quarry in Valencia County, the Valencia County Pit in Valencia County, and the Sais Quarry and Socorro County Pit in Socorro County. Mining activities associated with these facilities are primarily related to aggregate and construction materials. No major mineral deposits or large-scale active mining operations occur within the Transmission Study Corridor.

# 3.5 Soil Resources

## 3.5.1 Data Sources

The following data sources were reviewed to assess the existing soil resources of the portions of Torrance, Socorro, and Valencia Counties where the Project is proposed.

- USDA NRCS. 2026. *Web Soil Survey*. Accessed June 2026 from: https://websoilsurvey.nrcs.usda.gov/.

## 3.5.2 Current Conditions and Trends, Regional Overview

The corridor encompasses approximately 66,000 acres. For the purposes of this analysis, Table 3-3 below focuses on soil resource characteristics with the greatest relevance to transmission line siting, construction, operation, and maintenance. Prime Farmland and Farmland of Statewide Importance are identified because of their agricultural value and potential implications for land use and construction activities. Hydric soils are included due to their association with wetland conditions and potential considerations related to drainage, soil disturbance, and permitting. Rock outcrop, steep, and stony soils are identified because they may influence access, foundation design, construction methods, and reclamation activities. Table 3-4 (located in Appendix B) identifies all existing soil resources located within the Transmission Study Corridor. For a visual representation of the soil resources within the Transmission Study Corridor, refer to Exhibit 5.

**Table 3-3 Soil Resource Characteristics Relevant to Transmission Line Development in the Transmission Study Corridor**

| Category | Estimated Acreage | Percent of Transmission Study Corridor |
|---|---|---|
| Farmland of Statewide Importance | 13,200 | 20% |
| Prime Farmland | 5,940 | 9% |
| Rock Outcrop/Steep/Stony Soils | 4,620 | 7% |
| Hydric Soils | 330 | 0.5% |
| **Total** | 24,090 | 36.5% |

Source: USDA NRCS. 2026. *Web Soil Survey*. Accessed June 2026 from: https://websoilsurvey.nrcs.usda.gov/.

# 3.6 Paleontological Resources

## 3.6.1 Data Sources

The following data sources were reviewed to assess paleontological resources of the portions of Torrance, Socorro, and Valencia Counties where the Project is proposed:

- BLM National Potential Fossil Yield Classification (PFYC) MapServer. 2023. U.S. Department of the Interior, BLM. Accessed: June 2026.
- BLM. 2026a. Handbook 8270 – Paleontological Resource Management. Accessed: June 2026.
- Paleobiology Database. Accessed June 2026 from: https://paleobiodb.org. Search Terms – State New Mexico / County: Socorro, Torrance, and Valencia.
- Society of Vertebrate Paleontology. 2026. *Best Practice Guidelines for Mitigation of Adverse Impacts on Paleontological Resources*. First edition released October 2025; revised May 2026
- Society of Vertebrate Paleontology. 2021. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. Impact Mitigation Guidelines Revision Committee.
- Tedford, R.H., L.B. Albright III, A.D. Barnosky, I. Ferrusquia-Villafranca, R.M. Hunt Jr., J.E. Storer, C.C. Swisher III, M.R. Voorhies, S.D. Webb, and D.P. Whistler. 2004. *Mammalian Biochronology of the Arikareean Through Hemphillian Interval in Late Cretaceous and Cenozoic Mammals of North America – Biostratigraphy and Geochronology.* M.O. Woodburne, editor. Columbia University Press, New York.

### 3.6.2 Current Conditions and Trends, Regional Overview

Geology within the three counties crossed by the Transmission Study Corridor includes Proterozoic-, Paleozoic-, and Cenozoic-aged rocks with varying degrees of potential for containing paleontological resources, the fossilized evidence of life on Earth including body fossils, plant fossils, trackways, etc. (Exhibit 6). Paleontological resources have been collected from each of the three counties crossed (Torrance, Socorro, and Valencia Counties) by the Transmission Study Corridor (Paleobiology Database 2026).

## Potential Fossil Yield Classification System

The BLM uses the PFYC system as a uniform tool to assess potential occurrences of paleontological resources and evaluate possible impacts using mapped geologic units (Exhibit 7) (BLM 2023). The PFYC system provides baseline guidance for assessing paleontological resources as part of initial planning efforts and determining the need for further assessment of Project impacts on resources. The primary PFYC categories are as follows:

**Class 1 – Very Low.** Geologic units that are not likely to contain recognizable paleontological resources. Units assigned to Class 1 typically have one or more of the following characteristics:

- Geologic units are igneous or metamorphic, excluding air-fall and reworked volcanic ash units.
- Geologic units are Precambrian in age.

**Class 2 – Low.** Geologic units that are not likely to contain paleontological resources. Units assigned to Class 2 typically have one or more of the following characteristics:

- Field surveys have verified that significant paleontological resources are not present or are very rare.
- Units are generally younger than 10,000 years before present.
- Recent aeolian deposits.

**Class 3 – Moderate.** Sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence. Units assigned to Class 3 have some of the following characteristics:

- Marine in origin with sporadic known occurrences of paleontological resources.
- Paleontological resources may occur intermittently, but abundance is known to be low.
- Units may contain significant paleontological resources, but these occurrences are widely scattered.
- The potential for unauthorized land use to impact a significant paleontological resource is known to be low to moderate.

**Class 4 – High.** Geologic units that are known to contain a high occurrence of paleontological resources. Units assigned to Class 4 typically have the following characteristics:

- Significant paleontological resources have been documented but may vary in occurrence and predictability.
- Surface-disturbing activities may adversely affect paleontological resources.
- Rare or uncommon fossils, including nonvertebrate (such as soft body preservation) or unusual plant fossils, may be present.
- Illegal collecting activities may impact some areas.

**Class 5 – Very High.** Highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources. Units assigned to Class 5 have some or all of the following characteristics:

- Significant paleontological resources have been documented and occur consistently.
- Paleontological resources are highly susceptible to adverse impacts from surface-disturbing activities.
- Unit is frequently the focus of illegal collecting activities.

Beyond the five-part classification scheme, geologic units may be assigned to Class U – Unknown where there is not sufficient data to make a uniform paleontological potential classification. Class U assigned geologic units may be assigned a provisional PFYC Class on a project-by-project basis based on local information and literature and refined by ground-truthing field surveys.

## Geologic Units

Rocks within the Transmission Study Corridor were deposited during four different time periods from oldest to youngest: Proterozoic, Paleozoic (Pennsylvanian to Permian), Tertiary, and Quaternary and include metamorphic, igneous, and sedimentary rocks.

The oldest rocks in the Transmission Study Corridor are Proterozoic-aged metamorphic rocks that are present where the alignment crosses from Valencia and Socorro Counties into Torrance County. These rocks are composed of volcanic rocks that have been metamorphosed into gneiss rock (BLM 2023). Metamorphic rocks do not typically contain paleontological resources and are assigned to PFYC 1 with very low paleontological sensitivity.

The Paleozoic-aged rocks within the Transmission Study Corridor include the Abo, Bursum, and Yeso Formations and are mapped in the extreme eastern portions of Valencia and Socorro Counties and the western part of Torrance County in the Manzano Mountains. These rock units together record a transition from marine environments with ammonites, brachiopods, and sea scorpions (Pennsylvanian) to terrestrial environments with amphibians and early reptiles

(Permian) on what was once the west coast of the continent. These older rocks have been uplifted and occur at higher elevations than the younger rocks that fill the Rio Grande Valley.

The Tertiary-aged rocks of the Transmission Study Corridor are present in the Rio Grande Valley and generally include the rocks of the Santa Fe Group, a broad term that includes many different formations but mapped generally by the BLM as a single, undifferentiated unit. Santa Fe Group rocks in the Transmission Study Corridor have been assigned the highest PFYC of 5 based on the number and diversity of localities and their fossils that record the evolutionary history, mostly of mammals, during the Miocene of North America. The Tertiary-aged fossils of the Santa Fe Group include early representatives of modern mammal groups including camels, early pronghorns, dogs, rhinoceroses, hedgehogs, and horses along with extinct lineages including catlike carnivores and horned rodents (Paleobiology Database 2026; Tedford et al. 2004).

The youngest rocks in the Transmission Study Corridor were deposited during the Quaternary and include recent river deposits of the Rio Grande, active eolian dune fields, and alluvial fans. Many of these deposits are young enough to not contain paleontological resources and Quaternary-aged rocks like these typically receive PFYC ratings of 2 unless there is substantial evidence of local paleontological resources that warrant elevated PFYC ratings.

The geologic units crossed by the Transmission Study Corridor and ROW are summarized in Table 3-5 organized by youngest (top) to oldest (bottom) including the geologic unit name and symbol, age, PFYC, any known fossils from the three counties, and assigned paleontological sensitivity.

**Table 3-5 Geology Units and Paleontological Sensitivity in Transmission Study Corridor and Project ROW**

| Name (Map Symbol) | Transmission Study Corridor / ROW | Age | PFYC | Known Fossils | Paleontological Sensitivity |
|---|---|---|---|---|---|
| Alluvium (Qa) | Both | Quaternary | U (2) | None | Low |
| Undivided alluvium of broad swales (Qayu) | Both | Quaternary | 2 | None | Low |
| Lacustrine and playa lake deposits (Qpl) | Both | Quaternary | 2 | None | Low |
| Dune Sands (Qedy) | Both | Quaternary | U (2) | None | Low |
| Low-relief sand sheets (Qesy) | Both | Quaternary | 2 | None | Low |
| Low-relief sand sheets (Qeso) | Both | Quaternary | U (2) | None | Low |

| Name (Map Symbol) | Transmission Study Corridor / ROW | Age | PFYC | Known Fossils | Paleontological Sensitivity |
|---|---|---|---|---|---|
| Younger Rio Grande alluvium (Qrdy) | Both | Quaternary | 2 | None | Low |
| Axial fluvial facies along Abo Arroyo (Qsx) | Both | Quaternary | U (2) | None | Low |
| Abo Arroyo-derived piedmont facies (Qsa) | Transmission Study Corridor | Quaternary | U (2) | None | Low |
| Piedmont alluvial deposits: upper and middle Quaternary (Qp) | Both | Quaternary | 2 | None | Low |
| Older alluvial deposits of upland plains and piedmont areas (Qoa) | Both | Quaternary | 2 | None | Low |
| Axial fluvial facies along Rio Grande (QTsx) | Both | Pliocene to Quaternary | U (3) | None | Moderate |
| Santa Fe Group (QTs) | Both | Miocene | 5 | Camel, early pronghorn, canid, felid, rhinoceros, horned rodent, hedgehog, horse | High |
| Basalt Flows (Tnb) | ROW | Oligocene-Miocene | 1 | None | Very Low |
| Abo Formation (Pa) | Both | Permian | 4 | Plants, amphibians, early reptiles | High |
| Yeso Formation (Py) | Both | Permian | 3 | Gastropods, ammonites, bivalves | Moderate |
| Bursum Formation (Pb) | Both | Pennsylvanian to Permian | 3 | Plants, brachiopods, ammonites, sea scorpions, insects | Moderate |
| Pennsylvanian rocks, undivided (IP) | Both | Pennsylvanian | U (2) | None | Low |
| Middle Proterozoic plutonic rocks (Yp) | Both | Proterozoic | 1 | None | Very Low |
| Metamorphic rocks | Both | Proterozoic | 1 | None | Very Low |

Note: Geologic units in the Project area with PFYC U-Unknown designations have been assigned provisional PFYC ratings specific to this Project based on the local geology and review of publicly available literature and locality information.

# 3.7 Water Resources

## 3.7.1 Data Sources

The following data sources were reviewed to assess the existing water resources of the portions of Torrance, Socorro, and Valencia Counties in the Transmission Study Corridor where the Project is proposed.

- Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell). 2026. *Desktop Wetland Evaluation Dataset*
- USEPA 2026c. Ecoregions of North America. Accessed June 2026 from: https://www.epa.gov/eco-research/ecoregions-north-america.
- USEPA 2026d. WATERS GeoViewer 2.0. Accessed June 2026 from: https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system.
- Federal Emergency Management Agency (FEMA). 2026. Flood Map Service Center. Accessed June 2026 from: https://msc.fema.gov/portal/search.
- Playa Lakes Joint Venture (PLJV). 2026. Playas. Accessed June 2026 from: https://pljv.org/playas/.
- United States Fish and Wildlife Service (USFWS). 2026a. National Wetlands Inventory (NWI) Data Mapper. Accessed June 2026 from: https://www.fws.gov/wetlands/data/mapper.html.
- USGS. 2026e. National Hydrography Dataset (NHD). Accessed June 2026 from: https://nhd.usgs.gov/tools.html.
- Western Regional Climate Center. 2026. Climate of New Mexico. Accessed June 2026 from: https://wrcc.dri.edu/Climate/narrative_nm.php.

## 3.7.2 Current Conditions and Trends, Regional Overview

The Transmission Study Corridor is within the Albuquerque Basin, Rio Grande Floodplain, Conifer Woodlands and Savannas, Pinyon-Juniper Woodlands and Savannas, Central New Mexico Plains, and Pluvial Lake Basins Level IV Ecoregions, which are all included in the Arizona/New Mexico Plateau and the Southwestern Tablelands Level III Ecoregions (USEPA 2026c) (Exhibit 8). Summer precipitation in central New Mexico occurs primarily as short-duration, often intense thunderstorms associated with the North American Monsoon. July and August are the wettest months, typically accounting for approximately 35% to 45% of annual precipitation. Overall, the majority of annual moisture, generally on the order of 70% to 80%, falls during the warm season, with peak contributions occurring between June and September (Western Regional Climate Center 2026).

Flooding in New Mexico is typically localized. Intense summer thunderstorms associated with the North American Monsoon can produce heavy rainfall over small areas in a short period of time. Due to steep terrain, sparse vegetation, and soils with limited infiltration capacity, these storms often generate rapid runoff that results in flash flooding. Normally dry arroyos can experience sudden flows and may overtop banks for several hours, disrupting transportation corridors and damaging infrastructure such as bridges, culverts, and roadways, particularly in developed areas. In addition to monsoon-driven events, flooding can also occur from spring snowmelt between April and June, especially when combined with rainfall, and from broader-scale precipitation events during late summer and early fall that affect larger river systems (Western Regional Climate Center 2026).

Playas, also referred to as playa lakes, are shallow, clay-lined depressions located at the lowest point of a watershed across the Great Plains region. These basins capture and temporarily hold water from precipitation and surface runoff, forming ephemeral wetlands that typically dry out through evaporation and infiltration. Although playas are hydrologically closed and often dry for much of the year, they play a critical role in regional groundwater recharge. Water stored in playas gradually infiltrates underlying soils and contributes to the High Plains (Ogallala) Aquifer, with recharge rates estimated to be 10 to 1,000 times greater than those observed in surrounding croplands and rangelands. A series of dry lake beds and playas occur in the Estancia Basin known as the Pinos Wells Playa. The Laguna del Perro, located east of Willard, New Mexico, is the largest feature of this type, located in the Pluvial Lake Basins USEPA Level IV Ecoregion (USEPA 2026c). No playas have been identified within the defined Transmission Study Corridor (PLJV 2026).

The Transmission Study Corridor crosses ten watersheds (Exhibit 9; Table 3-6). According to the USGS NHD, the Transmission Study Corridor crosses a total of approximately 65 perennial, intermittent, and ephemeral stream crossings, including overlap of approximately 4.3 linear miles of Abo Arroyo and approximately 1.1 miles of the Rio Grande (USGS 2026e; USEPA 2026d).

**Table 3-6 Transmission Study Corridor Watersheds**

| Watershed | HUC 10* |
|---|---|
| Canon Monte Largo-Rio Grande | 1302020306 |
| Pino Draw-Rio Grande | 1302020307 |
| Abo Arroyo | 1302020305 |
| Arroyo de Manzano | 1305000110 |
| Chavez Draw-Frontal Laguna del Perro | 1305000109 |
| Laguna de Perro | 1305000112 |
| Pueblo Blanca Canyon | 1305000107 |
| McGillivray Draw | 1305000106 |
| City of Encino | 1305000201 |

| Watershed | HUC 10* |
|---|---|
| Town of Cedarvale | 1305000202 |

*10-digit Hydraulic Unit Code (HUC)
Source: USEPA 2026d

The Transmission Study Corridor overlaps approximately 2.3 miles of FEMA-designated Flood Zone A in Valencia County, representing areas with a 1% annual chance of flooding (FEMA 2026) (Exhibit 10). These areas occur primarily within or immediately adjacent to the Rio Grande and its associated floodplain. The Transmission Study Corridor also overlaps approximately 35.4 miles of FEMA-designated Flood Zone X within Valencia County, which indicates minimal to moderate flood risk (FEMA 2026). FEMA floodplain mapping is limited in Socorro County (with no mapped floodplains within the Transmission Study Corridor) and is not available for Torrance County.

The USFWS NWI identifies five surface water feature types within the Transmission Study Corridor: freshwater wetlands, freshwater forested/shrub, freshwater ponds, lakes, and riverine features (Exhibit 11). Approximately 488.9 acres, (less than 1%) of the Transmission Study Corridor overlaps NWI-mapped resources, which are predominantly ephemeral riverine features (Table 3-7).

**Table 3-7 Transmission Study Corridor Wetlands based on NWI Data**

| Wetland Type | Estimated Acreage | Percentage of Transmission Study Corridor |
|---|---|---|
| Riverine | 373.1 | 0.56% |
| Freshwater Forested/Shrub | 54.9 | 0.08% |
| Lake | 38.5 | 0.06% |
| Freshwater Emergent Wetland | 13.5 | 0.02% |
| Freshwater Pond | 8.9 | 0.01% |
| **Total** | **488.9** | **<1%** |

Source: USFWS 2026a

Burns & McDonnell conducted a desktop assessment to identify areas within the Transmission Study Corridor with the potential to support wetlands and other aquatic resources. The assessment incorporated data from multiple geospatial sources, which were integrated into a single GIS layer and overlaid on the Transmission Study Corridor. Wetland occurrence potential was then classified based on the degree of overlap among the datasets. Ratings ranged from Improbable, where no desktop data sources indicated the presence of a wetland or waterbody, to High, where hydric soils, interpreted wetlands, and NWI features overlapped. The results of the assessment are summarized in Table 3-8.

**Table 3-8 Wetland Probability Ranking for the Transmission Study Corridor**

| Wetland Probability Occurrence Ranking | Estimated Acreage | Percentage of Transmission Study Corridor |
|---|---|---|
| High | 120 | 0.18% |
| Medium/High | 358 | 0.54% |
| Medium | 1,081 | 1.64% |
| **Subtotal** | 1,559 | 2.36% |
| Medium/Low | 26 | 0.04% |
| Low | 159 | 0.24% |
| **Subtotal** | 185 | 0.28% |
| Improbable | 64,044 | 97.36% |
| **Total** | **65,788**[a] | **100%** |

[a]Transmission Study Corridor acreage totals may vary due to differences in data sources, spatial accuracy, and methodologies.
Source: Burns & McDonnell 2026

The majority of the Transmission Study Corridor received a designation of "Improbable" wetland occurrence (Burns & McDonnell 2026). While the actual location and extent of wetlands and waterbodies, as determined by on-site wetland delineation, may differ from the desktop evaluation, the results of the desktop evaluation are useful to indicate areas where impacts to probable wetlands and waterbodies should be avoided or minimized.

# 3.8 Flora and Fauna

## 3.8.1 Data Sources

The following data sources were reviewed to assess the existing biological resources of the portions of Torrance, Socorro, and Valencia Counties in the Transmission Study Corridor where the Project is proposed.

- Avian Conservation Partners. 2017. Bald Eagle. http://avianconservationpartners-nm.org/wp-content/uploads/2017/01/Bald-Eagle.pdf. Accessed 22 June 2026.
- Avian Power Line Interaction Committee (APLIC). 2026. *Suggested Practices for Avian Protection on Power Lines*. https://www.aplic.org/documents. Accessed June 2026.
- BLM. 2024. BLM NM Sensitive Species Update. https://www.blm.gov/programs/fish-and-wildlife/threatened-and-endangered/state-te-data/new-mexico. Accessed August 2026.
- Chung-MacCoubrey, Alice L. 2025. "Use of Pinyon-Juniper Woodlands by Bats in New Mexico." *Forest Ecology and Management,* vol. 204, nos. 2–3, pp. 209–220, https://research.fs.usda.gov/treesearch/61127.

- DeLong, John P., and Sartor O. Williams III. 2006. *Status Report and Biological Review of the Gray Vireo in New Mexico.* NMDGF. https://www.unm.edu/~jdelong/NM%20Gray%20Vireo%20Review%20Final.pdf.
- eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org. Accessed August 2026.
- GeoSystems Analysis, Inc. 2026. Habitat Assessment for Mid-State Transmission.
- International Union for Conservation of Nature (IUCN). 2025. The IUCN Red List of Threatened Species, Version 2025-2. https://www.iucnredlist.org/. Accessed 22 June 2026.
- Middle Rio Grande Endangered Species Collaborative Program. 2025. *2024 Middle Rio Grande Southwestern Willow Flycatcher Study Results, Middle Rio Grande Project, New Mexico, Upper Colorado Basin Region*; Technical Report No. ENV-2025-059. Prepared by Bureau of Reclamation, Technical Service Center, Denver, Colorado. Available at: https://webapps.usgs.gov/mrgescp/documents/2024-Middle-Rio-Grande-Southwestern-Willow-Flycatcher-Study-Results.pdf. Accessed June 2026.
- Natural Atlas. 2026. Southwestern Tablelands Ecoregion. https://naturalatlas.com/ecoregions/southwestern-tablelands-2767690. Accessed 18 June 2026.
- NMDGF. 2026a. New Mexico Crucial Habitat Assessment Tool (NM CHAT). https://nmchat.org/. Accessed 22 June 2026.
- NMDGF. 2026b. New Mexico Environmental Review Tool (NMERT). Natural Heritage New Mexico, and NatureServe. https://nmert.org/. Accessed June 2026.
- New Mexico Rare Plant Technical Council (NMRPTC). 1999. New Mexico Rare Plants. Albuquerque, NM: New Mexico Rare Plants Home Page. https://nmrareplants.unm.edu. Accessed 22 June 2026.
- RJH Consultants, Inc., and Tetra Tech, Inc. 2025. *2024 Southwestern Willow Flycatcher Survey Results – Belen Reach, Middle Rio Grande, New Mexico.* Prepared for Bureau of Reclamation, Albuquerque Area Office, New Mexico. Available at: https://webapps.usgs.gov/mrgescp/documents/2024-Belen-Reach-SWFL_Report_Final_TetraTech.pdf. Accessed June 2026.
- Bureau of Reclamation. 2024. *Middle Rio Grande Yellow-billed Cuckoo Study Results – 2023: Isleta Pueblo to Elephant Butte Reservoir, New Mexico, Upper Colorado Basin Region.* U.S. Department of the Interior, Bureau of Reclamation, Technical Report No. Authors Rebecca Siegle, Rebecca Siegle, Stanton Moore, and Ethan Reibsome. ENV-2024-020, August, https://webapps.usgs.gov/mrgescp/documents/2023-Middle-Rio-Grande-Yellow-billed-Cuckoo-Study-Results.pdf.

- USFS. 2013a. R3 Regional Forester's Sensitive Species: Animals. https://www.fs.usda.gov/sites/nfs/files/legacy-media/r03/complete-animals.pdf. Accessed August 2026.
- USFS. 2013b. R3 Regional Forester's Sensitive Species: Plants. https://www.fs.usda.gov/sites/nfs/files/legacy-media/r03/complete-plant.pdf. Accessed August 2026.
- USFS. 2026a. Olive-sided Flycatcher (*Contopus cooperi*). Rio Grande National Forest. https://www.fs.usda.gov/sites/nfs/files/legacy-media/riogrande/fp%20ass5%20Olive-sided%20Flycatcher.pdf. Accessed June 2026.
- USFWS. 2026b. Southwestern Willow Flycatcher (*Empidonax traillii extimus*) species profile. https://www.fws.gov/species/southwestern-willow-flycatcher-empidonax-traillii-extimus. Accessed 22 June 2026.
- USFWS. 2026c. Yellow-billed Cuckoo (*Coccyzus americanus*), https://www.fws.gov/species/yellow-billed-cuckoo-coccyzus-americanus. Accessed 22 June 2026.
- USFWS. 2026d. Information for Planning and Consultation (IPaC), https://ipac.ecosphere.fws.gov/. Accessed 22 June 2026.
- USFWS. 2026e. Monarch butterfly (*Danaus plexippus*), https://www.fws.gov/species/monarch-danaus-plexippus. Accessed June 2026.
- USGS. 2026f. Western Migrations. Accessed August 2026. https://apps.usgs.gov/western-migrations/
- USGS. 2026g. Gap Analysis Project. Accessed June 2026. https://www.usgs.gov/programs/gap-analysis-project.Accessed
- Waters, Margaret. "Thamnophis proximus (Western Ribbon Snake)." Animal Diversity Web, University of Michigan Museum of Zoology. https://animaldiversity.org/accounts/Thamnophis_proximus/. Accessed 22 June 2026.
- Wickersham, Lynn E., Kristine Johnson, Giancarlo Sadoti, Teri Neville, John Wickersham. 2020. "Habitat Use at Multiple Scales by Nesting Gray Vireos in New Mexico." *Piñon-Juniper Habitats: Status and Management for Wildlife*, edited by Karl Malcolm et al., U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, pp. 31–33, https://www.fs.usda.gov/rm/pubs_series/rmrs/proc/rmrs_p077/rmrs_p077_031_033.pdf.
- Zwank, Phillip J., Billy L. Tarrant, Raul Valdez and Dennis L. Clason. 2026. "Wintering Bald Eagle Populations and Behavior in the Middle Rio Grande Basin, New Mexico." The Southwestern Naturalist, vol. 41, no. 2, June 1996, pp. 149–54. JSTOR, http://www.jstor.org/stable/30055099. Accessed 22 June 2026.

## 3.8.2 Current Conditions and Trends, Regional Overview

As discussed in Section 3.7.2, the Transmission Study Corridor is located within Arizona/New Mexico Plateau and the Southwestern Tablelands Level III Ecoregions Southwestern Tablelands Level III Ecoregion (Exhibit 8) (USEPA 2026c). The Southwestern Tablelands Ecoregion is a semi-arid, dissected plateau landscape characterized by mesas, canyons, and grassland-dominated vegetation. The Arizona/New Mexico Plateau Ecoregion is characterized by high-elevation mesas, plateaus, and broad valleys supporting semi-arid ecosystems dominated by pinyon-juniper woodlands, interspersed with shrublands and grasslands. Both Ecoregions support plant communities adapted to low precipitation and periodic drought. Land use is predominantly rangeland grazing, with only limited irrigated agriculture and other intensive agricultural uses occurring in localized areas, which is constrained by the region's arid climate, limited water availability, rugged topography, and the prevalence of shallow, rocky, or otherwise less productive soils. Hydrologic systems are generally ephemeral, and erosion processes have produced a more rugged terrain than adjacent High Plains regions (Natural Atlas 2026).

More specifically, the Transmission Study Corridor is within the Albuquerque Basin, Rio Grande Floodplain, Conifer Woodlands and Savannas, Pinyon-Juniper Woodlands and Savannas, Central New Mexico Plains, and Pluvial Lake Basins Level IV Ecoregions, which are all included in the Arizona/New Mexico Plateau and the Southwestern Tablelands Level III Ecoregion (USEPA 2026c). The Level IV ecoregions along the Rio Grande corridor and surrounding uplands in central New Mexico support a diverse assemblage of plant communities shaped by elevation, hydrology, and soil conditions. The Albuquerque Basin and Rio Grande Floodplain are dominated by riparian bosque vegetation, including Rio Grande cottonwood (*Populus deltoides ssp. wislizenii*), coyote willow (*Salix exigua*), and non-native species such as saltcedar (*Tamarix* spp.) and Russian olive (*Elaeagnus angustifolia*), with adjacent wetlands supporting cattail (*Typha* spp.) and bulrush (*Schoenoplectus* spp.).

Surrounding uplands transition into Central New Mexico Plains and Pluvial Lake Basin systems characterized by desert grasslands and shrublands, with blue grama (*Bouteloua gracilis*), galleta grass (*Pleuraphis jamesii*), fourwing saltbush (*Atriplex canescens*), and greasewood (*Sarcobatus vermiculatus*) in low-lying, saline areas. At higher elevations and more dissected terrain, pinyon-juniper woodlands and savannas and conifer woodlands and savannas are common, supporting pinyon pine (*Pinus edulis*), one-seed and Utah juniper (*Juniperus monosperma, J. osteosperma*), and, in cooler or higher settings, ponderosa pine (*Pinus ponderosa*) with an understory of shrubs such as mountain mahogany (*Cercocarpus* spp.) and Gambel oak (*Quercus gambelii*). Together, these ecoregions form a mosaic of riparian, grassland, shrubland, and woodland communities that reflect strong gradients in moisture availability and elevation across the landscape.

Known sensitive habitats for federal and state threatened and endangered species were reviewed using the IPaC and New Mexico Environmental Review tools (Exhibit 12). USFWS-designated Critical Habitat overlaps the Transmission Study Corridor for the following species:

Southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*), and Rio Grande silvery minnow (*Hybognathus amarus)*.

## USGS Gap Analysis Project

The following table summarizes vegetation and land cover types within the Transmission Study Corridor based on the USGS Gap Analysis Project (GAP) land cover dataset (USGS 2026g). The GAP dataset includes mapped vegetation and land cover patterns based on satellite imagery, field-verified vegetation data, and standardized ecological classification systems. The distribution of the habitat types across the Transmission Study Corridor is shown in Table 3-9 and presented in Exhibit 13.

**Table 3-9 GAP Land Cover within the Transmission Study Corridor**

| Habitat | Acres within Transmission Study Corridor |
|---|---|
| Shrubland & Grassland | 29,753.9 |
| Semi-Desert | 23,121.4 |
| Forest and Woodland | 6,049.3 |
| Nonvascular and Sparse Vascular Rock Vegetation | 5,386.0 |
| Developed and Other Human Use | 1,057.3 |
| Agricultural Vegetation | 348.4 |
| Open Water | 65.1 |
| **Total** | **65,781.4[a]** |

[a]Transmission Study Corridor acreage totals may vary due to differences in data sources, spatial accuracy, and methodologies.
Source: USGS 2026g

## Field Verified Habitat Data

GeoSystems Analysis conducted a site reconnaissance from July 27, 2026, to August 7, 2026, to verify habitat data within the 300-foot survey corridor (150 feet on each side of the proposed transmission centerline). Table 3-10 shows the habitats observed and their associated acreage within the 300-foot survey corridor. The field verified distribution of the following habitat types is presented in Exhibit 14.

**Table 3-10 Field Verified Habitat within the 300-foot Survey Corridor**

| Habitat | Acres within 300-foot Survey Corridor |
|---|---|
| Grassland | 1,628.6 |
| Desert Scrub | 1,398.5 |
| Woodland | 687.6 |

| Habitat | Acres within 300-foot Survey Corridor |
|---|---|
| Agriculture/Developed | 87.8 |
| Riparian | 16.9 |
| **Total** | **3,819.4** |

Source: GeoSystems Analysis 2026

The field reconnaissance effort confirmed that grassland, shrubland/semi-desert scrub, and woodlands are the most common habitat types across the survey corridor. Dominant species observed during field surveys include juniper (*Juniperus* spp.), soaptree yucca (*Yucca elata*), fourwing saltbush (*Atriplex canescens*), western honey mesquite (*Prosopis glandulosa var. torreyana*), pinyon pine (*Pinus edulis*), Indian ricegrass (*Achnatherum hymenoides*), and blue grama (*Bouteloua gracilis*)(GeoSystems Analysis, Inc. 2026).

## Sensitive Species

Given the habitat types present within the relevant ecoregions, the potential for occurrence of special-status plant and wildlife species was evaluated based on species range, habitat suitability, mobility, population characteristics, and documented occurrences within the Transmission Study Corridor (USFWS 2026b, 2026c, and 2026d). Based on these factors, the likelihood of occurrence was defined for each special-status species using the following categories:

**None** – outside the species known range, no suitable habitat within the Transmission Study Corridor, restricted mobility, and small population size.

**Not Likely** – outside the species known range and suitable habitat appears absent within the Transmission Study Corridor; however, due to the species mobility and population size, species may occur within the Transmission Study Corridor during migration or other times of the year.

**Possible** – is located within the range of the species but contains marginal suitable habitat; species highly mobile and may occur year-round.

**Likely** – is located within the range of the species and contains suitable habitat; records of species occurrence in the surrounding area, but no records from the Transmission Study Corridor.

**Occurs** – records of species occurrence within the Transmission Study Corridor based on USFWS/NMDGF data or other survey data.

Brief species accounts are written for special-status and other protected species whose likelihood of occurrence was either possible, likely, or known to occur.

Migratory birds are federally protected by the Migratory Bird Treaty Act (MBTA) and may forage, nest, or migrate or occur through the Transmission Study Corridor. Under the MBTA, it is illegal

for anyone to “take” migratory bird species except under the terms of a valid permit issued pursuant to federal regulations.

## Federally Listed Species

Eleven species that are federally listed under the Endangered Species Act (ESA) as threatened, endangered, proposed, or experimental (nonessential) may occur within the Transmission Study Corridor. Table 3-11 summarizes the list of federally protected species with potential to occur, and an analysis of potential occurrence based on literature review of species’ specific habitat requirements (USFWS 2026d). The GAP map (Exhibit 13) depicts the vegetation types present in the vicinity of the Transmission Study Corridor, which are discussed below as potential suitable species habitats.

**Table 3-11 Federally Listed Species with potential to occur in the Transmission Study Corridor**

| Common Name | Scientific Name | Federal Status* | IUCN Status | Likelihood of Occurrence |
|---|---|---|---|---|
| **Birds** | | | | |
| Mexican Spotted Owl | *Strix occidentalis* | T | NT | **None;** the Transmission Study Corridor does not include high mixed conifer forests or canyonland habitat. |
| Northern Aplomado Falcon | *Falco femoralis septentrionalis* | EXPN | LC | **Not likely;** the Transmission Study Corridor is located north of the species known range, however, potential suitable habitat, including yucca grasslands and low shrublands does exist within the Transmission Study Corridor. |
| Piping Plover | *Charadrius melodus* | T | NT | **None;** the species does not breed in New Mexico, and suitable stopover habitat, such as sandy or gravelly shorelines associated with lakes and reservoirs, is limited within the Transmission Study Corridor. |
| Southwestern Willow Flycatcher | *Empidonax traillii extimus* | E | LC | **Likely;** the Transmission Study Corridor overlaps USFWS-designated Critical Habitat for this species along the Rio Grande, which includes dense riparian stands of willows, salt cedar, box elder, and cottonwood trees. |
| Yellow-billed Cuckoo | *Coccyzus americanus* | T | LC | **Likely;** the Transmission Study Corridor overlaps USFWS-designated Critical Habitat for this species along the Rio Grande, which includes riparian woodlands dominated by cottonwood, willows, and dense mesquite. |

| Common Name | Scientific Name | Federal Status* | IUCN Status | Likelihood of Occurrence |
|---|---|---|---|---|
| **Mammals** | | | | |
| Mexican Wolf | *Canis lupus baileyi* | EXPN | LC | **Not Likely**; the species population is almost entirely confined to the Mexican Wolf Experimental Population Area in SW NM and eastern AZ. |
| New Mexico Meadow Jumping Mouse | *Zapus hudsonius luteus* | E | LC | **Not Likely;** the Transmission Study Corridor does not support high-quality wet meadow or riparian habitat, and the species is largely absent from the Middle Rio Grande. The nearest known population occurs approximately 30 miles south near Bosque del Apache, where habitat consists of dense herbaceous wetlands and irrigated floodplain areas. |
| **Plants** | | | | |
| Pecos Sunflower | *Helianthus paradoxus* | T | LC | **Not Likely;** the Transmission Study Corridor crosses permanently saturated soils that the species require; however, the species typically prefers spring-fed systems with saline/alkaline conditions which are rare/absent across the Transmission Study Corridor. |
| **Insects** | | | | |
| Monarch Butterfly | *Danaus plexippus* | PT | LC | **Possible;** milkweed (*Asclepias* sp.) individuals, the host plant for monarch butterflies, were observed throughout the Transmission Study Corridor during field surveys. |
| Suckley's Cuckoo Bumble Bee | *Bombus suckleyi* | PE | CR | **Not Likely;** the species has been documented in NM, though occurrence is primarily in northern, higher-elevation areas (e.g., Sangre de Cristo Mountains). |
| **Fish** | | | | |
| Rio Grande Silvery Minnow | *Hybognathus amarus* | E | EN | **Likely;** the Transmission Study Corridor overlaps with USFWS-designated Critical Habitat for this species, which is limited to water with slow to moderate flow in sections of the Rio Grande that have perennial flows of water. |

*E = Endangered; T = Threatened; PE = Proposed Endangered; PT = Proposed Threatened; EXPN = Experimental Population, nonessential

**LC = Least Concern; NT = Near Threatened; VU = Vulnerable; EN = Endangered; CR = Critically Endangered

USFWS-designated Critical Habitat overlaps portions of the Transmission Study Corridor for the following species: Rio Grande silvery minnow, southwestern willow flycatcher, and yellow-billed cuckoo.

## State-Listed Species

The NMDGF Biota Information System of New Mexico (BISON-M) online inventory was accessed in February 2026 and was reviewed for state-listed species that may potentially occur within the Transmission Study Corridor (NMDGF 2026b). Nine state-listed endangered or threatened wildlife species were identified by NMDGF as potentially occurring within the Transmission Study Corridor; one state of New Mexico Rare Plant Conservation Strategy plant species was identified as potentially occurring within the Transmission Study Corridor. State-listed species, and their likelihood of occurring in the Transmission Study Corridor, are shown in Table 3-12 below.

**Table 3-12 State-listed Species with potential to occur in the Transmission Study Corridor**

| Common Name | Scientific Name | State Status | IUCN Status | Likelihood of Occurrence |
|---|---|---|---|---|
| **Birds** | | | | |
| Bald Eagle | *Haliaeetus leucocephalus* | T | LC | **Likely;** Occurrence possible along the Rio Grande and there is wintering and foraging habitat across central NM. |
| Northern Aplomado Falcon | *Falco femoralis* | E | LC | **Not Likely;** refer to Table 4-6 above. |
| Peregrine Falcon | *Falco peregrinus* | T | LC | **Not Likely;** generally occupies mountain and canyon habitats and prefers tall cliffs for nesting terrain. |
| Southwestern Willow Flycatcher | *Empidonax traillii extimus* | E | LC | **Likely;** refer to Table 4-6 above. |
| Gray Vireo | *Vireo vicinior* | T | LC | **Likely;** the Transmission Study Corridor supports pinyon-juniper woodlands, foothills, and mesas that provide suitable habitat for the species. |
| **Mammals** | | | | |
| Spotted Bat | *Euderma maculatum* | T | LC | **Possible;** likely absent from open plains |

| Common Name | Scientific Name | State Status | IUCN Status | Likelihood of Occurrence |
|---|---|---|---|---|
| | | | | without rock features; potential presence where cliff faces, escarpments, or canyon walls occur. |
| New Mexican Meadow Jumping Mouse | *Zapus hudsonius luteus* | E | LC | **Not Likely**; refer to Table 4-6 above. |
| **Reptiles** | | | | |
| Western Ribbon Snake | *Thamnophis proximus* | T | LC | **Likely;** species prefers streams, wetlands, and irrigation features; likely present along the Rio Grande, irrigation ditches, or other perennial drainages. |
| **Plants** | | | | |
| Tall Bitterweed | *Hymenoxys brachyactis* | SS | N/A | **Likely;** the Transmission Study Corridor supports dry, coarse, rocky and sandy soils within pinyon-juniper woodlands. |
| **Fish** | | | | |
| Rio Grande Silvery Minnow | *Hybognathus amarus* | E | EN | **Likely;** refer to Table 4-6 above. |

*E = Endangered; T = Threatened; SS = NM Rare Plant Conservation Strategy Species
**LC = Least Concern; NT = Near Threatened; VU = Vulnerable; EN = Endangered; CR = Critically Endangered

## USFS and BLM-Listed Species

A list of sensitive animal and plant species was obtained for the Cibola National Forest from the USFS (USFS 2013a, USFS 2013b), and for the Rio Puerco Field Office from the BLM (BLM 2024). The species were reviewed and assessed for potential to occur within the Transmission Study Corridor. Thirty-two USFS-listed sensitive species were identified as potentially occurring within the Cibola National Forest; 28 BLM-listed sensitive species were identified as potentially occurring within the Rio Puerco Field Office. USFS and BLM-listed sensitive species only receive protections on lands that the respective agency manages. Therefore, each species' likelihood of occurrence was evaluated based on the habitat present on either BLM, or USFS-managed lands within the Transmission Study Corridor. Three USFS sensitive species were found to be "Likely" to occur: Gray vireo (*Vireo vicinor*), Northern goshawk (Accipiter gentilis), and tall bitterweed (*Hymenoxys brachyactis*). One BLM sensitive species was found to be "Likely" to occur: Pinyon jay (*Gymnorhinus cyanocephalus*) and Mexican whip-poor-will

(*Antrostomus arizonae*). USFS and BLM sensitive species, and their likelihood of occurring in the Transmission Study Corridor, are presented in Tables 3-13 and 3-14 in Appendix B.

## Birds

Passerines, raptors, waterfowl, and other waterbirds may migrate through the Transmission Study Corridor, as grassland/shrubland habitats can provide stopover and post-breeding dispersal habitat for a variety of species. Waterfowl, waterbirds, and shorebirds are most likely to occur in association with emergent wetlands, open water, and other aquatic features used during migration; however, these habitat types comprise only a small portion of the Transmission Study Corridor. According to the USFWS IPaC system, the 18 migratory bird species with potential to occur within the Transmission Study Corridor are listed in Table 3-15. The IUCN status for each species is also included in the table below. “Vulnerable” indicates that the species meets one of the five IUCN criteria and is thus considered to be at high risk of unnatural (human-caused) extinction without further human intervention. “Least Concern” indicates the species is widespread and abundant in the wild globally. According to publicly available eBird data, all 18 migratory bird species have been recorded in Socorro, Valencia, and Torrance Counties (eBird 2026).

**Table 3-15 Migratory Birds with the Potential to Occur in the Transmission Study Corridor**

| Common Name | Scientific Name | IUCN Status |
|---|---|---|
| Bald Eagle | *Haliaeetus leucocephalus* | Least Concern |
| Bendire’s Thrasher | *Toxostoma bendirei* | Vulnerable |
| Black-chinned Sparrow | *Spizella atrogularis* | Least Concern |
| Broad-tailed Hummingbird | *Selasphorus platycercus* | Least Concern |
| Cassin’s Finch | *Haemorhous cassinii* | Least Concern |
| Clark’s Grebe | *Aechmophorus clarkii* | Least Concern |
| Clark’s Nutcracker | *Nucifraga columbiana* | Least Concern |
| Evening Grosbeak | *Hesperiphona vespertina* | Vulnerable |
| Golden Eagle | *Aquila chrysaetos* | Least Concern |
| Grace’s Warbler | *Setophaga graciae* | Least Concern |
| Lesser Yellowlegs | *Tringa flavipes* | Vulnerable |
| Lewis’s Woodpecker | *Melanerpes lewis* | Least Concern |
| Long-eared Owl | *Asio otus* | Least Concern |
| Olive-sided Flycatcher | *Contopus cooperi* | Least Concern |
| Pectoral Sandpiper | *Calidris melanotos* | Least Concern |
| Pinyon Jay | *Gymnorhinus cyanocephalus* | Vulnerable |
| Virginia’s Warbler | *Leiothlypis virginiae* | Least Concern |
| Western Grebe | *Aechmophorus occidentalis* | Least Concern |

Source: USFWS 2026d; IUCN 2026

**Southwestern Willow Flycatcher:** The southwestern willow flycatcher (*Empidonax traillii extimus*) is a federally endangered species that nests in dense riparian vegetation, typically

where cottonwood (*Populus* spp.), willow (*Salix* spp.), tamarisk (*Tamarix* spp.), and similar woody vegetation occur in association with surface water, saturated soils, or other mesic conditions. Habitat that does not meet nesting criteria may still be used during migration or foraging.

Within the Transmission Study Corridor, the potential for southwestern willow flycatcher occurrence is expected to be concentrated in the Rio Grande floodplain and associated riparian corridor, whereas the more upland portions of the route have low potential to support nesting habitat because they generally lack dense riparian vegetation and persistent hydrologic conditions. There are areas of revised designated critical habitat for the species in New Mexico including Socorro and Valencia Counties, and recent Middle Rio Grande monitoring has documented southwestern willow flycatcher territories in the Bosque del Apache, Sevilleta/La Joya, and Belen reaches, indicating the species occurs along portions of the Rio Grande in the broader Project region.

**Yellow-Billed Cuckoo:** The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a federally threatened riparian bird that is most closely associated with dense, multi-layered woody vegetation near water, particularly willow- and cottonwood-dominated floodplain and streamside habitats. In the western United States, nests are typically placed in dense riparian vegetation along streams and rivers, and the species' current range in New Mexico is strongly tied to riparian habitat, including the Rio Grande corridor.

Within the Transmission Study Corridor, the potential for western yellow-billed cuckoo occurrence is expected to be highest within the Rio Grande floodplain and associated riparian corridor near Bosque and Los Lunas, where suitable wooded riparian habitat may be present, and low in the more upland portions of the route, which generally lack the dense mesic riparian vegetation typically used for breeding. There is designated critical habitat for the species along the Rio Grande within the proposed Transmission Study Corridor, and recent Middle Rio Grande monitoring confirms that the species occurs within the broader Project region, including documented territories in the Bosque del Apache and Sevilleta reaches and detections in the Belen Reach, indicating that suitable habitat and occasional occupancy occur along portions of the Middle Rio Grande relevant to the southern and western segment of the route.

**Bald Eagle:** The bald eagle (*Haliaeetus leucocephalus*) is a large raptor typically associated with rivers, reservoirs, lakes, and other open-water habitats that provide foraging opportunities, as well as large trees or snags suitable for nesting, roosting, and perching. The species breeds in in New Mexico but is more commonly encountered during winter and migration along major watercourses and reservoirs, including the Middle Rio Grande Basin, where riparian cottonwoods and other large trees provide important perch and roost sites.

For the proposed Transmission Study Corridor, the potential for bald eagle occurrence is expected to be highest near the Rio Grande floodplain and associated riparian corridor around Bosque and Los Lunas, where surface water, bosque habitat, wetlands, and adjacent foraging areas are present. The more upland portions of the route are less likely to support nesting or regular use because they generally lack large waterbodies and extensive riparian woodland,

although bald eagles could occur occasionally during movement or foraging. The broader Project region along the Middle Rio Grande is known to support wintering bald eagles (Zwank et al. 1996). Bald eagles have been recorded utilizing the Rio Grande riparian corridor south of Belen (eBird 2026).

**Golden Eagle:** The golden eagle (*Aquila chysaetos*) is a raptor federally protected by the Bald and Golden Eagle Protection Act and typically uses mountains and cliffs for nesting, often including rimrock terrain adjacent to open desert or grassland areas. The most common nesting areas in New Mexico are steep-walled mountain canyons. Suitable foraging habitat includes grasslands and plains which supports small to mid-sized prey, like rabbits, prairie dogs, coyote pups, and young deer.

Suitable foraging habitat for golden eagle occurs throughout the proposed Transmission Study Corridor. The potential for golden eagle is expected to be highest in the lower elevation grasslands, and lower in the riparian areas surrounding the Rio Grande. However, suitable nesting habitat, including cliffs and steep-walled mountain canyons, is not present anywhere within the Transmission Study Corridor.

**Gray Vireo:** The gray vireo (*Vireo vicinior*) is a small songbird that inhabits arid shrubland and woodland habitats, most commonly associated in New Mexico with pinyon-juniper woodlands, juniper savannas, foothills, canyons, mesas, and rolling hills, where it typically nests in juniper and other dense woody vegetation. Studies in New Mexico indicate the species is strongly tied to juniper-dominated sites, often with relatively low pinyon cover, and it generally occupies hot, dry upland settings rather than broad riparian floodplains.

Within the Transmission Study Corridor, the potential for gray vireo occurrence is expected to be highest in the upland portions of the corridor where pinyon-juniper woodland, juniper savanna, and shrub-covered mesas or canyon slopes may provide suitable breeding habitat. Gray vireo has been recorded in the mid-elevation woodlands of the Manzano Mountains (eBird 2026). In contrast, the species is expected to have lower potential within the Rio Grande floodplain, where habitat shifts toward riparian bosque, wetlands, and agricultural lands that are generally less consistent with the gray vireo's typical breeding habitat preferences.

**Burrowing Owl:** The western burrowing owl (*Athene cunicularia*) is a BLM sensitive species and a New Mexico Species of Greatest Conservation Need associated with open grasslands, shrublands, agricultural fields, and disturbed habitats containing suitable burrows for nesting and shelter. The species frequently relies on burrows excavated by prairie dogs, ground squirrels, badgers, or other fossorial mammals and may also occupy artificial structures. Suitable habitat occurs throughout portions of the Transmission Study Corridor characterized by open grassland, shrubland, rangeland, agricultural lands, and areas supporting prairie dog colonies or other burrowing mammals.

**Sandhill Crane**: The sandhill crane (*Antigone canadensis*) is not federally or state listed but is a species of local game management and conservation importance within the Transmission Study Corridor. Populations of two subspecies of sandhill cranes are present seasonally within the

Transmission Study Corridor, the Rocky Mountain Population of greater sandhill cranes (*A. c. tabida*) and lesser sandhill cranes (*A. c. canadensis*). Each year, sandhill cranes overwinter along the Rio Grande in the Middle Rio Grande Valley of New Mexico. They roost along the Rio Grande (which is crossed by the Transmission Study Corridor) and on public lands managed for waterbirds, and forage in surrounding agricultural lands, including on supplemental cereal grain crops (e.g., corn) grown and provisioned by a multiagency program. Sandhill cranes within the Transmission Study Corridor are known to be impacted by both existing infrastructure (including transmission lines) and hunting.

## Mammals

**Spotted Bat:** The spotted bat (*Euderma maculatum*) is an uncommon bat of the western United States that is most strongly associated with prominent cliffs, canyon walls, rock outcrops, and other steep roosting features, while foraging in open habitats that may include shrublands, pinyon-juniper woodlands, riparian areas, wetlands, meadows, and other open landscapes. In New Mexico, the species is considered state threatened, and available sources indicate that it typically roosts in cliffs but may travel across a variety of habitat types to forage.

For the proposed Transmission Study Corridor, the potential for spotted bat occurrence is expected to be highest where the corridor approaches canyon terrain, cliff faces, rocky escarpments, or other prominent roost features, particularly in the more dissected upland portions and similar rocky landscapes. Potential for foraging use may also occur near open uplands, pinyon-juniper habitats, drainages, and the Rio Grande corridor, where water and insect prey could be available; however, the species' likelihood of regular use would generally be lower in broad valley bottoms or agricultural areas that lack nearby cliff roosting habitat.

**Game Species:** Five of the ten big game species managed by NMDGF have the potential to occur in the Transmission Study Corridor: elk (*Cervus canadensis*), mountain lion (*Puma concolor*), American black bear (*Ursus americanus*), mule deer (*Odocoileus hemionus*), and pronghorn (*Antilocapra americana*). Each of these species is known to inhabit pinyon-juniper and grassland habitats, though black bears typically inhabit the more mountainous regions to the north. Elk, mountain lion, and pronghorn have been documented in or near the Transmission Study Corridor.

The USGS manages the Western Migrations geospatial database of ungulate migrations developed in partnership with state agencies such as NMDGF and tracks 21 migratory herds of elk, mule deer, and pronghorn antelope, none of which occur within the Transmission Study Corridor (USGS 2026f). The Transmission Study Corridor is also located in NMDGF Game Management Units 9, 13, 14, and 38 and NMDGF issues licenses to hunt all three species in these Game Management Units.

## Reptiles

**Western Ribbon Snake:** The western ribbon snake (*Thamnophis proximus*) is a semi-aquatic reptile that is typically associated with shrubby habitats near water, including streams, ponds, marshes, wetlands, and other riparian areas. In New Mexico, it is considered state threatened, and available species accounts indicate that it generally remains close to aquatic or mesic habitats where prey such as amphibians, fish, and aquatic invertebrates are available. For the proposed Transmission Study Corridor, the potential for western ribbon snake occurrence is expected to be lowest across the upland portions, where open grassland, pinyon-juniper, and drier upland habitats generally lack the persistent water and dense riparian cover this species typically uses. Potential for occurrence would be highest near the Rio Grande floodplain and associated wetlands, irrigation features, and riparian habitats, where aquatic and riparian conditions are more consistent with the species' habitat requirements.

## Flowering Plants

**Tall Bitterweed:** Tall bitterweed (*Hymenoxys brachyactis*) is a state of New Mexico Rare Plant Conservation Strategy Species and USFS sensitive species. The New Mexico Rare Plant Conservation Strategy is a part of New Mexico's Energy, Minerals, and Natural Resources Department (NMEMNRD) Forestry Division's Forest Action Plan, which identifies natural resource conditions, needs and opportunities across all land ownerships in the state. USFS sensitive species are those that occur on National Forest Service lands and that have been identified as of concern for reduction in population viability. Tall bitterweed is a biennial species that inhabits dry sites with coarse soils in pinyon-juniper woodland and lower montane coniferous forest between 6,900 and 8,200 feet above mean sea level. The species is known from Torrance and Socorro Counties, and although it is endemic, can be locally abundant and will occupy disturbed sites (NMRPTC 1999). Within the Transmission Study Corridor, the potential for tall bitterweed occurrence is expected to be highest in the pinyon-juniper woodland and lower montane coniferous forests habitats which occur in and around the southern Manzano Mountains. Potential for occurrence would be unlikely across the areas of lower elevations that lack woodland and coniferous forest habitats that the species requires.

## Insects

**Monarch Butterfly:** The monarch butterfly (*Danaus plexippus*), a federally proposed threatened insect species, has the potential to occur in the Transmission Study Corridor. Monarch butterflies occur throughout the United States and are known to migrate seasonally between the United States, Canada, and Mexico. Monarch butterflies lay eggs primarily on milkweed (*Asclepias* spp.) host plants and seek out a variety of flowering plants for food. The Transmission Study Corridor appears to be dominated by herbaceous grasslands, shrub/scrub, and evergreen scrub-shrub. These vegetation communities have potential to support a diversity of blooming nectar resources, including milkweed, which is crucial for the species (USFWS

2026e). The monarch butterfly is currently listed as proposed threatened, which does not receive protection under the ESA.

# 3.9 Archaeological and Historic-Age Cultural Resources

## 3.9.1 Data Sources

The following data sources were reviewed to assess the archaeological and historic-age cultural resources in the portions of Socorro, Torrence, and Valencia Counties where the Project is proposed.

- New Mexico Cultural Resources Information System (NMCRIS). Accessed June 2026. https://nmcris.nmhistoricpreservation.org/.
- NPS. 2026a. “Abó.” Salinas Pueblo Missions National Monument, Accessed June 2026, https://www.nps.gov/sapu/learn/historyculture/abo.htm.
- “Socorro County History.” Socorro County. InfoNet, https://www.socorrocounty.net/general-information/history. Accessed June 2026.
- “The Socorro Chieftain Archive.” Newspapers.com, https://www.newspapers.com/paper/the-socorro-chieftain/13785/. Accessed June 2026.
- “Valencia County History.” Valencia County. 2026a. Genealogy Trails, https://genealogytrails.com/newmex/valencia/county_history.html. Accessed June 2026.
- “Valencia County, New Mexico.” Valencia County. 2026b. American History and Genealogy Project. https://ahgp.org/nm/cty/valencia_county_new_mexico.html. Accessed June 2026.
- “Torrance County, New Mexico.” Torrance County. 2026a. American History and Genealogy Project, https://ahgp.org/nm/cty/torrance_county_new_mexico.html. Accessed June 2026.
- “Torrance County History.” Torrance County. 2026b. Genealogy Trails, https://genealogytrails.com/newmex/torrance/history.html. Accessed June 2026.
- “Torrance County.” Torrance County. 2026c. New Mexico Counties, https://www.nmcounties.org/counties/torrance-county/. Accessed June 2026.
- “Torrance County, New Mexico: A Genealogical Overview.” U.S. County History Books 2026. Directory, https://uscountyhistorybooksdirectoryandlookup.com/states/nm/torrance-county-history/. Accessed June 2026.
- “Estancia.” Historical Marker Database, https://www.hmdb.org/m.asp?m=280257. Accessed June 2026.

## 3.9.2 Current Conditions and Trends, Regional Overview

Portions of the Transmission Study Corridor have previously been evaluated for cultural resources. To date, 146 archaeological surveys conducted within the corridor have documented 268 archaeological sites, designated as LA (Laboratory of Anthropology) sites, and 60 Historic Cultural Properties Inventory (HCPI) resources (NMCRIS 2026). Of the 268 total archaeological sites, as shown in Table 3-16 (located in Appendix B), there are 124 prehistoric sites, 84 historic-age, 32 multicomponent (both prehistoric and historic), and 28 of unknown temporal or cultural affiliation.

In order to be Eligible for listing on the National Register of Historic Places (NRHP), a resource must meet at least one of the register's four main criteria: Criterion A, the property marks an important moment of American prehistory or history and/or represents a major pattern or historic trend that made a significant contribution to the development of a community, a state, or the nation; Criterion B, the resource is associated with significant people of the American past; Criterion C, the resource embodies distinctive characteristics of a type, period, or method of construction including having great artistic value or being the work of a master; and/or Criterion D, a resource yields or may yield important information that contributes to our understanding of human history or prehistory. Of the 268 archaeological sites, 19 have been determined Eligible for listing on the NRHP, 26 have been determined Not Eligible for listing on the NRHP, and 223 remain Unevaluated by the New Mexico State Historic Preservation Office (SHPO) for NRHP inclusion. The Study Corridor intersects the Salinas Pueblo Missions National Monument, Abo (San Gregorio de Abo Mission) Mission National Historic Landmark, NR 66000497. Sites related to the monument that intersect the Transmission Study Corridor include LA 97, LA 203462, LA 203463, LA 203464, LA 203468, LA 203477, LA 203479, LA 203483, and LA 203490. Sites in the vicinity of the monument that may be related but have not been assessed for NRHP inclusion include LA 99210, LA 99211, and LA 99212.

The Abo (San Gregorio de Abo Mission) Mission National Historic Landmark (NR 66000497/ SR 1), part of the Salinas Pueblo Missions National Monument, covers about 370 acres and was a thriving Puebloan community when the Spanish arrived in 1581. Spanish mission work began in 1622 when Fray Francisco Fonte established an early convento using existing pueblo rooms and oversaw construction of a smaller church and convento by 1628, which notably included a circular kiva to support conversions. In 1640, Fray Francisco Acevedo expanded and renovated the complex, building a larger church around the original structure; these improvements were completed by 1658. Despite these efforts, disease, drought, famine, and Apache raids led to the site's abandonment in 1673 (NPS 2026a).

In addition to the archaeological sites and HCPI resources identified below, the Transmission Study Corridor also intersects three significant historic transportation routes: Route 66, the Burlington Northern Santa Fe (BNSF)/Atchison, Topeka and Santa Fe (ATSF) Railway, and the El Camino Real de Tierra Adentro. While the El Camino Real de Tierra Adentro has been recorded in multiple segments throughout the Rio Grande region and a general route is known going from Mexico City, Mexico to Santa Fe, New Mexico, there are no recorded segments of

the trail within the Transmission Study Corridor. There is a potential for cultural surveys to identify additional segments of the trail.

Of the 60 total HCPIs, as shown in Table 3-17, there are 26 identified as buildings, 24 recorded as linear resources, nine recorded as structures, and one recorded as a site. Fourteen of the HCPIs have been determined to be Eligible for listing on the NRHP, 23 have been determined to be Not Eligible for listing on the NRHP, and 23 remain Unevaluated by the SHPO for NRHP inclusion. Site types include historic structures and buildings, bridges, and linear resources such as acequias, irrigation ditches, canals, historic transportation routes, and historic transmission lines.

**Table 3-17 Historic Cultural Properties Inventory Resources within Transmission Study Corridor**

| HCPI Number | Resource Type | Site Alias | NRHP Evaluation |
|---|---|---|---|
| 30312 | Building | - | Unevaluated |
| 30387 | Building | - | Unevaluated |
| 30388 | Building | - | Unevaluated |
| 30389 | Building | - | Unevaluated |
| 30390 | Building | - | Unevaluated |
| 30391 | Building | - | Unevaluated |
| 30392 | Building | - | Unevaluated |
| 30393 | Building | - | Unevaluated |
| 30394 | Building | - | Unevaluated |
| 30514 | Linear Resource | - | Unevaluated |
| 31579 | Linear Resource | Lower Peralta Drain, San Juan Feeder Canal, Lower Peralta Riverside Drain | Eligible |
| 31580 | Structure | Belen Highline Canal | Eligible |
| 31896 | Linear Resource | BNSF Railroad (Valencia County Portion), BNSF Railway, Burlington, Northern and Santa Fe Railroad, Burlington Northern Santa Fe (BNSF; current), Burlington Northern Santa Fe, BNSF, ATSF/BNSF, BNSF Railroad, ATSF/BNSF railway segment, in-use ATSF railway | Eligible |
| 32263 | Linear Resource | NM 41 | Eligible |
| 33977 | Linear Resource | NM 6, Route 66/ NM Highway 6 | Not Eligible |
| 39355 | Structure | - | Not Eligible |
| 40216 | Linear Resource | El Paso Electric Co Transmission Line | Not Eligible |
| 41228 | Structure | Windmill | Unevaluated |
| 43231 | Site | Burlington, Northern and Santa Fe Railroad, Burlington Northern Santa Fe Railroad | Eligible |
| 43399 | Linear Resource | Garcia Acquia / Garcia Ditch, Garcia Acequia; Garcia Ditch | Eligible |

| HCPI Number | Resource Type | Site Alias | NRHP Evaluation |
|---|---|---|---|
| 44287 | Linear Resource | - | Not Eligible |
| 45666 | Linear Resource | Old Jarales Acequia | Unevaluated |
| 45667 | Linear Resource | - | Not Eligible |
| 46092 | Building | - | Eligible |
| 47808 | Structure | - | Unevaluated |
| 48477 | Structure | - | Unevaluated |
| 52039 | Building | - | Not Eligible |
| 52040 | Building | - | Unevaluated |
| 52041 | Building | - | Unevaluated |
| 52042 | Building | - | Unevaluated |
| 52043 | Building | - | Not Eligible |
| 52044 | Building | - | Not Eligible |
| 52045 | Building | - | Not Eligible |
| 52046 | Building | - | Not Eligible |
| 52047 | Building | - | Not Eligible |
| 52048 | Building | - | Not Eligible |
| 52049 | Building | - | Not Eligible |
| 52050 | Building | - | Not Eligible |
| 52051 | Building | - | Not Eligible |
| 52052 | Building | - | Unevaluated |
| 52059 | Building | - | Not Eligible |
| 52063 | Building | - | Not Eligible |
| 52065 | Linear Resource | - | Unevaluated |
| 52066 | Linear Resource | - | Eligible |
| 53631 | Linear Resource | - | Unevaluated |
| 54288 | Linear Resource | - | Eligible |
| 54289 | Linear Resource | - | Not Eligible |
| 54290 | Linear Resource | - | Unevaluated |
| 54291 | Linear Resource | - | Not Eligible |
| 54292 | Structure | Half a Dam Site | Not Eligible |
| 54293 | Linear Resource | - | Not Eligible |
| 54593 | Structure | Scholle Bridge, NM DOT Bridge #2628 | Eligible |
| 54727 | Linear Resource | Upper Sabinal Riverside Drain | Eligible |
| 54728 | Linear Resource | Lower Arroyos Acequia | Eligible |
| 54729 | Linear Resource | - | Eligible |
| 55495 | Linear Resource | - | Not Eligible |
| 55496 | Structure | - | Not Eligible |
| 56736 | Linear Resource | - | Eligible |
| 56743 | Linear Resource | Sanchez Feeder Ditch | Unevaluated |

| HCPI Number | Resource Type | Site Alias | NRHP Evaluation |
|---|---|---|---|
| 57492 | Structure | Jetty Jacks of the Middle Rio Grande Project | Unevaluated |

The Transmission Study Corridor extends through Torrance, Socorro, and Valencia Counties. The sites discussed above, along with any additional sites and historic properties identified during cultural resource surveys conducted for the Project, may contribute to understanding the history and development of these counties.

Socorro County was established in 1852 as one of the original counties of the New Mexico Territory. Its boundaries were initially much larger but were reduced over time. Indigenous peoples, including Puebloan communities, the Navajo, and the Apache, inhabited the region before Spanish settlement. In 1598, Juan de Oñate entered the area, introducing Spanish missions and settlements along El Camino Real. Following the Pueblo Revolt of 1680, Spanish settlers temporarily abandoned the region but later returned, with settlement expanding during the Spanish and Mexican periods and continuing after the area became part of the United States in 1848. Economic growth was driven by ranching, mining, and transportation improvements, including the arrival of the railroad and the founding of the New Mexico School of Mines in 1889. During the twentieth century, agriculture remained important, while the county also became associated with scientific research, including the Trinity atomic test in 1945.

Torrance County was established in 1903–1904 from portions of Valencia County and neighboring areas. Its creation was closely linked to the expansion of railroad infrastructure across central New Mexico. Located in the Estancia Valley, the area was first occupied by native populations and later settled by Spanish and Mexican ranching communities. The arrival of the railroad in the early twentieth century encouraged homesteading, agricultural development, and the growth of towns such as Estancia and Willard as regional trade and transportation centers. As settlement increased, the county seat was moved to Estancia in 1905. The county subsequently developed around agriculture, ranching, and transportation networks, reflecting both its long-established rural communities and newer railroad-era settlements.

Valencia County, also established in 1852, is one of New Mexico's original counties and was historically part of the Rio Abajo region along the Middle Rio Grande. Puebloan agricultural communities occupied the area long before Spanish settlement. During the Spanish and Mexican periods, irrigation-supported agriculture sustained communities such as Los Lunas and Belen. After the United States acquired the region in 1848, continued growth was supported by transportation improvements, including the railroad, which strengthened trade and regional connectivity. Although its original boundaries were later reduced through the creation of additional counties, Valencia County has remained strongly associated with agriculture, particularly irrigated farming and orchard production within the Rio Grande Valley, as reflected in its extensive acequia, canal, and irrigation ditch systems.

A review of recorded cultural resources within the Transmission Study Corridor indicates that survey coverage remains limited relative to the corridor's overall acreage. Although 146 cultural

resource surveys have been conducted, approximately 90% of the Transmission Study Corridor has not been surveyed, leaving substantial gaps in resource identification and documentation. As a result, additional cultural resources are expected to be identified during surveys conducted in support of the proposed Project. Common resource types within the Transmission Study Corridor include prehistoric artifact scatters, artifact scatters with associated features, prehistoric habitation sites, historic homesteads and structures, and historic roads.

# 3.10 Religious and Cemetery Sites

## 3.10.1 Data Sources

The following data sources were reviewed to assess the existing religious and cemetery sites in the portions of Socorro, Torrence, and Valencia Counties where the Project is proposed.

- Esri. 2026. GIS data for religious sites and cemeteries in Socorro, Torrence, and Valencia, and Counties, New Mexico. Accessed June 2026. https://www.esri.com.
- American Cemeteries. 2026a. Socorro County, NM Cemeteries. Accessed June 2026. http://www.americancemeteries.org/new-mexico/socorro-county.
- American Cemeteries. 2026b. Torrence County, NM Cemeteries. Accessed June 2026 http://www.americancemeteries.org/new-mexico/torrence-county.
- American Cemeteries. 2026c. Valencia County, NM Cemeteries. Accessed June 2026 http://www.americancemeteries.org/new-mexico/valencia-county.
- Billion Graves. 2026. New Mexico Cemetery Search. Accessed June 2026. https://billiongraves.com/search/cemetery.
- Find a Grave. 2026a. La Puerta Natural Burial, Valencia County, New Mexico, USA. Accessed June 2026. https://www.findagrave.com/cemetery/2690214/la-puerta-natural-burial.
- Find a Grave. 2026b. Willard Cemetery, Torrence County, New Mexico, USA. Accessed June 2026. https://www.findagrave.com/cemetery/38514/willard-cemetery?.

## 3.10.2 Current Conditions and Trends, Regional Overview

One religious site, San Francisco Xavier Catholic Mission Church, Jarales, is located within the Transmission Study Corridor (Table 3-18). The Transmission Study Corridor may contain unknown or abandoned religious sites.

**Table 3-18 Religious Sites within the Transmission Study Corridor**

| Name | Coordinates | County |
|---|---|---|

| | | |
|---|---|---|
| San Francisco Xavier Catholic Mission Church | 34.611683, -106.761205 | Valencia |

Two cemeteries, the La Puerta Natural Burial Ground and Willard Cemetery, are located within the Transmission Study Corridor (American Cemeteries 2026a-d; Esri 2026; Billion Graves 2026) (Table 3-19) (Exhibit 15).

**Table 3-19 Cemeteries within the Transmission Study Corridor**

| Name | Coordinates | County | Cemetery ID | Recorded Burials | Headstone Range |
|---|---|---|---|---|---|
| La Puerta Natural Burial Ground | 34.46694, -106.52827 | Valencia | 2690214 | 300 | 1923-2026 |
| Willard Cemetery | 34.59580, -106.03310 | Torrence | 38514 | 6 | 1844-2021 |

No additional religious sites are located within the Transmission Study Corridor (Billion Graves 2026; Esri 2026). No additional cemeteries are located within one mile of the Transmission Study Corridor (American Cemeteries 2026a-d; Esri 2026; Billion Graves 2026). None of the religious sites or cemeteries within the Transmission Study Corridor are recorded on NMCRIS as archaeological sites or HCPIs. The Transmission Study Corridor may contain unknown or abandoned cemeteries.

# 3.11 Visual and Scenic Resources

## 3.11.1 Data Sources

The following data sources were reviewed to assess the existing visual and scenic conditions of Socorro, Torrance, and Valencia Counties as related to the Transmission Study Corridor.

- BLM. 2026b. National Data Viewer. Accessed June 2026 https://experience.arcgis.com/experience/9a89ee80c604431e8f8d939a186fbdbb.
- NPS. 2017. Physiographic Provinces. Accessed June 2026. https://www.nps.gov/subjects/geology/physiographic-provinces.htm.
- New Mexico Scenic Byways Map. NMDOT. 2026a. Accessed June 2026 https://www.dot.nm.gov/travel-information/maps/.
- USEPA Level III Ecoregions, 2010 (USEPA 2026c). Accessed June 2026 https://www.epa.gov/eco-research/ecoregions-north-america.
- Cibola National Forest Land Management Plan 2022 (USFS 2022). Accessed June 2026 https://www.fs.usda.gov/sites/nfs/files/legacy-media/cibola/20220712_CibolaLMP_Final-WEB.pdf.

- BLM Manual H-8410-1 - Visual Resource Inventory 1986 (BLM 1986). Accessed 2026 https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_H-8410.pdf.
- Landscape Aesthetics, *A Handbook for Landscape Management* (USFS 1995). Accessed June 2026 https://www.fs.usda.gov/sites/default/files/ah-701-landscape-aesthetics-stelprdb5412126.pdf.
- NPS. 2026b. New Mexico National Monuments. Accessed 2026 https://www.nps.gov/state/nm/index.htm.

## 3.11.2 Current Conditions and Trends, Regional Overview

The Transmission Study Corridor contains lands administered by the USFS, the NPS, and the BLM in addition to NMSLO and private land across Torrance, Socorro, and Valencia Counties in central New Mexico (Exhibit 16).

The Project is located within two NPS-identified physiographic provinces. The NPS defines these physiographic provinces based on geomorphological characteristics such as climate, geologic history, and landform processes. A portion of the easternmost parts of the Project is located in the western edge of the Great Plains Physiographic Province while most of the Project is in the Basin and Range Physiographic Province. The Great Plains Physiographic Province extends east from the Rocky Mountains and is characterized by soils that are mostly remnants of alluvial sediments from the Rocky Mountains and glacial silt. The Basin and Range Physiographic Province extends across the southwestern United States from eastern California into New Mexico and Texas. The alternating mountain ranges and low valleys characteristic of this region are the result of cracks and fissures formed by a thinning crust (NPS 2026b).

To further characterize the landscape, USEPA defined Level III Ecoregions were reviewed for the Transmission Study Corridor. Three USEPA Level III Ecoregions occur, the Arizona/New Mexico Mountains ecoregion, the Arizona/New Mexico Plateau ecoregion, and the Southwest Tablelands ecoregion. The Arizona/New Mexico Mountains ecoregion extends from northwestern Arizona and into central and southern New Mexico and is characterized primarily by the presence of mountain ranges and mid-altitude steppes. The diverse topography leads to a range of climates and vegetation communities depending on altitude and water availability. The Arizona/New Mexico Plateau ecoregion includes northern Arizona, northwestern New Mexico and portions of southern Colorado. The ecoregion is characterized as a mid-altitude steppe that features landforms ranging from plateaus and mesas, to rolling plains and low valleys. Vegetation acts as a transitional zone between neighboring ecoregions, housing an array of communities ranging from semi-arid grasslands to arid scrub and sagebrush to woodlands. The Southwest Tablelands ecoregion is located between High Plains and the southern Rocky Mountains. The semi-arid landscape features a wide array of landforms including canyons, mesas, badlands, gorges, and rolling plains. Vegetation communities generally are dominated by chaparral and sagebrush steppes, giving way to pinyon-juniper woodlands at higher elevations (USEPA 2010).

The landscape setting for the Project consists of a mix of mountains and high desert, with riparian areas associated with the Rio Grande Valley. Elevation within the Transmission Study Corridor ranges from 4,791 feet to 6,766 feet (1,460 meters to 2,062 meters) above mean sea level (Exhibit 17). The Transmission Study Corridor begins at the Western Spirit Switchyard roughly 6,407 feet above sea level. The surrounding area is dominated by open prairie and range land. As the route travels west the Project traverses rolling hills before descending into a broad valley east of community of Willard. As the Project passes Willard it gains elevation until reaching the highpoint of approximately 6,624 feet near the community of Mountainair. Vegetation begins to transition from grassy plains to sparsely distributed scrub brush. From here the Project descends toward Abo Pass and the Rio Grande valley. Once the Transmission Study Corridor crosses the Rio Grande riparian corridor, vegetation transitions from sparse shrubs and open rangeland to irrigated fields and suburban developments. The route then crosses United States Highway (US Hwy) 25 where dominant vegetation returns to desert scrubland before continuing north until reaching the route terminus at the Hidden Mountain Substation.

The Transmission Study Corridor includes lands managed by the BLM and the USFS, both of which have Visual Resource Management objectives for areas under their jurisdiction. USFS lands within the corridor are managed by the Cibola National Forest, which uses the Scenery Management System to establish Scenic Integrity Objectives (SIOs) and guide implementation of scenic goals identified in the Land Management Plan. The corridor crosses areas designated as Low and Moderate SIO. A Low SIO allows projects to be visually prominent and potentially compete with the natural landscape, whereas a Moderate SIO allows projects to remain visible without dominating the view, enabling the landscape to retain its natural appearance (USFS 1995) (Exhibit 18).

The BLM uses Visual Resource Inventory classes to establish Visual Resource Management goals and objectives. Where Visual Resource Management classes are designated in Resource Management Plans, they guide management actions and allowable land uses. BLM-administered lands within the Transmission Study Corridor, managed by the Rio Puerco Field Office, are classified as Visual Resource Management Class III and Visual Resource Management Class IV. Class III areas are managed to partially retain the existing landscape character, allowing moderate levels of visual change that may attract attention but are not visually dominant. Class IV areas allow greater levels of change that may be visually dominant, provided reasonable efforts are made to minimize visual impacts. These Class III and Class IV areas are relatively limited in extent, occurring primarily in Torrance County east of Abo Pass (BLM 1986) (Exhibit 18).

There are several residential areas located within the Transmission Study Corridor. The majority of residences are generally associated with suburban areas along the Rio Grande such as Belen and Jarales. However, dispersed rural residents and residential clusters occur along State Highway (SH) 47, between Abo Pass and Mountainair, and on the eastern side of Willard.

Several designated scenic byways were identified within the Transmission Study Corridor. The Transmission Study Corridor intersects the Salt Missions Trail Scenic Byway west of Willard and north of Mountainair. On the other side of the Abo Pass the Transmission Study Corridor crosses the El Camino Real National Scenic Byway east of Jarales, and the New Mexico and Historic Route 66 National Scenic Byway near Los Lunas, New Mexico. The Transmission Study Corridor also parallels the Abo Pass Trail Scenic Byway for roughly 12.1 miles beginning north of the byway's intersection with US Hwy 60.

The Transmission Study Corridor crosses a portion of the Salinas Pueblo Missions National Monument, which is administered by the NPS. The monument preserves historic Spanish mission sites and Pueblo settlements across three units: Abo, Quarai, and Quivira. The Transmission Study Corridor extends into lands associated with the Abo unit but does not cross any developed National Monument facilities, including the visitor center or interpretive loop trail.

# 3.12 Land Use, Including Farm, Range, and Recreational Resources

## 3.12.1 Data Sources

The following data sources were reviewed to assess the existing land use, including farm, range, and recreational resources of the portions of Socorro, Torrance, and Valencia Counties where the Project is proposed.

- FAA. 2026. National Aeronautical Charting Office. Alburquerque Sectional Aeronautical Chart, Effective May 14, 2026.
- Land Conservation Assistance Network (LandCAN). 2026a. Socorro Soil & Water Conservation District. Accessed June 2026 from: https://www.landcan.org/local-resources/Socorro-Soil-and-Water-Conservation-District/5133.
- LandCAN. 2026b. Claunch-Pinto Soil and Water Conservation District. Accessed June 2026 from: https://www.landcan.org/local-resources/ClaunchPinto-Soil-and-Water-Conservation-District/5101.
- LandCAN. 2026c. Valencia Soil and Water Conservation District. Accessed June 2026 from: https://www.landcan.org/local-resources/Valencia-Soil-and-Water-Conservation-District/5140.
- Mid-Region Council of Governments of New Mexico. 2003. Comprehensive Land Use Plan for Torrance County, New Mexico, August 2003. Accessed June 2026 from: https://www.mrcog-nm.gov/DocumentCenter/View/3124/Torrance-County- Comprehensive-Plan-August-2003-PDF.
- Middle Rio Grande Conservancy District. 2026. Water Data Map. Accessed August 2026 from: https://mrgcd.onerain.com/map/?view=d0d66eea-35a2-42ea-8ed9-1cc38ba58743.

- Multi-Resolution Land Characteristics (MRLC) Consortium. 2026. 2026 National Land Cover Database (NLCD) Land Cover. Accessed August 2026 from: https://www.mrlc.gov/.
- NPS. 2026c. National Monuments & Memorials. Accessed June 2026 from: https://www.nps.gov/subjects/monuments/index.htm.
- NMDOT. 2026b. Roads. Accessed June 2026 from: https://nmroads.com/default.html?v=2025012001&.
- NMEMNRD. 2026a. New Mexico Mining and Minerals Division. Mine Registrations and Permits Accessed June 2026 from: https://wwwapps.emnrd.nm.gov/MMD/MMDWebInfo/.
- Office of State Engineer. 2026a. Interstate Stream Commission. Acequias. Accessed August 2026 from: Ose.nm.gov/Acequias/isc_acequias.php.
- Office of State Engineer. 2026b. Acequias map. Accessed August 2026 from: https://gis.ose.nm.gov/ose_pod_locations/?page=Acequias.
- Socorro County. 2006. 2006 Socorro County Comprehensive Plan. Accessed June 2026 from: https://www.socorrocounty.net/administration/public-works#h.lbjye2lf6p5d.
- USCB. 2020b. GEO Geographic Information. Accessed June 2026 from: https://data.census.gov/table?d=GEO+Geography+Information.
- USDA National Agricultural Statistics Service (NASS). 2017a. 2017 Census of Agriculture County Profile – Socorro County, New Mexico. Accessed June 2026 from: https://data.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/New_Mexico/cp35053.pdf.
- USDA NASS. 2017b. 2017 Census of Agriculture County Profile – Torrance County, New Mexico. Accessed June 2026 from: https://data.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/New_Mexico/cp35057.pdf.
- USDA NASS. 2017c. 2017 Census of Agriculture County Profile – Valencia County, New Mexico. Accessed June 2026 from: https://data.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/New_Mexico/cp35061.pdf.
- United States Department of Transportation (USDOT). 2026. Federal Railroad Administration. Rail Network Development. Maps GIS. FRA Safety Maps. Accessed June 2026 from: https://fragis.fra.dot.gov/gisfrasafety/.
- Valencia County. 2022. 2022 Valencia County Comprehensive Plan. Accessed June 2026 from: https://www.co.valencia.nm.us/325/Comprehensive-Plan.

## 3.12.2 Current Conditions and Trends, Regional Overview

The Transmission Study Corridor is a largely rural region of central New Mexico, dominated by rangelands of the Middle Rio Grande and southern portion of the Cibola National Forest. Currently, land cover is primarily dominated by shrub/scrub (62%), followed by grassland/herbaceous areas (32%), with smaller pockets of evergreen forest along the Rio Grande River (Exhibit 19) (MRLC 2026). Table 3-20 below summarizes the NLCD cover types in the Transmission Study Corridor.

**Table 3-20 National Land Cover Database Summary for the Transmission Study Corridor**

| Land Cover | Acres | Percent of Transmission Study Corridor[a] |
|---|---|---|
| Shrub/Scrub | 40,515.7 | 62% |
| Grassland/Herbaceous | 20,804.6 | 32% |
| Developed, Open Space | 1,770.5 | 3% |
| Developed, Low Intensity | 734.5 | 1% |
| Cultivated Crops | 604.3 | 1% |
| Pasture/Hay | 481.8 | 1% |
| Evergreen Forest | 422.8 | 1% |
| Emergent Herbaceous Wetlands | 181.6 | <1% |
| Barren Land (Rock/Sand/Clay) | 77.0 | <1% |
| Developed, Medium Intensity | 60.2 | <1% |
| Woody Wetlands | 58.2 | <1% |
| Open Water | 52.5 | <1% |
| Developed, High Intensity | 12.5 | <1% |
| **Total** | **65,776.2[b]** | **100%** |

[a] Percentages are rounded to the nearest whole number.
[b] Transmission Study Corridor acreage totals may vary due to differences in data sources, spatial accuracy, and methodologies.
Source: MRLC 2026

### Socorro County

Socorro County covers approximately 6,646 square miles in south-central New Mexico (USCB 2020). Infrastructure within the Transmission Study Corridor includes a BNSF railroad in northeast Socorro County that runs in a northwest–southeast direction (USDOT 2026), as well as major highway transportation corridors including U.S. Hwy 60 and SH 47 (NMDOT 2026b).

Acequias are recognized under New Mexico law as political subdivisions of the state and have historically served as local government units responsible for the distribution and use of surface water (Office of State Engineer 2026a). These acequia systems are concentrated along the Rio Grande Valley and generally parallel the Rio Grande River and Interstate (I-) 25 corridor, where irrigated agriculture is most prevalent (Office of State Engineer 2026b). Several acequias within the Socorro County are administered through local acequia associations, including the Middle Rio Grande Conservancy District (Middle Rio Grande Conservancy District 2026). Supporting agricultural production, water resource management, and natural resource conservation within the county, the Socorro Soil & Water Conservation District promotes stewardship of natural resources by providing leadership, education, technical and financial assistance to the citizens of the district (LandCAN 2026a). The Transmission Study Corridor is within valleys and rangelands, where land is primarily used for cattle and horse ranching (USDA NASS 2017a). The Sais Quarry and Socorro County Pit are located within the northeastern portion of Socorro County within the Transmission Study Corridor; however, no significant adverse impacts are anticipated to these facilities (NMEMNRD 2026a).

In addition to these existing conditions, the 2006 Northern Socorro County Comprehensive Land Use Plan characterizes development of the north-central part of the County over the next 20 to 30 years. The plan serves as a general policy guide for County officials regarding the location, character, and type of growth in the community. It establishes a framework that documents existing community conditions, identifies issues and future preferences, and guides the desired development of Northern Socorro County. The plan identifies the portions of the Transmission Study Corridor within Socorro County are primarily characterized by agricultural and residential land uses, with limited areas associated with dairy operations, sand and gravel mine, public facilities, and other industrial uses. The Plan does not specifically address energy or utility facilities (Socorro County 2006).

## Torrance County

Torrance County covers approximately 3,345 square miles in east-central New Mexico (USCB 2020). The western and southern portions of the county consist of the valleys within Cibola National Forest. Infrastructure within the Transmission Study Corridor includes a BNSF railroad in the southern portion of the County that runs in a northeast-southwest direction (USDOT 2026), as well as major highway transportation corridors including US Hwy 60, SH 41, SH 42, and SH 55 (NMDOT 2026b).

Agricultural and natural resource management in Torrance County is supported by the Claunch-Pinto Soil and Water Conservation District using conservation practices and resource management methods to enhance watershed health and productivity (LandCAN, 2026b). Land within Torrance County is primarily used for cattle and calf production (USDA NASS 2017b). A review of the NPS website identified Salinas Pueblo Missions National Monument within a portion of the Transmission Study Corridor along the north side of US Hwy 60 in Torrance County (NPS 2026). The Abo Viejo Quarry is located within the southwestern portion of the

County within the Transmission Study Corridor; however, no significant adverse impacts are anticipated due to its permanent closure in 2008 (NMEMNRD 2026a).

In addition to these existing conditions, the 2003 Torrance County Comprehensive Land Use Plan was prepared by the Mid-Region Council of Governments with support from New Mexico state agencies and the United States Department of Housing and Urban Development and was formally adopted by the Torrance County Commission on July 29, 2003. The plan guides decisions on public programs that shape the County's growth and development and reflecting community input on how development would be managed over the next 20 to 25 years. The plan identifies portions of the Transmission Study Corridor, particularly along US Hwy 60, as being characterized by irrigated agricultural and single-family residential. The Plan does not specifically address energy or utility facilities (Mid-Region Council of Governments of New Mexico 2003).

## Valencia County

Valencia County covers approximately 1,066 square miles in west-central New Mexico (USCB 2020). The southeastern portion of the county consists of the valleys within southwestern portion of the Cibola National Forest. Infrastructure within the Transmission Study Corridor includes a BNSF railroad that runs through the County in a northwest–southeast direction (USDOT 2026), as well as major highway transportation corridors including I-25, SH 6, SH 47, and SH 116 (NMDOT 2026b). A public-use FAA-registered airport is located within the Transmission Study Corridor, with a portion of the Belen Regional Airport northeast-southwest runway within the Transmission Study Corridor (FAA 2026).

The South Valley Regional Acequia Association is located within Valencia County. In addition, several acequias administered by the Middle Rio Grande Conservancy District are located within the Transmission Study Corridor, particularly where it crosses the Rio Grande and the I-25 (Middle Rio Grande Conservancy District 2026 and Office of State Engineer 2026b). Supporting the county's agricultural and natural resource management efforts, the Valencia Soil and Water Conservation District is responsible for the conservation and sustainability of natural resources, including agriculture, soils, water, plants, and animals (LandCAN 2026c). Land in Valencia County is primarily used for dairy production (USDA NASS 2017c). The Valencia County Pit is located within the southeastern portion of the County within the Transmission Study Corridor; however, no significant adverse impacts are anticipated to this facility (NMEMNRD 2026a).

In addition to these existing conditions, the Valencia County Comprehensive Plan establishes general policy guidance and sets priorities for investments. The plan address growth in Valencia County with urban development and preserving rural and agricultural characteristics. It guides future decisions by supporting sustainable growth, accommodating changing population needs, and promoting flexible housing and development options. The plan identifies the portions of the Transmission Study Corridor within Valencia County as being characterized primarily by residential and agricultural land uses along the Rio Grande corridor, while commercial land uses

are concentrated along I-25 and other major transportation corridors. The plan references the 2020 Comprehensive Economic Development Strategy, which identifies Energy/Renewable Energy, including solar and wind energy development, as a key economic focus area for rural communities in central New Mexico. This focus area is consistent with Goal 3 of the Valencia County Comprehensive Plan, which seeks to reduce the environmental footprint of County facilities and vehicles through the use of renewable energy sources and improved energy efficiency (Valencia County 2022).

# 3.13 Socioeconomics

## 3.13.1 Data Sources

The following data sources were reviewed to characterize the socioeconomic conditions and trends in Socorro, Torrance, and Valencia Counties and in New Mexico for the Mid-State Transmission Project:

- New Mexico Municipal League. 1998. New Mexico Incorporated Municipalities. Accessed June 2026 from: https://nmml.org/DocumentCenter/View/1297/New-Mexico-Incorporated-Municipalities-Alpha-List-PDF.
- NMSLO. 2025. Land Status. Accessed June 2026 from: https://mapservice.nmstatelands.org/LandStatus/.
- USCB. 2024 American Community Survey, 5-Year Estimates, 2020-2024. Accessed June 2026 from: https://data.census.gov/.
- United States Department of Commerce (U.S. Commerce). 2023. Bureau of Economic Analysis. Accessed June 2026 from: www.bea.gov.
- USDA NASS. 2025. 2022 Census of Agriculture, New Mexico State and County Data. Accessed June 2026 from: https://data.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_1_State_Level/New_Mexico/nmv1.pdf.
- New Mexico Taxation & Revenue Department (NMTRD). 2025. Fiscal Year RP-80 Reports: Gross Receipts by Geographic Area and NAICS Code. Accessed June 2026 from: https://www.tax.newmexico.gov/all-nm-taxes/gross-receipts-taxes-overview/fiscal-year-rp-80-reports-gross-receipts-by-geographic-area-and-naics-code/.

## 3.13.2 Current Conditions and Trends, Regional Overview

The Project is located in central New Mexico and crosses Socorro, Torrance, and Valencia Counties. NMSLO (Exhibit 20) and federally owned or managed properties are scattered throughout the Transmission Study Corridor, where the Project is proposed. The Pueblo of

Isleta is a federally recognized Tribal Nation and is located in Valencia and Bernalillo Counties, south of Albuquerque along the Rio Grande (Exhibit 21).

## Torrance County

Torrance County lies east-southeast of Albuquerque and is characterized by low-density settlement, broad rangelands, and a mix of private, state, and federal land ownership. Within the county, the Transmission Study Corridor is located south-southeast of the Manzano Mountains near Estancia and Mountainair-Encino, in a largely rural setting. Population is concentrated in the western half of the county, while the eastern and southern areas remain sparsely populated. Incorporated communities include Moriarty, Estancia, Mountainair, Encino, and Willard. Land use is dominated by ranching, scattered rural residential development, transportation corridors, and undeveloped open space. State and federal holdings, including portions of Cibola National Forest and other public lands, contribute to the county's largely open and rural character.

## Socorro County

Socorro County covers a large area of central and southern New Mexico and is characterized by expansive open lands, widely dispersed settlements, and substantial federal and state land ownership. Within Socorro County, the Transmission Study Corridor is located near Socorro, the county seat and principal population center. Outside that area, the county is characterized by desert basins, mesas, rangelands, limited agriculture in river-adjacent areas, and extensive public lands, including areas associated with the Cibola National Forest, wildlife refuges, and BLM lands. These conditions give much of the county a remote and sparsely settled character.

## Valencia County

Valencia County lies south of Bernalillo County in the Rio Grande Valley and contains the most densely populated and developed portion of the broader Project area outside the Albuquerque metropolitan core. Within the county, the Transmission Study Corridor is located near Los Lunas and Belen and passes through a mix of rural, semi-rural, and developing areas that include residential communities, agricultural lands, transportation corridors, and undeveloped tracts. Population and development are concentrated in and around Los Lunas, Belen, and other communities in the Rio Grande Valley, with additional growth occurring in unincorporated areas influenced by regional commuting patterns. Compared to Torrance and Socorro Counties, Valencia County is more urbanized and experiencing greater development pressure, although open space, agricultural land, and public land remain important parts of the county setting.

The Transmission Study Corridor is influenced by major economic and cultural centers, most notably the Albuquerque metropolitan area, which serves as a regional hub for employment, education, health care, and government services. Surrounding smaller cities and rural communities are comparatively more dependent on public-sector employment, agriculture, and service industries.

As of 2024, Valencia County had an estimated population of 78,458, an increase of 5.2% since 2010; closely tracking with the statewide growth rate of 5.3%. In contrast, Socorro County and Torrance County recorded population declines of 9.8% and 5.9%, respectively. These trends indicate uneven population change within the Project vicinity, with growth concentrated near urban centers and declines in rural counties.

Demographic patterns across the Transmission Study Corridor generally reflect broader statewide trends, with some variation among counties (Tables 3-21 and 3-22).

**Table 3-21 Population Profile (by County)**

| Location | Geographic Area (square miles) | Total Population | Population Density (people/ square miles) |
|---|---|---|---|
| New Mexico | 121,590 | 2,120,246 | 17.44 |
| Socorro County | 6,649 | 16,200 | 2.44 |
| Torrance County | 3,346 | 15,490 | 4.63 |
| Valencia County | 1,068 | 78,458 | 73.46 |

Source: U.S. Census, 2024.

**Table 3-22 Population Profile (by Census Block Group)**

| Location | Municipalities | CBG within the Transmission Study Corridor | Total Population (CBG) | Total Population (County) | % County Population Residing in CBG |
|---|---|---|---|---|---|
| Socorro County | Socorro | Tract 9781; BG 1 | 2,914 | 16,200 | 23.4% |
| | | Tract 9781; BG 3 | 869 | | |
| Torrance County | Estancia and Mountainair-Encino | Tract 9636.01; BG 3 | 1,319 | 15,490 | 29.3% |
| | | Tract 9636.01; BG 5 | 1,000 | | |
| | | Tract 9637; BG 1 | 359 | | |
| | | Tract 9637; BG 2 | 1,858 | | |
| Valencia County | Los Lunas and Belen | Tract 9414; BG 1 | 4,329 | 78,458 | 22.6% |
| | | Tract 9704.05; BG 1 | 2,101 | | |
| | | Tract 9707.01; BG 2 | 1,758 | | |
| | | Tract 9707.01; BG 3 | 1,949 | | |
| | | Tract 9709.02; BG 1 | 1,683 | | |
| | | Tract 9710; BG 3 | 1,086 | | |
| | | Tract 9710; BG 4 | 1,527 | | |
| | | Tract 9711; BG 1 | 1,533 | | |
| | | Tract 9713.01; BG 1 | 1,790 | | |
| | | Tract 9801; BG 1 | 7 | | |

BG = Block Group; CBG = Census Block Group; Pop. = Population; Source: U.S. Census, 2024.

Since this analysis is intended to characterize communities crossed by the Transmission Study Corridor, county-level conditions provide the primary socioeconomic context, while block-group data help identify where the Transmission Study Corridor overlaps population concentrations. Based on 2020-2024 American Community Survey 5-year estimates, New Mexico had a poverty rate of 17.8%, median household income of $64,059, per capita income of $36,218, labor force participation of 61.7%, an unemployment rate of 4.1%, and 12.0% of residents age 25 and older without a high school diploma (Table 3-23).

Across the Transmission Study Corridor, socioeconomic indicators identify conditions that may influence how communities experience Project-related effects. In all three counties, at least some indicators reflect economic stress relative to statewide conditions, including poverty rates at or above the statewide level, median household and per capita incomes below statewide levels, and elevated shares of residents without a high school diploma. Labor force participation and unemployment patterns also indicate that some households may have limited flexibility to absorb changes in employment conditions, prices, or local service costs.

Within a broader context of the Transmission Study Corridor, Socorro County is characterized by high poverty, lower incomes, lower labor force participation, and a relatively large share of residents without a high school diploma. Torrance County is characterized by slightly elevated poverty, lower incomes, the highest unemployment rate, and a notable dependence on agriculture and retail activity. Valencia County includes a larger population base and a more diversified economy, but also includes poverty rates above the statewide average, incomes below statewide levels, and a substantial share of residents without a high school diploma.

**Table 3-23 Socioeconomic Profile (by County)**

| Location | Individuals Living Below Poverty (%) | Median Household Income (2024 $s) | Per Capita Income (2024 $s) | Unemploy-ment Rate (%) | Less Than High School Degree (%) | Labor Force* (%) |
|---|---|---|---|---|---|---|
| New Mexico | 17.8% | $64,059 | $36,218 | 4.1% | 12.0% | 61.7% |
| Socorro County | 33.2% | $36,570 | $26,858 | 4.7% | 14.7% | 57.1% |
| Torrance County | 18.3% | $57,842 | $30,139 | 5.2% | 13.1% | 60.0% |
| Valencia County | 18.1% | $58,933 | $30,718 | 4.4% | 13.9% | 61.2% |

*Labor force is defined as the population 16 to 64 as a proportion of total population.
Source: U.S. Census 2024.

Agriculture remains an important component of the local economy, particularly in Torrance and Socorro Counties. Across the three counties, there are approximately 2,008 farms supporting approximately 2,913 jobs and generating about $63.9 million in farm earnings (Table 3-24). Farming accounts for 11.3% of total employment and 11.6% of total earnings in Torrance County and 9.9% of employment and 6.6% of earnings in Socorro County, compared to 2.3% of employment and 1.3% of earnings statewide. Valencia County has the largest number of farms,

but agriculture represents a smaller share of county employment and earnings, consistent with its more diversified and increasingly developed economy.

Table 3-24 2022 USDA Agricultural Profile for Torrance, Socorro and Valencia Counties

| | New Mexico | Socorro County | Torrance County | Valencia County | Total Across Counties |
|---|---|---|---|---|---|
| Number of Farms | 20,976 | 453 | 577 | 978 | 2,008 |
| Land in Farms (Acres) | 3,488,246 | 1,345,407 | 1,692,413 | 450,426 | - |
| % of Land Area in Farms | 50.4% | 31.6% | 79.0% | 66.0% | - |
| Employment by Farms | 26,416 | 740 | 611 | 1,562 | 2,913 |
| Employment by Farms (% of Total Employment) | 2.3% | 9.9% | 11.3% | 6.1% | - |
| Farm Earnings | $948,402,688 | $25,198,432 | $33,089,424 | $5,646,224 | $63,934,080 |
| Farm Earnings (% of Total Earnings) | 1.3% | 6.6% | 11.6% | 0.5% | - |
| Total Net Income Including Corp. Farms | $771,308,288 | $21,452,864 | $30,603,456 | $(4,861,520) | $47,194,800 |
| Market Value of Agricultural Products Sold | $2,949,036,000 | $57,928,000 | $45,619,000 | $33,264,000 | 136,811,000 |
| Crops | $895,929 | $6,323 | $12,269 | $9,290 | $27,882 |
| Livestock, poultry, and their products | $2,053,107 | $51,606 | $33,350 | $23,973 | $108,929 |

Source: USDA NASS 2025.

Employment in New Mexico and in the counties crossed by the Project is concentrated in a limited set of core industries, with government and service-related sectors accounting for a substantial share of both jobs and earnings. Government, health care and social assistance, and retail trade are the largest sources of employment statewide, while recent job growth has been strongest in transportation and warehousing, health care, and professional and technical services. Between 2010 and 2022, the industries adding the most jobs were transportation and warehousing, health care and social assistance, and professional and technical services. Earnings growth over the same period was strongest in professional and technical services, real estate and rental and leasing, and accommodation and food services, indicating that job growth and earnings growth were not concentrated in the same sectors.

County-level industry patterns help explain the socioeconomic differences observed across the Transmission Study Corridor (Table 3-25 and Table 3-26). In Socorro County, employment and earnings are concentrated in government, which accounts for 33% of employment and 48% of labor earnings. This concentration indicates a comparatively narrow economic base and may

reduce resilience to sector-specific changes. Torrance County has a comparatively larger role for retail trade and farming, while Valencia County has a broader mix of government, retail, health care, construction, and transportation-related activity. Several of the sectors accounting for recent growth in Torrance and Valencia Counties are relatively sensitive to business-cycle fluctuations, which is consistent with the moderate but persistent economic vulnerability reflected in poverty, income, and educational attainment indicators.

**Table 3-25 Industry Profile – Employment by Industry (2010-2022)**

| Location | Top 3 Industries by Employment | Top 3 Industries by Percentage Change in Employment |
|---|---|---|
| New Mexico | Government (17.5%)<br>Health care & social assistance (12.2%)<br>Retail trade (9.8%) | Transportation & warehousing (26.8%)<br>Health care & social assistance (25.1%)<br>Professional & technical services (14.4%) |
| Socorro County | Government (33.0%)<br>Health care & social assistance (11.1%)<br>Farm (9.9%) | Government (81.5%)<br>Professional & technical services (14.4%)<br>Construction (9.5%) |
| Torrance County | Government (18.0%)<br>Retail trade (13.0%)<br>Farm (11.3%) | Health care & social assistance (38.9%)<br>Transportation & warehousing (37.7%)<br>Retail trade (29.9%) |
| Valencia County | Government (14.9%)<br>Retail trade (13.5%)<br>Health care & social assistance (11.9%) | Construction (40.2%)<br>Transportation & warehousing (20.7%)<br>Retail trade (16.2%) |

Source: U.S. Commerce 2023.

**Table 3-26 Industry Profile – Labor Earnings by Industry (2010-2022)**

| Location | Top 3 Industries by Earnings | Top 3 Industries by Percentage Change in Earnings |
|---|---|---|
| New Mexico | Government (24.8%)<br>Health care & social assistance (11.7%)<br>Professional & technical services (11.7%) | Professional & technical services (24.4%)<br>Real estate & rental and leasing (24.3%)<br>Accommodation & food services (17.1%) |
| Socorro County | Government (48.0%)<br>Health care & social assistance (10.0%)<br>Professional & technical services (9.0%) | Government (63.3%)<br>Farm (14.1%)<br>Professional & technical services (11.2%) |
| Torrance County | Government (24.2%)<br>Farm (11.6%)<br>Retail trade (8.4%) | Farm (56.3%)<br>Manufacturing (27.5%)<br>Professional & technical services (23.9%) |
| Valencia County | Government (23.6%)<br>Construction (17.6%)<br>Transportation & warehousing (11.3%) | Construction (75.0%)<br>Retail trade (14.1%)<br>Information (12.8%) |

Source: U.S. Commerce 2023.

Overall, the Transmission Study Corridor includes a range of socioeconomic conditions that are relevant to understanding potential Project-related effects. The three counties include

communities with elevated poverty, lower incomes, variable labor force participation, and lower levels of educational attainment that indicate less capacity of households to respond to economic disruption. Industry structure also indicates reliance on government, agriculture, retail trade, construction, and other service-related sectors that may shape the way Project-related employment, spending, and indirect effects are experienced locally. These conditions support consideration of the different socioeconomic effects on the three counties crossed by the Project.

Housing conditions across the Transmission Study Corridor generally reflect the rural character of Socorro and Torrance Counties and the more developed setting of Valencia County (Table 3-27). Based on 2020-2024 American Community Survey estimates, rental housing represents a small share of the housing stock. Vacancy rates in Torrance County are high while Valencia County is influenced by its proximity to Albuquerque, has experienced more residential growth and development pressure.

**Table 3-27 Housing Characteristics**

| Location | New Mexico | Socorro County | Torrance County | Valencia County | Total across Counties |
|---|---|---|---|---|---|
| Total Housing Units, 2024 | 956,964 | 7,293 | 7,693 | 30,756 | 45,742 |
| Occupied | 837,414 (87.5%) | 6,052 (68.5%) | 5,269 (83.0%) | 27,583 (89.7%) | 38,904 |
| Vacant | 119,550 (12.5%) | 1,241 (17.0%) | 2,424 (31.5%) | 3,173 (10.3%) | 6,838 (14.9%) |
| For rent | 15,906 | 0 | 83 | 128 | 211 |
| Rented, not occupied | 2,910 | 14 | 19 | 0 | 33 |
| For sale only | 5,769 | 73 | 84 | 99 | 256 |
| Sold, not occupied | 4,124 | 197 | 2 | 0 | 199 |
| Seasonal, recreational, occasional | 36,548 | 327 | 619 | 743 | 1,689 |
| For migrant workers | 371 | 0 | 0 | 0 | 0 |
| Other vacant | 53,922 | 630 | 1,617 | 2,203 | 4,450 |

Source: U.S. Census 2024.

Gross receipts data indicate the scale and composition of local economic activity and offer additional context regarding the relative size of the taxable economic base within the counties crossed by the Project. In New Mexico, portions of gross receipts taxes are distributed to local governments; therefore, these data provide a general indication of the level of economic activity occurring within these counties. The data presented in Tables 3-28 and 3-29 are intended to characterize existing economic conditions.

Among the three counties, Valencia County reported the highest gross receipts in each year shown. Torrance County showed moderate year-to-year variability and Socorro County reported the smallest totals. In 2020, retail trade was the largest reported sector in all three counties, followed by construction. The third-largest reported sector differed by county: other services in

Socorro and Torrance Counties and wholesale trade in Valencia County. Together, the three counties reported approximately $3.0 billion in gross receipts in 2020, representing approximately 0.8% of statewide gross receipts. These data provide a measure of relative scale of taxable economic activity within the Transmission Study Corridor and indicate that Valencia County has the largest taxable economic base among the counties crossed by the Project.

**Table 3-28 County Profile – Gross Receipts**

| Location | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|---|---|
| Socorro County | $373.34M | $350.89M | $289.87M | $324.97M | $288.02M | $314.64M |
| Torrance County | $540.72M | $431.51M | $476.31M | $605.13M | $390.75M | $456.08M |
| Valencia County | $2,085.45M | $2,399.71M | $1,851.57M | $1,444.04M | $1,314.55M | $1,274.22M |
| **Subtotal** | **$2,999.5M** | **$3,182.1M** | **$2,617.8M** | **$2,374.1M** | **$1,993.3M** | **$2,044.9M** |

Source: NMTRD 2025

**Table 3-29 County Profile – 2020 Largest Economic Sectors (Top 3 Gross Receipts by NAICS Code)**

| Location | 44-45: Retail Trade | 23: Construction | 81: Other Services (except Public Administration) | 42: Wholesale Trade |
|---|---|---|---|---|
| Socorro County | $110.36M | $50.79M | $50.05M | - |
| Torrance County | $200.09M | $125.31M | $22.67M | - |
| Valencia County | $670.35M | $522.51M | - | $118.81M |

Source: NMTRD 2025

# 3.14 Communication Signals

## 3.14.1 Data Sources

The following date sources were reviewed to assess the existing communication signals in Torrance, Socorro, and Valencia Counties for the Project.

- Cavell, Mertz & Associates, Inc. 2026. FCCInfo: FCC database search. Accessed June 2026 from: https://www.fccinfo.com/cmdpro.php?sz=L&wd=1920.

## 3.14.2 Current Conditions and Trends, Regional Overview

Torrance, Socorro and Valencia Counties have population densities below the national average. Population densities in Torrance and Socorro Counties are also substantially below the

statewide average for New Mexico. Table 3-30 displays the signaling structures within the Transmission Study Corridor (Cavell, Mertz & Associates, Inc, 2026) (Exhibit 22).

**Table 3-30 Signaling Structures within the Transmission Study Corridor**

| Tower Type | Number of Signaling Structures |
|---|---|
| Microwave | 11 |
| Cellular | 4 |
| Antenna Structure Registration (ASR) | 1 |
| FM | 0 |
| AM | 0 |

Source: Cavell, Mertz, & Associates 2025.

# 3.15 Radioactive Waste and Radiation Hazards

## 3.15.1 Data Sources

- USEPA. 2026e. What is the Average Level of Radon Found in Homes in the US? Accessed June 2026. https://www.epa.gov/radon/what-average-level-radon-found-homes-us.
- USEPA. 2025f. USEPA Map of Radon Zones. Accessed June 2026. https://www.epa.gov/radon/epa-maps-radon-zones-and-supporting-documents-state.
- USEPA. 2026g. EnviroAtlas. Accessed July 2026. https://www.epa.gov/enviroatlas.
- Nuclear Regulatory Commission (NRC). 2020. Uranium Mill Tailings. Accessed June 2026. https://www.nrc.gov/waste/mill-tailings.
- United States Army Corps of Engineers (USACE). 2026. Formerly Utilized Sites Remedial Action Program (FUSRAP). Accessed June 2026. https://www.usace.army.mil/Missions/Environmental/FUSRAP/.
- United States Department of Energy (DOE). 2023. Long-Term Stewardship of Remediated Formerly Utilized Sites Remedial Action Program (FUSRAP) Sites. Accessed June 2026. https://www.energy.gov/lm/long-term-stewardship-remediated-fusrap-sites.

## 3.15.2 Current Conditions and Trends, Regional Overview

Transmission lines and substations do not create or hold radioactive waste or any radiation hazards. The geology of New Mexico and historical events that have occurred in New Mexico, however, suggest possible hazards of radiation. A review of available environmental records and databases were conducted to identify potential sources of radiation in the proximity of the Transmission Study Corridor. A review of available environmental records and databases was done to determine potential sources of radiation in the Transmission Study Corridor. Databases and are described below:

- FUSRAP: The DOE established FUSRAP in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early United States Atomic Energy Commission operations (USACE).
- Uranium Mill Tailings Sites (UMTRA): Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of mill tailings remained after the uranium was extracted from the ore (NRC 2020).

Review of NRC, FUSRAP and UMTRA databases identified no potential radioactive waste or radiation hazards within the Transmission Study Corridor (USACE, NRC). Additional review of other potential sites containing radioactive waste was completed and no sites within the Transmission Study Corridor were found (USEPA 2026e).

Radon, a naturally occurring radioactive gas produced by the decomposition of uranium found in soil, rock, and water, has been assessed in the Transmission Study Corridor. Radon can enter indoor areas and cause damage to the lungs, when inhaled, and is the leading cause of lung cancer in non-smokers. The United States average concentration of radon in indoor air is 1.3 picocurie per liter (pCi/l). New Mexico's average indoor radon concentration is 3.9 pCi/L. The USEPA has set an action level of 4 pCi/L, at or above which the USEPA recommends radon reduction methods for homes and occupied buildings to minimize exposure to radiation (USEPA 2025e).

The USEPA classifies Torrance, Socorro, and Valencia Counties, which the Transmission Study Corridor passes through, as Zone 2, indicating an average indoor concentration of greater than or equal to 2 pCi/L or less than or equal to 4 pCi/L (USEPA 2025f).

# 3.16 Hazardous Materials

## 3.16.1 Data Sources

- USEPA. 2026g. Toxic Release Inventory Toolbox. Accessed June 2026 from: https://www.epa.gov/toxics-release-inventory-tri-program/tri-toolbox.
- USEPA. 2026h. EnviroAtlas. Accessed July 2026. https://www.epa.gov/enviroatlas.

## 3.16.2 Current Conditions and Trends, Regional Overview

A review of available environmental records and databases was conducted to identify potential sources of hazardous materials within the Transmission Study Corridor. After verification of business names and addresses, three facilities in Valencia County, Arcosa Wind Towers, Inc., Amazon.com Services LLC, and Highway Towing were identified to contain potential hazardous chemicals that are either stored, transferred to other sites or released into the air (USEPA 2026g). Arcosa Wind Towers, Inc. reports to the USEPA as being on the Toxic Release Inventory and as a Hazardous Waste Site. The other two facilities, Amazon.com Services LLC

and Highway Towing are active Hazardous Waste Sites reporting to the USEPA (USEPA 2026h).

Section 3.17 outlines potential safety considerations related to the potential hazardous materials used during the construction, operation, and maintenance of the transmission line, substation, and switchyard, as well as the mitigation measures proposed to minimize associated safety risks.

# 3.17 Safety

The Transmission Study Corridor does not contain any known safety concerns that would preclude construction, operation, or maintenance of the Project. Three facilities within or adjacent to the corridor, including Arcosa Wind Towers, Inc., Amazon.com Services LLC, and Highway Towing, have been identified as facilities that manage hazardous materials or hazardous wastes, as discussed in Section 3.16.2. These facilities would be considered during final design, construction planning, and operation to maintain appropriate clearances and safe working conditions. Section 4.17 discusses potential safety considerations associated with Project construction, operation, and maintenance, as well as the protection measures that would be implemented to minimize risks and maintain public and worker safety.

# 3.18 Geographic Resources

## 3.18.1 Data Sources

The following data sources were reviewed to assess the existing geographic resources within Valencia, Socorro, and Torrance Counties and the Project vicinity.

- BLM. 2026c. BLM Rights-of-Way Planning Tool. Accessed June 2026 from:https://webmaps.blm.gov/program_apps/BLM_Natl_ROW_368_Public/.
- Fenneman, N.M. 1931. Physiography of Western United States. Accessed June 2026 from: https://archive.org/details/physiographyofwe00fenn/page/n7/mode/2up.
- NPS. 2017. Physiographic Provinces. Accessed June 2026 from: https://www.nps.gov/subjects/geology/physiographic-provinces.htm.
- NMEMNRD. 2022. New Mexico State Parks. Accessed June 2026 from: https://www.emnrd.nm.gov/spd/.
- NMDOT Rail Bureau. 2019. New Mexico Railroad Map. Accessed June 2026 https://www.dot.nm.gov/planning-research-multimodal-and-safety/modal/transit-rail/rail-bureau/.
- Toll Free Airline. 2025. New Mexico Public and Private Airports by County. Accessed June 2026, https://www.tollfreeairline.com/newmexico.htm.

## 3.18.2 Current Conditions and Trends, Regional Overview

The Transmission Study Corridor passes through 16 different townships (T5NR12E, T4NR12E, T4NR11E, T4NR10E, T3NR10E, T3NR9E, T4NR9E, T5NR9E, T5NR8E, T4NR8E, T4NR7E, T4NR6E, T3NR6E, T3NR5E, T2NR5E, and T2NR4E) across Valencia, Socorro, and Torrance Counties in central New Mexico (Exhibit 23).

Vehicle access in the region is primarily US Hwy 60, in addition to SH 6, SH 47, and SH 314. The Transmission Study Corridor crosses these transportation thoroughfares multiple times, US Hwy 60 just east of Willard, SH 47 by the Rio Communities Tierra Grande Volunteer Fire Station, SH 314 at Jarales, and SH 6 west of Los Lunas.

The largest regional airport in the area is the Albuquerque International Sunport located southeast of Albuquerque. Smaller airstrips serve smaller communities in the area and include Burris Ranch airstrip, J and M Farms Airport, and the Mountainair Municipal Airport.

Multiple railroads pass under the Transmission Study Corridor, all owned and operated by BNSF and primarily dedicated to freight transport. The proposed route crosses the E Clovis-Belen line multiple times, just south of the substation, south of Willard, and again at the beginning of Abo Pass. The same rail line is crossed again north of the intersection of SH 47 and US Hwy 60, and again east of Jarales. The Isleta-El-Paso line is crossed just southeast of Pueblitos, and the Belen J-E Winslow rail line northwest of Los Chavez.

The Transmission Study Corridor crosses through the municipal boundaries of Willard, New Mexico, and passes within 3.0 miles of the towns of Mountainair, Belen, Los Chavez, and Los Lunas. The Study Corridor passes through smaller, census- designated places like Jarales and Pueblitos, within the Rio Grande Basin. The corridor passes over the Valencia County Fire Department Station 9 located in Jarales but does not pass over any schools or education facilities as they are concentrated within the larger populations of Los Lunas, Belen, and Mountain Air (Exhibit 24).

The Transmission Study Corridor crosses several utilities and infrastructure including transmission lines, natural gas pipelines, and railroads. The 115-kV Central New Mexico Electric Cooperative, Inc. transmission line owned by Touchstone Energy is crossed by the route in multiple locations, first just northwest of Progresso, and the rest on the northwestern and southeastern sides of Willard.

The Transmission Study Corridor passes over multiple natural gas pipelines, the E.M.W. Gas Association pipeline west of Willard, and the New Mexico Gas Company pipeline west of Belen. In both Abo Pass and west of Pueblitos, other natural gas pipelines operated by Transwestern Pipeline Company and El Paso Natural Gas Company cross the Transmission Study Corridor.

The Transmission Study Corridor crosses into the Abo section of the Salinas Pueblos Missions National Monument which is administered by the NPS. The Study Corridor also crosses into land administered by the US Forest Service just west of Abo. Protected areas outside of the Transmission Study Corridor include the Seville National Wildlife Refuge and the El Cerro de los

Lunas Preserve, located less than 1.0 mile south of the Transmission Study Corridor, and Manzano Mountains State Park, located roughly 5.0 miles northwest of the Transmission Study Corridor.

# 3.19 Military Activities and Aviation

## 3.19.1 Data Sources

The following data sources were reviewed to assess the existing military conditions of Socorro, Torrance, and Valencia Counties for the Project.

- BLM Rights-of-Way Planning Tool. 2026c. Accessed March 2026. https://webmaps.blm.gov/program_apps/BLM_Natl_ROW_368_Public/.
- Military Bases.com. 1998. New Mexico Military Bases. Accessed June 2026 from: https://militarybases.com/new-mexico/.

## 3.19.2 Current Conditions and Trends, Regional Overview

No United States Department of Defense installations occur within the area of the Transmission Study Corridor (MilitaryBases.com 1998). There are 10 military flight training routes that intersect the Transmission Study Corridor, including instrument, slow, and visual route corridors (BLM 2026c) (Exhibit 25). Instrument route corridors are a type of military training route designed for low-altitude, high-speed training under instrument flight rules. Instrument flight rules are FAA regulations that allow pilots to operate aircraft by referencing flight instruments rather than outside visual cues, which is necessary for flying in low visibility. A slow route corridor is a type of military training route designed for low-altitude, lower-speed flight training. Visual route corridors are military training routes operated under visual flight rules, which allow military aircraft to fly through a portion of airspace passing through restrictive Class B airspace without needing air traffic control clearance.

# 3.20 Roads

## 3.20.1 Data Sources

The following data sources were revied to assess the road conditions within the Transmission Study Corridor from Torrance, Valencia and Socorro Counties, New Mexico.

- NMDOT. 2026c. Interactive Transportation Maps. Accessed June 2026. https://www.dot.nm.gov/travel-information/maps/.

## 3.20.2 Current Conditions and Trends, Regional Overview

A scattered network of United States highways, county, and local roads are located in the Transmission Study Corridor. The Transmission Study Corridor crosses I-25 once and US Hwy 60 once. The Transmission Study Corridor also intersects SHs 6, 55, 41, 116, and 304 once and SH 47 three times (NMDOT 2026c). The Project would coordinate with NMDOT and the County Road Maintenance Departments for the three counties to assess existing roadway conditions prior to the commencement of construction activities.

# 4. Environmental Effects

## 4.1 Introduction

This chapter evaluates whether the Project would “unduly impair important environmental values,” consistent with NMSA 1978, § 62-9-3(F). The chapter describes the potential environmental consequences associated with the construction, operation, maintenance of the proposed transmission line and associated facilities. Impact analyses are intended to support the Commission’s review of the Project location application and the environmental reporting requirements for transmission lines set forth in 17.9.592.10 NMAC.

The analysis addresses the resource categories identified in NMSA 1978, § 62-9-3(M) and applicable Commission rules, as well as additional resource topics identified through agency and stakeholder coordination. Resource areas evaluated in this chapter include air resources; noise; geology and mineral resources; soils; paleontological resources; water resources; vegetation and wildlife resources; archaeological, historic, and cultural resources; religious and cemetery sites; visual and scenic resources; socioeconomics; communication systems; radioactive materials and radiation hazards; hazardous materials; public health and safety; geographic resources; military activities and aviation; and transportation facilities and roads. Impact evaluations for each resource are discussed below in the context of the Project with BMPs that can help manage impacts.

Implementation of the Project has the potential to affect existing environmental conditions. Environmental effects may occur as a direct or indirect result of Project construction, operation, maintenance, and eventual decommissioning activities. Direct effects are those caused by the Project and occurring at the same time and place as the activity causing the effect, such as vegetation clearing, ground disturbance, or habitat modification. Indirect effects are those caused by the Project but occurring later in time or farther removed in distance, such as changes in land use, wildlife behavior, or other secondary environmental responses.

For the purposes of this analysis, short-term impacts are those occurring during construction and the initial post-construction period and are generally expected to return to pre-construction conditions within approximately three to five years following construction, depending on the affected resource and site-specific conditions. Long-term impacts are those expected to persist throughout the operational life of the Project, which is anticipated to be approximately 40 years or longer. Permanent impacts are those that remain beyond the operational life of the Project and are not expected to return to pre-Project conditions, even following decommissioning and reclamation activities. The duration, intensity, and extent of potential impacts are discussed for each resource area in the sections that follow.

For each resource area evaluated in this ER, the analysis: identifies the potential ground disturbance and environmental effects that may result from construction, operation,

maintenance, and decommissioning of the Project within the proposed 200-foot-wide ROW and associated temporary work areas; describes the protection measures, BMPs, and design features the Project would implement to avoid, minimize, and mitigate impacts where practicable; and evaluates whether the Project has the potential to result in the undue impairment of important environmental values, consistent with the requirements of NMSA 1978, § 62-9-3(F).

The Project will obtain all federal, state, and local environmental permits or authorizations necessary to begin construction and operation of the transmission line. A permit matrix for the Project is provided in Appendix C.

Prior to the start of construction, all supervisory personnel and contractor staff would receive training regarding the identification and protection of sensitive environmental and cultural resources. Construction contracts and environmental compliance requirements would address: (1) applicable federal, state, tribal, and local laws and regulations pertaining to wetlands, water resources, vegetation, wildlife, and cultural resources; (2) the importance of protecting sensitive resources; and (3) procedures and BMPs designed to avoid, minimize, and mitigate impacts during construction and operation.

## 4.2 Cumulative Effects

Project-related impacts would occur within a landscape that contains existing infrastructure, ongoing land uses, and reasonably foreseeable future development. When considered in combination with these existing and anticipated activities, including transmission infrastructure and other regional development, the Project could contribute incrementally to cumulative effects on certain environmental resources (e.g. wildlife). Project design and routing resulting in colocation with or paralleling of existing transmission infrastructure effectively reduces cumulative effects on the environment. Furthermore, the implementation of the protection measures identified in this ER, along with applicable measures incorporated at existing and future transmission facilities (e.g., bird flight diverters, shared access roads), would serve to avoid, minimize, or mitigate potential combined effects and would be anticipated to reduce the Project's contribution to cumulative environmental impacts.

## 4.3 Air Resources

The assessment of potential impacts to air resources associated with the construction, operation, and maintenance of the Project is based on the impact assessment methodology described in Section 4.1 above and discussed further below. Impacts to air resources from construction, operation, and maintenance activities are anticipated to be short-term and temporary in nature.

### 4.3.1 Impacts Specific to the Project

#### Construction

The large equipment used during construction is powered by internal combustion engines and would likely use diesel or gasoline as fuel. The combustion of these fuels creates pollutants including nitrogen oxides, carbon monoxide, carbon dioxide, volatile organic compounds, particulate matter, small amounts of sulfur dioxide, and trace amounts of hazardous air pollutants. Construction contractors and their equipment are required to comply with all applicable emissions standards. If an on-site concrete batch plant is required, the proper state and county air quality permits would be obtained prior to construction.

Fugitive dust emissions would also contribute to temporary air resource impacts during construction. Sources of fugitive dust include land clearing, grading, excavation, and vehicle traffic on unpaved roads. The amount of fugitive dust generated depends on construction activity levels, vehicular traffic volume, soil moisture content, and wind speed. Dust generation is generally expected to be greatest during dry and windy conditions and less pronounced during periods of higher soil moisture or precipitation. Dust suppression methods, including water application or other approved dust suppressants, speed restrictions on unpaved roads, and other BMPs, are planned to be used in construction areas during dry periods to minimize fugitive dust emissions and associated air quality impacts.

Since the fugitive dust and combustion engine emissions would be temporary (limited to the construction period), localized to the construction area, and minimized to the extent practicable through BMPs, construction-related fugitive dust and combustion emissions are not expected to result in substantial or long-term adverse impacts on air quality within the Project vicinity or unduly impair air resources.

#### Operations and Maintenance

During operation of the transmission line, the primary emissions are expected to be fugitive dust from vehicles traveling intermittently on unpaved roads. In addition, there would be emissions from the vehicles themselves. Such emissions are not anticipated to be significantly above the baseline condition, and, therefore, only minimal impacts to air quality are anticipated.

### 4.3.2 Protection Measures

Protection measures would be implemented to reduce potential impacts to air resources from construction activities. The only expected emissions would come from ground-disturbing activities, equipment movement, fuel combustion, and a concrete batch plant, if necessary. These emissions would be temporary and localized to the construction areas. Protection measures to address impacts on air resources include:

**Air-1:** Maintaining all fossil fuel-fired construction equipment in accordance with manufacturers' recommendations to minimize construction-related combustion emissions.

**Air-2:** Controlling combustion emissions through engine manufacturing requirements for both mobile sources and portable equipment such as air compressors.

**Air-3:** Limiting the idling time of equipment, unless idling must be maintained for proper operation (e.g., drilling, hoisting, and trenching).

**Air-4:** Limit the speed of vehicles within construction sites and along the utility ROW during construction to reduce the amount of fugitive dust generated.

**Air-5:** Water trucks will be utilized as necessary to reduce fugitive dust from construction activities.

**Air-6:** All applicable water pollution control standards will be adhered to, and any necessary corresponding permits will be acquired.

### 4.3.3 Conclusion

Given the limited, localized, and temporary nature of emissions associated with Project construction, operation, and maintenance, including implementation of the protection measures described above, the Project is not expected to result in significant adverse impacts to air resources or unduly impair air resources.

## 4.4 Noise

The assessment of noise impacts associated with construction, operation, and maintenance of the proposed Project is based on the impact assessment methodology described in Section 4.1 and is presented below. Noise impacts are expected to be minor, localized, and temporary, occurring primarily during construction activities.

### 4.4.1 Impacts Specific to the Project

#### Construction

Existing ambient noise levels within the predominantly rural areas of Valencia, Torrance, and Socorro Counties are generally low. Primary sources of existing noise in the area include traffic on U.S. and state highways, local county roads, and agricultural and ranching activities. Construction of the Project would temporarily increase ambient noise levels in the vicinity of active work areas due to the operation of construction equipment, vehicles, and other construction-related activities. These noise increases would be localized, temporary, and limited to the duration of construction activities. Construction-related noise impacts would be managed in accordance with applicable state and local requirements.

### Operations and Maintenance

Following construction, noise associated with operation of the Project would be minimal and generally limited to occasional corona noise that may occur under certain weather and operating conditions. Periodic maintenance activities may result in short-term, localized increases in noise levels; however, such activities would occur infrequently and are not expected to substantially affect ambient noise conditions. Consequently, noise impacts associated with construction, operation, and maintenance of the Project are expected to be minor, localized, and temporary and are not anticipated to unduly impair important environmental values.

## 4.4.2 Protection Measures

Protection measures that would be used to reduce any potential negative noise impacts from construction and operational activities include:

**Noise-1:** Restrict construction activity near residences to normal business hours.

**Noise-2:** Conduct a baseline noise modeling analysis to predict effect of facility operations above sound levels authorized in local ordinances.

## 4.4.3 Conclusion

Compliance with applicable noise standards and implementation of the protection measures described above, combined with the localized, low-intensity, and temporary nature of construction- and maintenance-related noise, indicate that the Project is not expected to result in substantial adverse noise. Operational noise from the transmission line would be minimal and limited primarily to occasional corona noise under certain environmental conditions. Accordingly, the Project is not expected to create a significant noise burden or unduly impair important environmental values related to noise.

# 4.5 Geology and Mineral Resources

Impact assessments of geologic and mineral resources associated with construction, operation, and maintenance of the Project follow the impact assessment methodology described in Section 4.1 and are discussed below. The assessment considers existing geologic conditions within the 200-foot ROW, including geologic hazards, topography, soil conditions, mineral resources, and other geologic constraints that may influence Project design, construction, operation, and maintenance. The assessment also evaluates the potential for Project activities to affect geologic and mineral resources.

### 4.5.1 Impacts Specific to the Project

This section summarizes the expected impacts of existing geologic and mineral resource conditions on Project construction, O&M, as well as the potential for Project activities to affect geologic and mineral resources.

## Geologic Setting

As described in Section 3.4.2, the ROW traverses an area characterized by Permian-age sedimentary bedrock, shallow caliche-bearing soils, localized volcanic features, and generally limited geologic hazards. Existing geologic conditions that could influence Project design and construction include localized steep slopes, landslide-prone terrain, flooding and erosion hazards, and potential karst-related subsurface features.

## Landslides and Slope Stability

As described in Section 3.4.2, portions of the ROW traverse areas of steep terrain and mapped landslide susceptibility, particularly between the Manzano and Los Pinos Mountains and near El Cerro de Los Lunas. Construction activities within these areas could require additional grading, slope stabilization measures, or specialized foundation design. During operation, transmission structures located on steeper slopes may be more susceptible to long-term stability concerns if site-specific geotechnical considerations are not incorporated into final design. These potential effects can be minimized through route refinement, engineering design, and implementation of appropriate construction practices.

## Seismic and Volcanic Hazards

As discussed in Section 3.4.2, regional seismic activity is generally low to moderate, and no major active faults have been identified within the immediate vicinity of the ROW. Therefore, seismic hazards are not expected to represent a substantial constraint to Project construction, O&M.

## Karst and Subsurface Conditions

Portions of the ROW overlie limestone and dolomite formations where isolated karst features or dissolution-related voids may occur. Although no extensive mapped karst systems have been identified within the Transmission Study Corridor, site-specific subsurface investigations may be necessary in some locations to identify and avoid potential foundation concerns. Implementation of appropriate engineering design measures is expected to reduce potential impacts associated with subsurface conditions.

## Flooding and Erosion

Seasonal monsoon storms can result in localized flooding, arroyo flows, and erosion throughout central New Mexico. Portions of the ROW may be affected by these conditions, particularly near drainage crossings and flood-prone areas associated with the Rio Grande watershed. Construction activities could temporarily increase erosion potential if soils are disturbed, while operation-related impacts are expected to be limited. Transmission structure placement and access road design would consider drainage patterns, flood hazards, and erosion potential during final engineering and permitting.

## Oil and Gas Resources

As described in Section 3.4.2, no active oil or natural gas wells occur within or immediately adjacent to the ROW. However, active natural gas transmission pipelines and hazardous liquid pipelines occur within portions of the study area and may intersect or occur near the ROW in Valencia, Torrance, and Socorro Counties.

Because active oil and gas production is absent within the ROW, construction and operation of the Project are not expected to result in substantial impacts on hydrocarbon resource development. Where Project facilities cross or occur in proximity to existing pipeline infrastructure, construction activities could require coordination with pipeline operators. Project design, engineering, and construction activities would be conducted in accordance with applicable crossing, setback, and safety requirements. Accordingly, impacts on existing oil and gas infrastructure are expected to be minor.

## Mineral Resources

As described in Section 3.4.2, mining activity within the broader region is primarily associated with aggregate, caliche, dimension stone, and limited metallic mineral extraction. Active mining operations within the vicinity of the ROW are limited, and no major mineral deposits or active mining operations have been identified within the ROW.

Accordingly, construction and operation of the Project are not expected to result in substantial conflicts with existing mineral resource development. Localized contamination could be present near previously disturbed or abandoned mining areas, although no such sites have been identified within the ROW. Any previously unidentified mining-related features encountered during Project development would be evaluated and addressed through Project-specific design and environmental review processes.

### 4.5.2 Protection Measures

The following measures would be implemented, as appropriate, to reduce potential impacts related to geologic hazards and mineral resources associated with construction and operation of the Project:

**Geo-1:** Site transmission structures and associated access routes to avoid areas of moderate to high landslide susceptibility and steep slopes, to the extent practicable.

**Geo-2:** Placement of transmission structures will be designed to avoid operational hydrocarbon pipeline easements.

**Geo-3:** Site-specific geotechnical investigations will be conducted, as necessary, to evaluate subsurface conditions and inform foundation design, grading requirements, and construction methods.

**Geo-4:** Erosion and sediment control BMPs will be implemented during construction to minimize soil disturbance and reduce erosion caused by stormwater runoff and wind.

**Geo-5:** Drainage features, access routes, and transmission structures will be designed to minimize impacts from seasonal flooding, localized ponding, and stormwater runoff. Infrastructure will be located outside flood-prone areas where practicable.

**Geo-6:** Areas temporarily disturbed during construction will be stabilized and revegetated, to the extent practicable, to reduce erosion potential and promote long-term soil stability.

**Geo-7:** Construction activities in areas of steep or potentially unstable terrain will incorporate appropriate engineering controls, including slope stabilization, grading limitations, and drainage improvements where warranted by site conditions.

**Geo-8:** Placement of transmission poles/structures will be designed to avoid operational hydrocarbon pipeline easements.

### 4.5.3 Conclusion

The Project is located within a region characterized by predominantly Permian sedimentary bedrock, shallow caliche-bearing soils, localized volcanic features, and generally limited geologic hazards. Potential constraints include isolated areas of landslide susceptibility, steep terrain, localized flooding, and potential karst-related subsurface conditions. As described in Section 3.4, mineral resource development within the region is limited, and no major mineral resource conflicts have been identified within the ROW. Active oil and gas production is absent within the ROW, although existing natural gas transmission and hazardous liquid pipelines that occur within portions of the study area and would require coordination during final design and construction. With implementation of standard engineering design practices, Project-specific geotechnical investigations, and the protection measures identified above, significant adverse impacts related to geology and mineral resources are not anticipated for construction, operation, or maintenance of the Project.

## 4.6 Soil Resources

Assessment of impacts to soil resources from construction, operation, and maintenance of the Project follows the methodology described in Section 4.1. Impacts to soils are generally low,

short-term, and temporary, primarily associated with construction activities. Permanent impacts are limited to the footprint of Project components and are described below.

### 4.6.1 Impacts Specific to the Project

Construction-related soil disturbance includes both temporary and permanent activities, such as structure work areas, wire pulling, tensioning and splicing sites, construction yards, and temporary and permanent access roads.

#### Temporary Erosion

Ground disturbance during construction may increase erosion potential, particularly where removal of vegetation exposes soils to wind and water erosion. Certain soils within the transmission line ROW are more susceptible to erosion, with water and wind acting as the primary drivers on disturbed or bare surfaces.

Operational impacts would be limited to periodic soil disturbance associated with maintenance and repair activities. Stormwater BMPs, such as erosion and sediment control features and culverts, would require routine inspection and maintenance to minimize erosion and sedimentation. Temporary access routes not needed for long-term operations would be regraded, seeded with native vegetation, and allowed to revegetate, reducing exposed soil surfaces.

Disturbed areas would be reclaimed following construction, including recontouring, topsoil replacement, and revegetation. Implementation of a SWPPP under the USEPA's NPDES program, along with appropriate soil protection measures and BMPs, would minimize erosion and associated impacts.

#### Accidental Spills

During construction, the use of trucks, heavy equipment, and material storage presents the potential for accidental releases of fuel, lubricants, and other automotive fluids. Any such releases would be incidental, localized, and temporary in nature, and are expected to result in minor to negligible impacts to soils. BMPs for construction housekeeping, spill prevention, and response would be implemented to minimize the risk of releases and ensure prompt cleanup.

If applicable, a Spill Prevention, Control, and Countermeasure (SPCC) Plan would be developed and implemented in accordance with regulatory thresholds (i.e., oil storage capacity exceeding 1,320 gallons, including transformer oils). With these measures in place, accidental spills are not expected to result in widespread, long-term, or significant impacts to soil resources.

### Permanent Soil Loss

The permanent footprint of the proposed transmission line would result in a minor, long-term reduction in soils available for other productive uses. Permanent impacts would be limited to areas occupied by structures, access roads retained for operations, and other ancillary facilities, and would represent a small proportion of the overall transmission line ROW. Although these areas would be removed from prior land uses, the overall extent of soil loss would be minimal relative to the surrounding landscape and would not substantially affect soil productivity or regional land use.

## 4.6.2 Protection Measures

The following measures would be implemented to minimize potential impacts to soil resources during construction of the transmission line:

**Soil-1:** Construction crews will reduce the amount of soil compaction by using equipment with more tires and wider tires to distribute the weight of the vehicle and tilling the severely compacted areas after construction is completed or using ground mats when the ground is wet.

**Soil-2**: Work areas will be surveyed and staked prior to construction to limit unnecessary disturbance to soils and established vegetation during the construction period.

**Soil-3**: Construction will be sequenced to minimize the area of disturbance to soils or established vegetation occurring at any one time during the construction period.

**Soil-4:** To the extent possible, topsoil will be placed separately from sub-soils/bedrock during excavation and not comingled. The Project will replace soil in reverse order, to help preserve topsoil.

**Soil-5:** The Project will reduce erosion by applying and maintaining standard erosion and sediment control methods. These may include, but are not limited to, use of certified weed-free straw wattles, bale barriers, and/or silt fencing, which would be placed at construction boundaries and where soil would be disturbed near a wetland or water body. Specific erosion and sediment control measures and locations will be specified in a SWPPP.

## 4.6.3 Conclusion

Based on the implementation of standard BMPs for erosion control, soil stabilization, and spill prevention, as well as the limited extent of permanent soil disturbance, the Project is not expected to result in substantial adverse impacts to soil resources. Temporary construction-related effects would be minimized and reclaimed through regrading, topsoil replacement, and revegetation, while long-term impacts would be confined to a relatively small footprint. With the application of the soil protection measures described above, the Project would not be expected to degrade soil productivity, increase erosion beyond manageable levels, or result in widespread or long-term impairment of soil resources.

# 4.7 Paleontological Resources

Assessment of impacts to paleontological resources from construction, operation, and maintenance of the Project follows the methodology described in Section 4.1. Potential impacts to paleontological resources are evaluated based on the potential for Project-related ground disturbance to adversely affect significant paleontological resources, the extent to which Project activities may affect fossil-bearing geologic units, and the implementation of avoidance, minimization, and mitigation measures designed to reduce adverse effects on paleontological resources.

## 4.7.1 Impacts Specific to the Project

### Construction

Ground-disturbing construction activities including land clearing and grading for roads and tower sites, excavation, and trenching, have the potential to affect paleontological resources where those activities would directly affect geologic units that may contain paleontological resources. Specifically, geologic units that have been assigned PFYC ratings of 3-Moderate, 4-High, and 5-Very High (Exhibit 7) are the geologic units with the greatest potential for containing significant paleontological resources including vertebrate fossils and notable invertebrate and plant fossils, along with trackways or other trace fossils.

The Project would impact geologic units assessed across all PFYC ratings by construction activities that would generally occur at or near the land surface. Potentially significant impacts on paleontological resources could occur where ground-disturbing activities intersect with and affect geologic units with moderate to very high potential to contain paleontological resources. However, the implementation of protection measures, as summarized below, would ensure that any unanticipated discoveries of paleontological resources would be protected and the potential significant impact to the uncovered paleontological resource would be mitigated to a less than significant level.

### Operations and Maintenance

Standard operations and maintenance activities would not result in additional impacts to paleontological resources beyond those occurring during construction so long as those operations and maintenance activities occur only within previously disturbed areas. In the event that operations and maintenance activities occur outside areas disturbed during construction, potential impacts on paleontological resources would be the same as during the construction phase and would be determined by the geology underlying where those activities would occur.

Beyond potential impacts associated with operations and maintenance activities, the addition of new access roads may indirectly improve access to fossiliferous geological units and increasing their exposure to poaching. However, the ROW parallels existing roads or would be developed in proximity to existing roadways, to the extent practicable. As such, there is limited potential for

the Project to expand access to any fossiliferous deposits beyond what already exists and indirect impacts from road access to the Project vicinity would not occur.

### 4.7.2 Protection Measures

Protection measures that would be implemented to reduce any potential impacts from construction activities on paleontological resources:

**Paleo-1**: Follow a Unanticipated Discoveries Plan (UDP), providing protection upon discovery of unknown sites.

### 4.7.3 Conclusion

The Project would cross geologic units assigned to a range of PFYC ratings, reflecting varying potential for the occurrence of scientifically significant paleontological resources and differing levels of susceptibility to impacts from Project-related ground-disturbing activities. Construction activities, including excavation, grading, and access road development, have the potential to affect previously undiscovered paleontological resources where fossil-bearing geologic units are present. Where applicable, paleontological surveys in known areas of Project ground disturbance will be completed before construction, and no ground-disturbing activities will occur in those areas until survey work is complete. Implementation of a UDP which may include paleontological monitoring, worker training, avoidance measures, and discovery protocols where appropriate, would avoid, minimize, and mitigate potential impacts to paleontological resources. As a result, impacts to paleontological resources are expected to be minor and would not result in the undue impairment of important environmental values.

## 4.8 Water Resources

Assessment of impacts to water resources from construction, operation, and maintenance of the proposed transmission line follows the methodology described in Section 4.1 and is summarized below. Potential impacts include temporary disturbance to surface water features, changes to drainage patterns, and increased risk of sedimentation during construction. With implementation of avoidance and minimization measures, impacts to water resources are expected to be low, localized, and primarily short-term in duration.

### 4.8.1 Impacts Specific to the Project

Potential impacts to water resources from construction, operation, and maintenance of the proposed transmission line would be associated primarily with temporary ground disturbance, stormwater runoff, accidental spills, floodplain encroachment, and stream or wetland crossings. Construction activities such as structure work areas, wire pulling, tensioning and splicing sites, construction yards, and temporary or permanent access roads could increase erosion, sediment transport, and runoff, particularly where vegetation is removed or soils become compacted.

Accidental releases of fuels, oils, or other hazardous materials from construction equipment or material storage areas could also affect nearby drainages or other surface waters if not properly contained and remediated. Because these effects would occur primarily during construction, they are expected to be localized, temporary, and short-term.

Where streams, wetlands, or other aquatic features are present, the transmission line would be designed to avoid and minimize impacts to the extent practicable. Waterbodies and wetlands would generally be spanned, and structures would be placed outside the ordinary high-water mark and other sensitive aquatic features where feasible. Existing road-stream crossings would be used for access where available; however, if new temporary or permanent crossings are required, they would be designed to minimize impacts and permitted through the appropriate agencies. Following route evaluation, a formal aquatic resource delineation would be conducted in accordance with applicable federal guidance to verify the presence and extent of potentially jurisdictional waters, wetlands, and other aquatic resources and to inform final design, permitting, and mitigation requirements.

Construction within or near flood-prone areas could increase the risk of erosion, localized flow diversion, or structural damage if facilities were placed within active conveyance areas. To minimize these risks, structures would be sited outside channels and flood-prone areas to the extent practicable, particularly near the Rio Grande and associated floodplain. Because floodplains overlap with some portions of the ROW, primarily in Valencia County and largely associated with the Rio Grande corridor, floodplain impacts are expected to be limited through route refinement and structure siting.

BMPs would be implemented during construction to reduce the potential for erosion, sedimentation, turbidity, and pollutant discharge to nearby water resources. These measures would be incorporated into a Project-specific SWPPP prepared in accordance with the federal NPDES construction stormwater permitting program. The SWPPP would identify runoff controls, erosion and sediment control measures, site stabilization requirements, inspection protocols, and corrective actions. Spill prevention and response measures would also be implemented during construction, and an SPCC Plan would be prepared if oil storage capacity exceeds applicable regulatory thresholds.

Groundwater impacts are expected to be minimal. Construction activities may encounter shallow groundwater in isolated locations, particularly near the Rio Grande floodplain or other low-lying drainages; however, such interactions would be temporary and are not expected to substantially affect groundwater resources. No permanent groundwater withdrawals are anticipated, and water used during construction, such as for dust suppression or concrete production, would be obtained from existing off-site sources.

The ROW overlaps approximately 2.5 miles of FEMA-designated Flood Zone A in Valencia County, which represents areas with a 1% annual chance of flooding (FEMA 2026). It is also reasonable to assume that all natural drainages capable of conveying flow, whether or not they are mapped by FEMA, present some degree of flood hazard. Placement of structures within a flood-prone area could increase the potential for erosion, flood damage, or flow diversion.

Accordingly, transmission structures would be set back from channel banks and flood-prone areas to the extent practicable to avoid channel alteration and disruption of flood flows; therefore, impacts to floodplains are expected to be low.

Based on the desktop assessment, potentially jurisdictional waters of the United States (WOTUS), including wetlands, may occur within the ROW. According to the USGS NHD, the ROW crosses approximately one perennial stream feature (the Rio Grande), one intermittent stream feature, and 45 ephemeral stream features. The ROW also crosses numerous ephemeral stream features across the entire length of the proposed Project. In addition, the USFWS NWI indicates that approximately 0.6 miles of the ROW overlaps mapped aquatic resources, including wetlands, riverine features, lakes, and ponds.

Because NWI mapping is intended as a screening-level tool, it should not be considered a definitive indicator of jurisdictional wetlands or other WOTUS as defined by the USACE. Wetland identification criteria used by the USFWS differ from those applied by the USACE, and mapped NWI features may not be jurisdictional, while some jurisdictional waters may not be reflected in the NWI dataset. To refine the desktop analysis, NWI data were reviewed in conjunction with other available geospatial resources, including NRCS hydric soils mapping, topographic contours, USGS hydrography, FEMA floodplain mapping, and aerial imagery. Areas where multiple data sources overlap are generally considered to have a greater likelihood of supporting wetlands or other aquatic resources than areas identified by a single source.

A formal aquatic resource delineation would be conducted in accordance with applicable federal and state guidance to verify the presence and extent of wetlands and other waterbodies that could be affected by the Project. The results of that delineation would be used to support final design and to avoid or minimize direct impacts to aquatic resources to the extent practicable.

To the extent practicable, streams, wetlands, ponds, and other aquatic features would be avoided or spanned by the transmission line, and permanent structures would be sited outside jurisdictional features. Temporary construction areas, including work areas and pulling or tensioning sites, would also be located to avoid aquatic resources where feasible. If temporary impacts cannot be avoided, appropriate protective measures, such as construction matting and other minimization practices, would be implemented and any necessary permits obtained (Appendix C).

Overall, with implementation of route refinement, feature spanning, floodplain avoidance to the extent practicable, and standard BMPs, impacts to water resources from construction, operation, and maintenance of the proposed transmission line are expected to be low, localized, and primarily temporary. Long-term impacts would be minimized through final design, avoidance of aquatic features where practicable, and compliance with applicable federal, state, and local permitting requirements.

## 4.8.2 Protection Measures

The following measures would be implemented to minimize potential impacts to water resources during construction of the transmission line:

**Water-1:** Develop and implement a Project-specific SWPPP. The SWPPP may include measures such as silt barrier fences to control runoff, sediment traps and basins, and minimizing exposed soils by using temporary and permanent seeding and mulching.

**Water-2:** Disturbed areas will be restored to their original condition to the extent practicable. Such areas shall be reseeded and reclaimed as practicable, with consideration of the growing season. Seed mix and seeding rates will be developed through consultation with the local agency and landowner preference.

**Water-3:** Equipment will be properly maintained and inspected regularly to minimize the potential for leaks of fuel, oil, hydraulic fluid, or other hazardous materials.

**Water-4:** Fuels, lubricants, and other petroleum products will be stored in designated areas away from drainages, wetlands, waterbodies, and excavated areas, and will be managed in accordance with applicable spill prevention requirements.

**Water-5:** Spills will be contained and cleaned up promptly using appropriate response procedures and materials. If oil storage capacity exceeds 1,320 gallons, an SPCC Plan will be developed to describe the procedures and measures that would be implemented on-site to contain and prevent the release of oil from reaching navigable waters.

**Water-6:** Matting and other temporary protective measures will be used on wetlands that cannot be avoided.

**Water-7:** Unavoidable impacts to potentially jurisdictional wetlands and waters will be evaluated against the requirement of the USACE for coverage under the Nationwide Permit Program.

**Water-8:** Appropriate buffer zones will be established around wetlands, waterbodies, and other aquatic features based on resource type, infrastructure, location, and proximity to other constraints. Buffers may utilize staking, flagging, and/or fencing around wetlands as necessary to prevent disturbance and minimize encroachment.

**Water-9:** Soil stockpiles, spoil areas, and other construction materials will not be located within 50 ft of stormwater inlets or water resources.

**Water-10:** All applicable water quality protection standards will be followed, and any applicable federal, state, and local permits or authorizations will be acquired prior to construction.

## 4.8.3 Conclusion

Based on the generally limited extent of aquatic resources within much of the ROW, the ability to avoid or span streams, wetlands, and other water features to the extent practicable, and the

implementation of the protection measures described above, the Project is not expected to result in substantial adverse impacts to water resources. Temporary construction-related effects, such as localized erosion, sedimentation, or accidental spills, would be minimized through implementation of BMPs, a Project-specific SWPPP, spill prevention measures, and site reclamation. With route refinement, appropriate permitting, and adherence to applicable water quality protection requirements, the Project is not expected to unduly impair surface waters, wetlands, floodplains, or groundwater resources.

# 4.9 Flora and Fauna

Assessment of impacts to biological resources from construction, operation, and maintenance of the proposed transmission line follows the methodology described in Section 4.1 and is summarized below. Construction and maintenance impacts would be generally short-term and temporary. Potential operational impacts include a small amount of permanent habitat loss due to the permanent footprint of access roads and transmission line structures.

## 4.9.1 Impacts Specific to the Project

### Federally and State-Listed Species

According to the USFWS IPaC, federally listed species that may occur in the ROW include Mexican spotted owl, Northern aplomado falcon, piping plover, southwestern willow flycatcher, yellow-billed cuckoo, Mexican wolf, New Mexico meadow jumping mouse, Rio Grande silvery minnow, monarch butterfly, Suckley's cuckoo bumble bee, and Pecos sunflower. An evaluation of habitat conditions within the ROW determined that only the southwestern willow flycatcher, yellow-billed cuckoo, Rio Grande silvery minnow, and monarch butterfly have the potential to occur within the Project Area (Table 3-11). The southwestern willow flycatcher and Rio Grande silvery minnow are federally listed as endangered, while the yellow-billed cuckoo is listed as threatened under the ESA. The monarch butterfly is a proposed threatened species and is not currently protected under the ESA. In addition, designated critical habitat for the southwestern willow flycatcher, yellow-billed cuckoo, and Rio Grande silvery minnow intersects portions of the ROW.

Separately, the NMERT identifies state-listed endangered and threatened wildlife species that may occur within the ROW. These species include bald eagle, Northern aplomado falcon, peregrine falcon, southwestern willow flycatcher, gray vireo, Rio Grande silvery minnow, spotted bat, New Mexico meadow jumping mouse, and western ribbon snake. Using the same habitat-based screening approach, only the bald eagle, southwestern willow flycatcher, gray vireo, Rio Grande silvery minnow, and western ribbon snake were determined to have reasonable potential to occur within the ROW (Table 3-12).

If any individuals or suitable habitats for threatened and endangered species are identified during a field survey, the Project would coordinate with USFWS and NMDGF to determine avoidance or minimization strategies, as necessary. Field surveys would occur within the appropriate windows for species observation based on experience within the region and applicable agency guidance. Impacts to federal and state protected species are anticipated to be low based on the limited amount of high-quality habitat present; implementation of avoidance measures and BMPs; and the short construction duration for the transmission line.

## USFS and BLM-Listed Species

A review of USFS and BLM-listed sensitive species lists found that there are 33 sensitive species present within Cibola National Forest, and 28 sensitive species within the BLM Rio Puerco Field Office. USFS and BLM-listed sensitive species only receive protections on lands that the respective agency manages. Therefore, each species' likelihood of occurrence was evaluated based on the habitat present on either BLM, or USFS-managed lands. Sensitive species that may occur in the transmission line ROW are included in Table 3-13 and Table 3-14 in Appendix B. Based on habitat requirements, only northern goshawk, gray vireo, and tall bitterweed are likely to occur on USFS-managed lands within the ROW. Only Mexican whip-poor-will and pinyon jay are likely to occur on BLM-managed lands.

If any individuals or suitable habitat are identified during a field survey, the Project would coordinate with either USFS or BLM, as applicable, to determine avoidance or minimization strategies. General field surveys or species specific surveys would occur within the appropriate windows for species observation based on experience within the region and applicable agency guidance. Impacts to BLM and USFS sensitive species are anticipated to be low based on the limited amount of high-quality habitat present on BLM and USFS-managed lands within the ROW; implementation of avoidance measures and BMPs; and the short construction duration for the transmission line.

### Birds

Migratory bird species, including bald eagles, pinyon jay, broad-tailed hummingbird, and other raptors, could potentially utilize the ROW for breeding, foraging, and migration. If construction occurs during the migratory bird nesting season, potential impacts could occur to migratory bird eggs and/or nestlings. Increase in noise and equipment activity levels during construction could also potentially disturb breeding, nesting, or foraging activities of migratory birds and/or raptors in adjacent areas. The Project would conduct all vegetation clearing and construction activities in compliance with the MBTA and Bald and Golden Eagle Protection Act; activities would either occur outside of the applicable breeding season or pre-construction migratory bird surveys would be completed ahead of any construction activities that would take place within the breeding season. Active nests identified during pre-construction surveys would be recorded and given the appropriate species specific spatial and/or temporal buffer from construction activities.

Transmission lines can present additional collision hazards to birds, however electrocution is unlikely for perching birds, given the phase-to-phase and phase-to-ground clearances dictated by NESC standards. Wet weather can create a conductive environment in which birds could potentially be electrocuted on normally benign poles; however, avian-safe design features (Section 4.9.2) mitigate this risk (APLIC 2026). Birds may migrate through the area during the annual migration periods of spring and fall. The Project would follow appropriate APLIC guidance to implement measures to minimize collision risk with proper siting and electrocution risk with proper transmission line design. The electrocution risk to birds would be minimal since the engineering design distance between conductors, conductor to structure, or conductor to ground wire for the proposed transmission line is greater than the wingspan of any bird potentially within the area (i.e., greater than 8 feet). While the conductors are typically thick enough to be seen and avoided by birds in flight, the shield wire (upper most wire) is thinner and can present a risk for avian collision. Further, segments of the Project that are co-located with the existing WL 115-kV line combine what could be constructed as two independent collision hazards into a single hazard that birds in flight must avoid, reducing the overall combined collision risk for both powerlines if constructed and located independently. Additionally, segments of the Project constructed immediately adjacent and parallel to the existing WL 115-kV line or other existing transmission infrastructure may increase overall visibility of the combined hazard.

Specific to sandhill cranes, a separate study was completed to evaluate sandhill crane exposure probability (i.e., the probability of a sandhill crane passing through a volume of space surrounding the transmission line circuits) relevant to the existing WL 115-kV transmission line and construction of the Project (Appendix D). The results indicated that while exposure probability increased with the addition of the Project to the existing WL 115-kV transmission line, the combined exposure probability was lower than if the Project were to be built independently. Further, exposure probability does not account for collision avoidance behaviors. While sandhill cranes demonstrate natural avoidance behaviors to powerlines, collision risk would likely decrease materially by increasing visibility of the Project to birds in flight through the use of bird flight diverters.

Prior to construction, an avian risk assessment would be completed for the Project following APLIC guidance to identify areas where there is greater risk for avian collisions (e.g., near wetlands). The results of the assessment would help identify where the Project would install bird diverters to minimize collision risk for all avian species, including sandhill cranes.

### Mammals

Temporary impacts may occur during construction due to direct habitat disturbance, noise in the vicinity, and vibrations. Impacts are anticipated to be low and short-term. For some mammalian species, displacement from increased traffic, noise, and vibration in the vicinity of the Project could occur for the duration of the construction period. After construction, noise generated during operations would be greatly reduced and cause negligible impacts. Most wildlife movements are expected to resume to pre-construction levels a short time after construction is

completed. Potential long-term impacts include those resulting from habitat modifications and/or fragmentation. The Project would work to minimize potential habitat fragmentation by paralleling the Project transmission lines with existing linear features (e.g., road and existing transmission lines) and avoid paralleling water features (such as streams or wetlands) when feasible. Construction activities might also impact small, immobile, or fossorial (living underground) mammal species through direct impact or from the alteration of local habitats. Direct impact on these species might occur due to equipment or vehicular movement within the area or due to the compaction of the soil if the species is fossorial. Potential impacts of this type are likely to be low and isolated to individuals. Population-level impacts are not likely. The Project would also aim to avoid direct impacts to these species from equipment or vehicular movement on the ROW by encouraging compliance with on-site or posted speed limits. Therefore, low impacts to local mammalian wildlife populations may occur due to habitat disturbance and localized potential for direct mortality to individuals during construction and operation.

As discussed in Section 3.8.2, five of the ten big game species managed by NMDGF have the potential to occur in the Transmission Study Corridor: mule deer, elk, black bear, mountain lion, and pronghorn (NMDGF 2026b). Each of these species is known to inhabit pinyon-juniper and grassland habitats, though black bears typically inhabit the more mountainous regions to the north (NMDGF 2026b). Elk, mountain lions, and pronghorn antelope have been documented in or near the Transmission Study Corridor.

Relatively little research to date has been done to assess the long-term impacts of transmission lines on big game species. However, habitat conversion and fragmentation; increased noise, light, and human activity during construction and maintenance; and visual changes to the landscape have been documented as potential impacts to big game from transmission line development (Jakes et al. 2024). However, the magnitude of these impacts appears to vary by species and may be mitigated by restoration efforts following construction, ROW management, and protection measures (Bramble and Byrnes 1972; Bartzke et al. 2014). Conversely, it is also documented that transmission line construction lines may benefit game animals with managed ROW serving as habitat corridors and/or creating feeding opportunities (Bartzke et al. 2014; Jakes et al. 2024).

Construction sites, staging areas, and work locations would be maintained in an orderly condition throughout Project construction. All waste materials, including food-related waste, would be collected in covered receptacles and regularly removed from the Project sites for disposal at appropriately permitted facilities. The Project overlaps areas of potentially suitable habitat for black bear (*Ursus americanus*) (New Mexico Department of Game and Fish [NMDGF] 2026a); however, documented black bear occurrences have not been identified within the Transmission Study Corridor. If Project-specific assessments indicate a moderate to high potential for bear activity, bear-resistant waste containers would be used, as appropriate, to minimize wildlife attractants.

## Reptiles

Reptiles, including the federally threatened western ribbon snake, may experience temporary impacts during construction such as direct habitat disturbance, noise, and vibrations. Impacts are anticipated to be low and short-term. After construction is complete, noise generated during operation of the transmission line would be greatly reduced and create negligible impacts. Most wildlife movements are expected to resume to pre-construction levels after construction is completed. Potential long-term impacts include those resulting from habitat modifications and/or fragmentation. The Project would work to minimize potential habitat fragmentation by paralleling the transmission line with existing linear features (e.g., road and existing transmission lines) and avoid paralleling water features (such as streams or wetlands) when feasible. Construction activities also have the potential to impact small, immobile, or reptiles living underground, through direct impact from ground disturbance and alterations of local habitats. Direct impact on these species might occur due to equipment or vehicular movement within the area or due to the compaction of the soil if the species is fossorial (living underground). Potential impacts of this type are likely to be low and isolated to individuals; population-level impacts are not likely. The Project would minimize direct impacts to these species from equipment or vehicular movement on the ROW by encouraging compliance with on-site or posted speed limits. Therefore, low impacts to local reptile populations may occur due to habitat disturbance and localized potential for direct mortality to individuals during construction and operation.

## Flowering Plants

The ROW is characterized by arid grassland, shrub/scrub, and pinyon-juniper habitats. The higher elevation, pinyon-juniper habitat located in and around the southern Manzano Mountains could potentially support the tall bitterweed, a New Mexico Rare Plant Conservation Strategy species. Impacts during construction would include temporary and permanent disturbance from vegetation removal. Adverse long-term impacts could occur through the introduction of invasive species that could exploit disturbed-ground conditions during construction, resulting in long-term alteration of community composition in those areas. A noxious weed plan would be developed for the Project to address protocols from treatment and removal of invasive and noxious plants. O&M activities are expected to occur infrequently during the operational lifetime of the Project and would not significantly disrupt established vegetation communities. The duration of these effects would be minimized through the protection measures proposed by the Project, designed to reduce impacts to vegetation.

## Insects

Open grasslands and scrub/shrub habitat in the ROW have the potential to support a diversity of blooming nectar resources, including milkweed, which sustains many insect species including the monarch butterfly. Temporary and permanent disturbance from vegetation removal during construction may disrupt life cycles and migration patterns of insect species within the ROW. Adverse long-term impacts could occur through the introduction of invasive species (vegetative as well as insect species) that could exploit disturbed-ground conditions during construction,

resulting in long-term alteration of community composition. A noxious weed plan would be developed for the Project to address protocols for treatment and removal of invasive and noxious plants. The duration of these effects would be minimized through the following protection measures which are designed to minimize long-term impacts to the vegetation communities that support insects.

### 4.9.2 Protection Measures

Protection measures that would be implemented to reduce any potential negative impacts to biological resources during construction activities include:

**Bio-1:** Prior to construction, an avian risk assessment will be completed for the Project following APLIC guidance to identify areas where there is relatively greater risk for avian collisions (e.g., near wetlands). The results of the assessment will help identify where the Project may install bird diverters to minimize collision risk.

**Bio-2:** Trash and food debris will be properly disposed of and secured.

**Bio-3:** Allowing wildlife that has entered the work area to leave the area on its own.

**Bio-4:** Providing environmental awareness training to all construction personnel working on the Project.

**Bio-5:** Vehicles and other construction equipment that have been stationary for more than one hour will be visually inspected for wildlife prior to moving or operation.

**Bio-6:** Checking trenches, excavations, and uncapped pipe segments for wildlife.

**Bio-7:** Project personnel will comply with posted speed limits.

**Bio-8:** Conducting tree/vegetation clearing outside the primary nesting season (March 1-August 31), where feasible, to discourage birds from establishing nests in Project work areas.

**Bio-9:** Conducting pre-construction nest surveys prior to initiating construction activities unless vegetation clearing has been completed prior to the nesting season. If nests are discovered, a species appropriate buffer will be implemented, and construction activities will be avoided within such buffer until the species has fledged.

**Bio-10:** Establishing an appropriate buffer around occupied raptor nests, as necessary to minimize disturbance. Buffers are species or group specific and are based on applicable agency coordination and/or other relevant guidance.

**Bio-11:** Design transmission line facilities to APLIC guidance or similar in order to minimize electrocution and collision risk.

**Bio-12:** Micrositing will be completed during engineering design to avoid sensitive biological resources.

**Bio-13:** Setbacks from sensitive biological resources will be implemented to protect species habitat and time critical periods (e.g., breeding season).

**Bio-14:** Field surveys will be conducted to determine the extent of potentially suitable habitat for listed species and/or probable presence/absence, where applicable. Known population concentrations (i.e., leks or other congregatory groups) will be avoided by project design using a species appropriate buffer determined through relevant agency coordination or other applicable guidance.

**Bio-15:** A noxious weed plan will be developed for the Project to address protocols for treatment and removal of invasive and noxious plants.

### 4.9.3 Conclusion

Based on the limited amount and quality of habitat present for sensitive species, as well as the protection measures detailed above, it is not expected that the Project would unduly impair biological resources. Direct effects during the construction phase include removal of vegetation and wildlife habitat, however these impacts would be short-term and low impact.

## 4.10 Archaeological and Historic-Age Cultural Resources

Assessment of impacts to archaeological and historic-age cultural resources from the Project construction, operation, and maintenance follows the impact assessment methodology described in Chapter 4.1 above and is discussed below. Construction, operations, and maintenance impacts are generally low, avoidable, short-term, and temporary in nature for archaeological and historic-age cultural resources. Cultural resources surveys would be completed for all areas of anticipated ground disturbance for the Project prior to any ground disturbance on public as well as private property, where permitted.

### 4.10.1 Impacts Specific to the Project

The ROW contains 41 archaeological sites and 11 HCPI resources. Of the archaeological sites, three have been determined Eligible for listing on the NRHP, four are Not Eligible for listing on the NRHP, and 33 remain Unevaluated for listing on the NRHP. Of the HPCIs, eight resources have been determined Eligible for listing on the NRHP, one is Not Eligible for listing on the NRHP, and two remain Unevaluated for the NRHP. Approximately 86% of the proposed Project ROW remains unsurveyed, leaving substantial gaps in resource identification and documentation.

Potential impacts to known cultural resources are anticipated to be minimal, as Project facilities would be sited and designed to avoid identified resources where practicable. Prior to the commencement of construction activities, intensive cultural resource surveys would be completed on federal lands, NMSLO lands, and, to the extent practicable, high probability areas

on privately owned land. The results of these surveys would be used to identify cultural resources and support impact avoidance and minimization efforts. Any inadvertent discoveries made during construction would be managed through coordination with the appropriate federal and state agencies and in accordance with applicable regulatory requirements, which would be outlined in a Project-specific UDP.

### 4.10.2 Protection Measures

Protection measures that would be implemented to the extent practicable to reduce any potential negative cultural, historic, and archaeological impacts from construction activities include:

**Cul-1:** The Project will be designed to avoid known sites, to the greatest extent practicable.

**Cul-2:** Cultural surveys in known areas of ground disturbance for the Project will be completed ahead of construction, where applicable. No ground disturbance activities in applicable areas will be completed prior to cultural survey work being completed.

**Cul-3:** If sites are found at the location of planned infrastructure, micrositing techniques will be used to move around and/or span sites to the greatest extent practicable.

**Cul-4:** The Project will engage with tribes that may have a cultural affiliation to areas within the Project ROW.

**Cul-5:** The Project will follow a UDP, providing protection upon discovery of unknown sites.

### 4.10.3 Conclusion

Based on the protection measures listed above, the proposed location of the Project would not unduly impair cultural, historic, and archaeological resources. Implementation of the proposed protection measures would avoid or minimize adverse effects on these resources.

## 4.11 Religious and Cemetery Sites

Assessment of impacts to religious and cemetery sites from construction, operation, and maintenance of the Project follows the impact assessment methodology described in Section 4.1 above and is discussed below. Construction, operations, and maintenance impacts are generally low, avoidable, short-term, and temporary in nature for religious resources.

### 4.11.1 Impacts Specific to the Project

No religious sites or cemeteries were identified within the ROW, though unknown or abandoned religious sites may exist within the ROW. Prior to the commencement of construction activities, intensive cultural resource surveys would be completed on federal lands, NMSLO lands, and, to the extent practicable, high probability areas on privately owned land in order to identify previously unrecorded religious and cemetery sites and reduce potential impacts from the Project. Siting of the Project would follow industry standard siting guidelines.

### 4.11.2 Protection Measures

Protection measures that would be implemented to reduce any potential negative impacts to religious and cemetery sites from construction activities include:

**Rel-1:** The Project will be designed to avoid known religious and cemetery sites.

**Rel-2:** Cultural surveys in known areas of ground disturbance for the Project will be completed ahead of construction, where applicable. No ground disturbance activities will be completed in applicable areas prior to cultural survey work being completed.

**Rel-3:** If sites are found at the location of planned infrastructure, micrositing techniques will be used to move around and/or span sites to the greatest extent practicable.

**Rel-4:** The Project will follow a UDP, providing protection upon discovery of unknown religious and cemetery sites.

### 4.11.3 Conclusion

Based on the protection measures listed above, the proposed location of the Project would not unduly impair religious or cemetery sites.

## 4.12 Visual and Scenic Resources

Impacts to visual and scenic resources, both short-term and long-term would occur from construction, operation, and maintenance of the transmission line. These potential impacts are described for visual and scenic resources within the ROW. Potential short-term environmental impacts to visual and scenic resources generally would occur during construction and maintenance phases of the Project and include the presence of construction and operation personnel using equipment and working within the ROW. Potential long-term environmental impacts to visual and scenic resources are anticipated to be those that remain present for the anticipated 40-year lifespan of the Project. These potential long-term impacts are based on the visibility of the transmission structures, conductors, insulators, and associated access roads for operations of the Project. Potential impacts are anticipated to occur from the Project where there are:

- Residences and residential areas are in proximity to the Project;
- Changes to the existing visual landscape as seen from scenic byways (Salt Missions Trail Scenic Byway, Abo Pass Trail Scenic Byway, El Camino Real Scenic Byway, and the Historic Route 66 National Scenic Byway); or
- Diminishment of scenic resources from the addition of man-made elements to the natural landscape.

## 4.12.1 Impacts Specific to the Project

Construction activities, the addition of transmission structures, and O&M activities within the ROW change the existing visual characteristics of the landscape. Potential impacts would vary based on the context that the Project is viewed.

For residents in the vicinity of the Project, the potential visual impacts of the Project are dependent on several factors including distance, screening (trees, topography), presence of other existing structures (power lines, radio towers), the orientation of the proposed line to the home, and if the Project is backdropped by the existing landscape or if it is seen in a skyline condition.

The Project crosses several State and National Scenic and Historical Byways. At these crossings the transmission line would be immediately visible to travelers and would create extended viewing opportunities in locations where the transmission line parallels the roadway. For the crossings of the Abo Pass Trail and Salt Missions Trail Scenic Byways, new transmission infrastructure would be seen in the context of an existing transmission line within the same corridor. This would result in potential short-term and long-term visual impacts as the new structures would alter the existing landscape. Where the Project crosses US Hwy 60/ Historic Route 66 National Scenic Byway the Project would introduce additional infrastructure located in a distinctly separate corridor. The increased number of transmission structures would create more change to the existing landscape, but the Project would be viewed with the context of an existing transmission line.

SIOs identified for USFS lands within the ROW have the potential to experience long-term visual effects associated with the Project. The assessment of potential Project impacts on scenic resources does not include an evaluation of, or determination regarding, consistency with applicable USFS SIOs. As discussed above, visual impacts on USFS-managed lands may occur in both the short and long-term where Project facilities are visible from the surrounding landscape.

Potential long-term impacts to the visual landscape would also vary based on the segment of the Project. In particular, portions of the Project that would be co-located with the existing WL 115-kV line would result in a single set of larger structures than currently exist for the 115-kV line. However, this co-location avoids the need for two transmission lines (the Project and the WL-115kV) constructed as discrete sets of structures and in separate ROWs within the same visual landscape.

## 4.12.2 Protection Measures

**Vis-1:** Leave (where possible) plants shorter than eight feet in height within the ROW to help reduce the effect of the ROW of visual and aesthetic resources.

**Vis-2:** Keep the ROW free of construction debris and other litter during construction to further reduce visual intrusion to the surrounding landscape.

**Vis-3:** Transmission structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the facility into the natural setting and existing environment.

**Vis-4:** Non-speculative conductors and equipment will be used to reduce glare from transmission infrastructure.

### 4.12.3 Conclusion

The Project would affect residences and scenic byways within the ROW and would cross USFS-, BLM-, and NMSLO-managed lands, in addition to private lands. Co-location, paralleling existing transmission lines, and the protection measures described above would reduce these effects over the short- and long-term.

## 4.13 Land Use, Including Farm, Range, and Recreational Resources

Assessment of impacts to land uses from construction, operation, and maintenance of the Project follows the impact assessment methodology described in Chapter 4.1 above and is discussed below. A land use impact is one that restricts the future use of land or conflicts with an existing use. The Project tends to restrict certain activities but may or may not change the land use. Construction, operation, and maintenance of the Project would result in both direct and indirect impacts to land use. The Project was evaluated to determine whether the following types of impacts would occur:

- Temporary and permanent land use changes.
- Restrictions on activities within the ROW.
- Inconsistency with local land use plans and zoning.
- Removal of land from future development.
- Potential use restrictions or conflicts on public lands.

### 4.13.1 Impacts Specific to the Project

#### Agricultural Land Use Impacts

The lands crossed by the ROW are primarily used for farmland, rangeland, and recreational resources. Long-term land use impacts on rangeland would primarily result from structure placement, ROW maintenance, and access roads. Current agricultural practices would be maintained for most of the ROW. Areas of pasture within the ROW could continue to be grazed. The only land that would be unavailable for agriculture would be the area occupied by transmission structures, which would be approximately three feet to five feet in diameter at

ground level, depending on the type of structure. The permanent footprint of transmission line structures would be removed from production, and structures would present obstacles that need to be avoided. The Project would work with landowners to reduce impacts to irrigation facilities, such as canals. However, overall, the transmission line would result in minimal reduction in agricultural production or land available for agricultural activities.

Easements or ROWs have been or would be obtained from landowners along the route for constructing and maintaining the line. The landowner would maintain ownership of the property and continue to pay taxes on the property, but the Project would acquire rights allowing construction, operation, and maintenance of the ROW in exchange for monetary payment to the landowner. The agreement between the landowner and the Project would outline any use restrictions applying to the agreement. The agreement would include certain restrictions on the continued use of the property, such as prohibiting permanent structures and establishment of certain types of vegetation within the ROW that could affect access to the line or safe and reliable operation.

During construction and maintenance activities, agricultural lands would be subject to temporary impacts. Depending on the time of year, access for construction may result in damage to crops, compaction and rutting of soil, restrictions on access to the ROW, and restrictions on general agricultural practices in and around the ROW (such as prescribed burning of grassland pasture). Landowners would be compensated for crop and forage loss, and damaged soils would be restored to arable condition. Cattle may need to be relocated or confined away from the ROW areas of pasture during construction. Following completion of construction, disturbance and disruption to agricultural activities would generally cease. Periodic maintenance activities and emergency repairs would result in impacts similar to those for construction. However, these activities would be infrequent over the life of the Project. Where agreements indicate, landowners would be compensated for any damage, and the ROW would be restored to its previous conditions.

In addition to the ROW, multiple temporary laydown areas for construction material and equipment would be necessary for the duration of construction. These laydown areas would each be up to 20 acres in size. Where feasible, construction laydown areas are typically located at previously disturbed or developed locations such as vacant lots, existing utility yards, or parking lots to reduce impacts to sensitive resources. If existing yard locations are not available, preferred locations for yards would be undeveloped areas that are cleared of woody vegetation, flat, have all-weather access, and do not contain streams, wetlands, or other environmentally sensitive resources. No topsoil would be removed, and minimal, if any, regrading is expected to take place at these facilities. Laydown areas generally would be returned to pre-construction conditions upon completion of construction.

## Public Lands

The Project would traverse approximately 2.1 miles of USFS land, 16.5 miles of NMSLO land, 0.3 miles of NMDGF land, 0.3 miles of MRGCD land, 0.1 miles of NMDOT land, and an aerial

crossing of approximately 0.02 miles over land administered by the BLM. No Project facilities or ground-disturbing activities are proposed on BLM land. Easements or crossing agreements would be required for Project facilities or crossings from each of the agencies. The Project would coordinate with each agencies to ensure that easement agreements are consistent with applicable agency planning requirements and management objectives. The Salinas Pueblo Missions National Monument, discussed in Section 3.12, is outside of the ROW.

### Recreation

No direct or indirect impacts on state or county recreation lands, local parks, trails, or hunting access lands would occur as a result of the construction, operation, and maintenance of the ROW. Existing recreational opportunities would continue as they currently exist, with minor temporary disturbances possible during construction.

## 4.13.2 Protection Measures

Protection measures that would be implemented to reduce any potential negative land use impacts include:

**Land-1**: Coordinate with landowners for potential measures, including routing, to reduce Project impacts on uses on specific properties.

**Land-2:** Coordinate with appropriate state and federal land management agencies to obtain applicable permits and easements for portions of the transmission line traversing public lands.

**Land-3:** Plan and conduct construction activities to reduce temporary disturbance, displacement of crops, and interference with agricultural activities.

**Land-4:** Restore compacted cropland soils as close as possible to pre-construction conditions using tillage.

**Land-5**: Compensate landowners for any new land rights required for ROW or access road easements.

**Rec-1:** Plan and conduct construction activities to reduce temporary disturbance, displacement of recreationists, and interference with recreation activities.

## 4.13.3 Conclusion

Based on the compatibility of the ROW with the current land uses, impacts to land uses would be largely temporary and limited in area during construction. The majority of the Project area would remain in its pre-construction use. With inclusion of the protection measures detailed above, it is not expected that the proposed location of the ROW would unduly impair land use resources.

There would be no direct or indirect impacts of the construction, operation, and maintenance of the on schools, as most schools and daycare facilities are all greater than a half-mile from the Project. The nearest school, Gil Sanchez Elementary School, is approximately half-mile south of the ROW in Jarales. Therefore, it is not expected that the proposed location of the ROW would unduly impair school or educational resources.

Based on no direct or indirect impacts to state or county recreation lands, local parks, trails, or hunting access lands as a result of the construction, operation, and maintenance of Project components, it is not expected that the proposed location of the ROW would unduly impair recreation resources.

## 4.14 Socioeconomics

The assessment of potential impacts to socioeconomic resources associated with the construction, operation, and maintenance of the Project is conducted in accordance with the impact assessment methodology described in Section 4.1. Socioeconomic impacts associated with the construction, operation, and maintenance of the Project were evaluated based on population characteristics, employment and income, labor force participation, educational attainment, housing, public services, and local and regional economic conditions.

The analysis considers short-term effects associated with construction and long-term effects associated with operations within the Project vicinity, which includes Socorro, Torrance, and Valencia Counties. Direct, indirect, and induced effects were considered where relevant.

### 4.14.1 Impacts Specific to the Project

Construction of the Project would result in significant economic benefits both in the short-term related to capital investment, construction employment, and procurement of goods and services and long-term through operations over the lifespan of the Project.

The temporary construction workforce may increase demand for lodging, food services, fuel, and other local services. Temporary effects could include localized increases in traffic, noise, and demand on lodging or infrastructure, particularly in rural portions of Socorro, Torrance, and Valencia Counties. These effects would be temporary and would cease following completion of construction. O&M of the Project would result in ongoing regional and statewide socioeconomic benefits through permanent employment and operational expenditures spending.

The Project would not displace existing economic activities. Instead, it would introduce new short-term and long-term economic activity consistent with regional employment patterns. Over time, the Project could contribute incrementally to economic stability, particularly in counties with existing socioeconomic constraints.

### 4.14.2 Protection Measures

The following measures would be implemented to minimize adverse socioeconomic effects:

**Socioeconomic-1:** Coordinate construction activities with landowners and local authorities to minimize disruptions to access, transportation, and ongoing land uses, to the extent practicable.

**Socioeconomic-2:** Implement construction scheduling and traffic management measures to reduce short-term community disruptions, to the extent practicable.

**Socioeconomic-3:** The Project will make good faith efforts to enlist local skilled labor for temporary jobs associated with Project construction.

### 4.14.3 Conclusion

The Project would result in minor short-term adverse effects during construction and long-term beneficial socioeconomic effects: increased employment, income, and fiscal contributions. Construction-related disruptions would be temporary and localized.

The Project is needed to meet increased demand for energy in growing cities and to strengthen regional energy infrastructure and system reliability. By supporting these objectives, the Project would contribute to long-term economic stability and reliability benefits within the local and regional area.

Overall, the Project would contribute to local and regional economic activity without displacing existing activities, and it would provide sustained socioeconomic benefits over its operational life.

## 4.15 Communication Signals

The assessment of potential impacts to communication signal resources associated with the construction, operation, and maintenance of the Project is conducted in accordance with the impact assessment methodology described in Section 4.1 and is discussed further below. Impacts to communication signal resources from construction, operation, and maintenance activities are generally avoidable through appropriate planning and coordination.

### 4.15.1 Impacts Specific to the Project

The Project is designed to avoid interference with communication pathways. Signaling structures that were identified within the Transmission Study Corridor are listed in Section 3.14.2. The Project would avoid signaling structures to the extent practicable.

### 4.15.2 Protection Measures

Protection measures that would be used to reduce potential negative communication signal impacts from construction activities or operation include:

**Comm-1:** Transmission structures will be sited to maintain adequate separation from fixed broadcast, retransmission, or reception antennae used for radio, television, wireless

telecommunications, and other communication systems, thereby avoiding potential safety hazards in the event of electrical equipment, structure, or conductor failure.

**Comm-2:** Transmission structures will be sited to maintain adequate separation from fixed broadcast, retransmission or reception antenna for radio, television or wireless phone or other personal communications systems to prevent electromagnetic interference with signal transmission and reception.

### 4.15.3 Conclusion

Microwave paths, cellular and ASR towers, and AM and FM broadcast towers would be avoided to the extent practicable. Accordingly, the proposed location of the Project is not expected to result in undue interference with communication signals.

## 4.16 Radioactive Waste and Radiation Hazards

Assessment of impacts from radioactive waste or radiation hazards resulting from construction, operation, and maintenance of the Project follows the impact assessment methodology described above in Section 4.1 and is discussed below.

### 4.16.1 Impacts Specific to the Project

Transmission lines and associated Project facilities do not create or hold radioactive waste or any radiation hazards. The Project would not generate radioactive waste or radiation hazards.

## 4.17 Hazardous Materials

The evaluation of potential impacts related to hazardous materials associated with the construction, operation, and maintenance of the Project is based on the impact evaluation approach outlined in Chapter 4.1 and is summarized below. Accidental release of hazardous materials could occur during construction, operation, or maintenance activities; this potential risk is described in greater detail below.

### 4.17.1 Impacts Specific to the Project

During construction, the use of trucks, heavy equipment, and on-site material storage could present a risk of accidental releases of fuel, lubricants, or other automotive fluids. While such incidents are possible, they would be infrequent, limited in scope, and temporary in duration, and therefore anticipated to result in minor to negligible impacts.

The Project would prepare and implement an SPCC Plan outlining procedures for employee training, equipment inspection, maintenance and repair, availability of spill response materials, and refueling protocols, with a focus on spill prevention, if oil storage capacity exceeds 1,320 gallons. Hazardous materials would not be discharged onto the ground or into surface waters or

drainage features. All construction-related waste, including trash, solid waste, petroleum products, and other potentially hazardous materials, would be collected and transported on a weekly basis to a licensed facility authorized to accept such materials.

## 4.17.2 Protection Measures

Protection measures that would be implemented to reduce any potential negative hazardous materials impacts include:

**Haz-1:** Prepare a SPCC Plan for oil storage capacity in excess of 1,320 gallons.

**Haz-2:** Hazardous materials will not be discharged onto the ground or into streams or drainage areas.

**Haz-3:** Construction waste including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials will be removed to a disposal facility authorized to accept such materials on an as needed basis.

**Haz-4:** Hazardous materials, chemicals, fuels, and oils will not be stored within 100 feet of a water resource, including but not limited to streams, wetlands, wells and springs.

**Haz-5:** Fueling of construction equipment will not be conducted within 100 feet of a water resource when possible.

**Haz-6:** On-site materials will be stored in a neat, orderly manner, in appropriate containers, and contained in an enclosure to minimize exposure to weather elements.

**Haz-7:** Products will be kept in original containers with the original manufacturer's label when possible.

**Haz-8:** Substances will not be mixed with one another unless per manufacturer instructions and recommendations.

**Haz-9:** An efficient use of a container's contents will be made prior to container disposal or recycling efforts.

**Haz-10:** If surplus product must be disposed of, manufacturer-, local-, or state-recommended methods for proper disposal will be followed.

**Haz-11:** Safety Data Sheets of products used or stored on-site will be accessible at the Project worksite.

**Haz-12:** Equipment and on-site vehicles will be monitored for leaks and will receive regularly scheduled maintenance to reduce the chance of fluid leaks.

**Haz-13:** Bulk storage containers with a capacity of 55 gallons or more will have appropriate secondary containment and empty drums must be marked with signage.

**Haz-14:** Bulk fuel or lubricating oil dispensers will not have a self-locking mechanism that allows for unsupervised fueling and measure such as automatic shut-off systems or fail-safe mechanisms will be deployed as appropriate.

**Haz-15:** Spill response equipment suitable for containment of the volume of the largest single on-site petroleum storage container will be available during construction activities and as necessary for operations. All on-site personnel will be trained on cleanup & reporting procedures and location of spill response equipment.

### 4.17.3 Conclusion

Impacts from hazardous materials would be reduced through the implementation of proper construction practices, the development and implementation of a SPCC Plan, as well as the protection measures detailed above. It is not anticipated that the Project would unduly impair important environmental resources due to hazardous materials.

## 4.18 Safety

The assessment of impacts for safety from construction, operation, and maintenance of the Project follows the impact assessment methodology as described in Section 4.1 and is discussed below. Safety concerns that can occur during construction, operation, and maintenance are described in more detail below.

### 4.18.1 Impacts Specific to the Project

The Project would develop a safety plan prior to construction to reduce safety risks. Speed limits would be posted to reduce traffic safety concerns on roadways. Reducing injury to personnel and damage to property would be done by following proper construction practices. If a safety issue were to occur, the Project's safety plan would have procedures in place to address most safety situations. The Project would also comply with all manufacturer specifications and relevant Occupational Safety and Health Administration requirements to ensure the safety of residents, employees, contractors, livestock, and the public.

Construction for the Project could cause wildfire ignition. Operations and maintenance activities (welding, vehicle ignition, etc.), and the presence of energized transmission line facilities could also cause wildfire ignition. The Project and/or its contractors would notify federal, state, and local agencies of any fires and comply with all rules and regulations administered by those agencies concerning use, prevention, and suppression of fires. This includes any fire prevention orders that may be in effect at the time of construction, operation, or maintenance activities. Additionally, Socorro, Torrance, and Valencia Counties emergency responders and fire districts would be contacted to ensure appropriate plans are in place for the areas of Project to quickly respond to any emergencies. The Project would work with the departments to ensure the safety of firefighters, employees, landowners, neighbors, and livestock. The Project would have emergency response plans in place to respond to various natural disasters if ever needed. An

annual emergency response drill, which local responders would be invited to participate in, would be completed on-site to test the Project's emergency preparedness.

Safety risks associated with the Project would be minimized through the implementation of standard security and safety measures. Electrical substations and transformers would be enclosed within locked fences or secured facilities and clearly marked with warning signage indicating the presence of energized electrical equipment. In addition, the Project would maintain a 24-hour, seven-day-a-week monitoring center, with contact information posted on substation fencing to facilitate rapid response to potential incidents or emergencies.

## 4.18.2 Protection Measures

Protection measures that would be implemented to reduce any potential safety impacts include:

**Safe-1:** The Project and its contractors, as appropriate, will initiate discussions with local fire districts and regional fire prevention staff prior to construction to discuss emergency procedures and to provide transmission line safety training, including safety procedures for conducting fire suppression activities near a power line.

**Safe-2:** All vehicles will be equipped with appropriate fire suppression tools and equipment. Fire suppression equipment may include shovels, buckets, and extinguishers or other appropriate equipment.

**Safe-3:** Smoking and equipment parking will be restricted to designated areas.

**Safe-4:** The Project and its contractors will fuel all highway-authorized vehicles off-site to minimize the risk of fire. Fueling of construction equipment that is transported to the site via truck and is not highway-authorized will be done in accordance with regulated construction practices and federal, state, and local laws.

**Safe-5:** The Project will develop a safety plan prior to construction. The plan will include items such as medical emergency facilities and procedures, wildlife agency contacts and procedures, and inclement weather procedures.

**Safe-6:** Appropriate warning signage shall be placed on all electrical equipment prior to energization.

## 4.18.3 Conclusion

With implementation of applicable safety protocols and the protection measures identified in this report, the potential for safety-related impacts would be minimized. Therefore, the Project is not expected to substantially affect environmental resources as a result of construction or operational safety concerns.

# 4.19 Geographic Resources

The impacts of construction, operation, and maintenance of the Project were assessed regarding the geographic resources identified in the region. The assessment of short-term and long-term impacts to these resources from construction, operation, and maintenance of the transmission line were conducted within the ROW. Short-term impacts are those that occur mostly during the construction and maintenance phases of the Project and persist for roughly 3 to 5 years following construction. These impacts are more associated with temporary disturbances from maintenance crews and construction vehicles. Long-term impacts are those that remain present for the anticipated 40-year lifespan of the Project. These are mainly caused by introducing physical elements like transmission structures and access roads. The following criteria were evaluated to determine whether impacts would be expected:

- Obstruction of access to transportation corridors (US Hwy and SH), emergency services, or other community services as a result of construction and/or operation of the transmission line.
- Introduction of any other kind of impact on these resources.

## 4.19.1 Impacts Specific to the Project

The ROW crosses several major transportation routes including US Hwy 60, US Hwy 25, SH 6, SH 47, and SH 314. The required construction activities may cause temporary disruption of local traffic patterns, but any impacts would be low and short-term. However, local communities and emergency responders would be given advanced notice to minimize potential impacts from construction of the transmission line.

The Project crosses several rail lines throughout the area. These crossings were intentionally designed to be perpendicular to existing infrastructure to minimize span lengths. As a result, no impacts are anticipated during any phase of the Project lifecycle.

The ROW crosses through the municipal boundary of Willard, New Mexico and over Station 9 of the Valencia County Fire Department. Interruptions or interference with the function and accessibility of the building are not anticipated.

The ROW also crosses multiple existing transmission lines and natural gas pipelines. Transmission structures would be placed outside of pipeline and transmission line easements to prevent any potential impacts from construction, operation, and maintenance of the proposed transmission line.

Impacts to air traffic are unlikely as airfields in the area service local farms or small municipalities. Local authorities would be provided advance notice prior to construction as a precaution against any potential impacts.

## 4.19.2 Protection Measures

Protection measures that would be implemented to minimize any potential negative impacts to geographical resources from construction and operational activities are identified in the following sections:

- 4.4.2 (Noise)
- 4.12.2 (Visual and Scenic Resources)
- 4.17.2 (Hazardous Materials)
- 4.18.2 (Safety)

## 4.19.3 Conclusion

Impacts on geographic resources would be avoided to the extent possible. Any impacts would be short-term and limited to the construction and maintenance phases of the Project and would be unlikely to negatively impact access to these geographic resources.

# 4.20 Military Activities and Aviation

Assessments of impacts from military and aviation activities from construction, operations, and maintenance within the Project follows the impact assessment methodology as described above in Section 4.1 and is discussed further below. Construction, operations, and maintenance impacts are generally avoidable for military and aviation activities.

## 4.20.1 Impacts Specific to the Project

No military bases occur within the Project vicinity. Ten military flight training routes intersect the Project, including instrument, slow, and visual route corridors. Based on the height of the transmission structures and the location of military and aviation resources, construction, operation, and maintenance within Project would not impact military activities and aviation.

## 4.20.2 Protection Measures

Protection measures that would be implemented to reduce any potential negative military or aviation impacts from construction activities include:

**Mil-1:** Coordinate with military bases and aviation facilities, as needed.

**Mil-2:** Use FAA approved lighting as required.

**Mil-3:** Any use of drones for the Project would be performed by appropriately licensed drone operators, as applicable.

### 4.20.3 Conclusion

Impacts to military operations and aviation resources would be avoided and minimized to the maximum extent practicable through Project siting, design, and coordination efforts. As a result, the Project is not expected to negatively affect or unduly interfere with military activities or aviation resources.

## 4.21 Roads

Impacts to roadways from construction, operation, and maintenance of the Project were evaluated using the approach outlined in Section 4.1 and are discussed further below. These impacts are expected to be low in magnitude, short-term, and temporary.

### 4.21.1 Impacts Specific to the Project

The Project crosses I-25 once, and US Hwy 6 once. The Project also crosses SH 6, SH 55, SH 41, and SH 116 once and SH 47 three times. Potential impacts for roads would be the greatest during construction, with construction equipment and temporary increases in traffic having the potential to degrade existing road conditions. Existing roads used for Project construction would be maintained and, where affected by construction activities, restored to a condition generally equal to or better than their pre-construction condition, to the extent practicable and in accordance with landowner agreements. Fences, gates, cattleguards, and other improvements damaged during construction would be repaired or replaced in coordination with the affected landowner. Temporary gates would be installed only with landowner approval and would be removed or restored to pre-construction conditions following completion of construction unless otherwise agreed upon.

The Project would document the pre-construction road conditions and return roads used during construction to their pre-construction conditions or better once construction is finished. Increased road traffic from construction would be localized and short-term, based on where construction is occurring and when. Minimal impacts to roads in the Project are anticipated.

### 4.21.2 Protection Measures

Protection measures that would be implemented to reduce any potential negative road impacts from construction activities include:

**Road-1:** Pre-construction conditions will be documented, and the Project will develop a road use agreement with NMDOT and the Road Maintenance Departments of Torrance, Socorro, and Valencia Counties, as necessary.

**Road-2:** Construction speed limits will be established.

### 4.21.3 Conclusion

Given the localized, minor, and short-term nature of impacts, along with the Project's commitment to restore roads used during construction to their pre-construction condition and the protective measures described above, the proposed location of the Project is not expected to cause undue impacts to roadways.

# 5. Consultation and Coordination

## 5.1 List of Preparers and Reviewers

### 5.1.1 Mid-State Transmission Project Companies

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- Anastacia Santos, Environmental Project Manager
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- Donald Purdon, Cultural Resources Specialist
- Nate Ferguson, Visual Resources Specialist
- Andy Hughes, Visual Resources Specialist
- Briana Henriques, Land Use Resources Specialist
- Jeraldine Herrera, Socioeconomics Resource Specialist
- Scott Woods, Senior GIS Analyst
- Andy Bartos, GIS Analyst

## 5.2 Technical Reports Contributing to the Environmental Report

- Desktop Wetland Evaluation Dataset, Burns & McDonnell Engineering Company, Inc. 2026
- Habitat Assessment for Mid-State Transmission, GeoSystems Analysis, Inc. 2026
- Sandhill Crane Collision Risk Assessment for the Mid-State Transmission Project, GeoSystems Analysis, Inc. 2026

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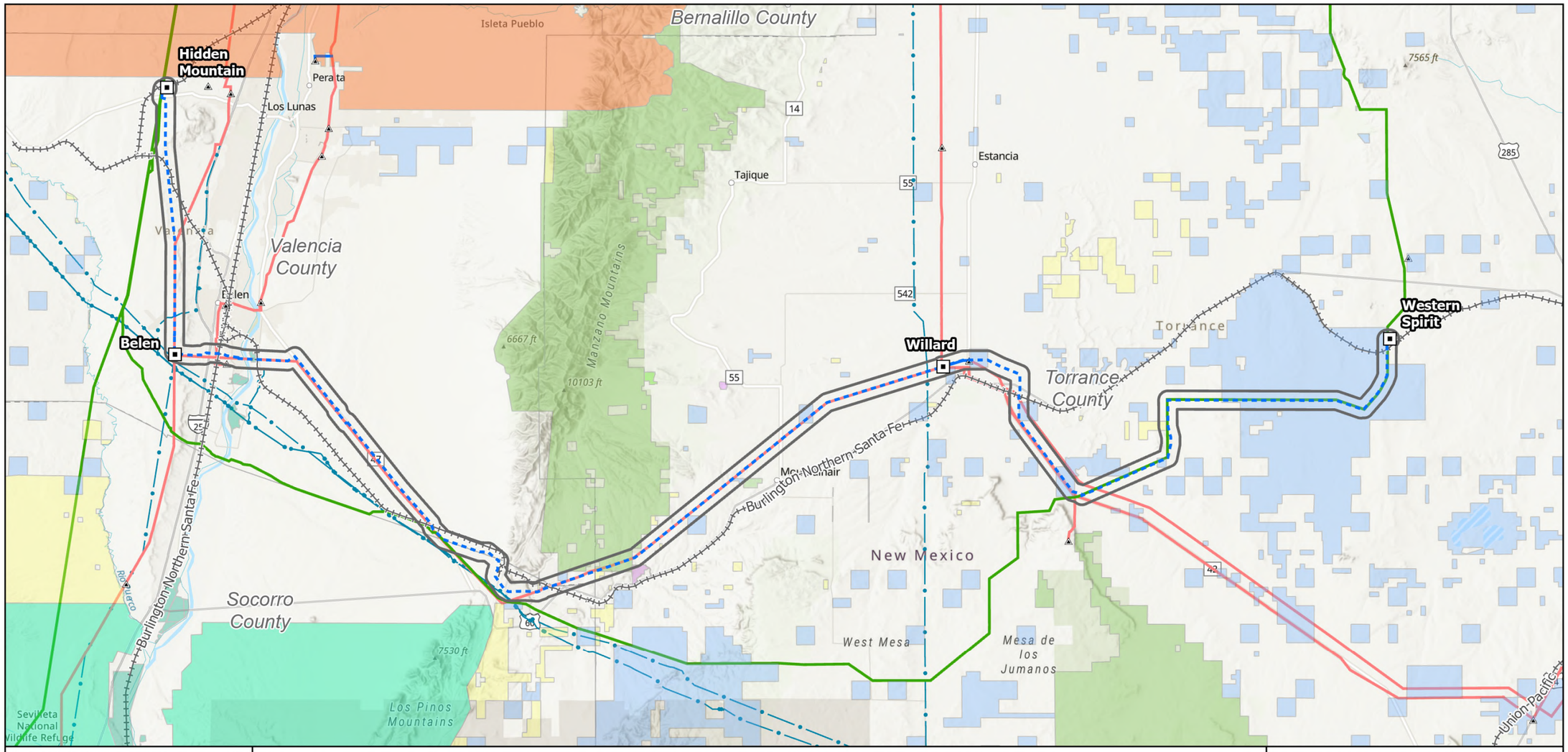
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# Appendix A - Exhibits

Exhibit 1 Project Overview Map
Exhibit 2 Geologic Resources Map
Exhibit 3 Oil & Gas Resources Map
Exhibit 4 Mineral Resources Map
Exhibit 5 Soil Resources Map
Exhibit 6 Paleontological Resources Map
Exhibit 7 Paleontological Fossil Yield Classification Map
Exhibit 8 Ecoregions Map
Exhibit 9 Surface Waters Map
Exhibit 10 Flood Zone Map
Exhibit 11 National Wetland Inventory Map
Exhibit 12 Sensitive Habitat Map
Exhibit 13 GAP Analysis Map
Exhibit 14 Field Verified Habitat Map
Exhibit 15 Religious Sites and Cemeteries Map
Exhibit 16 Public Lands and Easements Map
Exhibit 17 Elevation Map
Exhibit 18 Visual Resources Map
Exhibit 19 Land Cover Map
Exhibit 20 State-Owned Lands Map
Exhibit 21 American Indian Areas Map
Exhibit 22 Communications Map
Exhibit 23 Public Land Survey System (PLSS) Map
Exhibit 24 Public Facilities Map
Exhibit 25 Visual Flight Rules Map







Project Components
- Project Substation
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

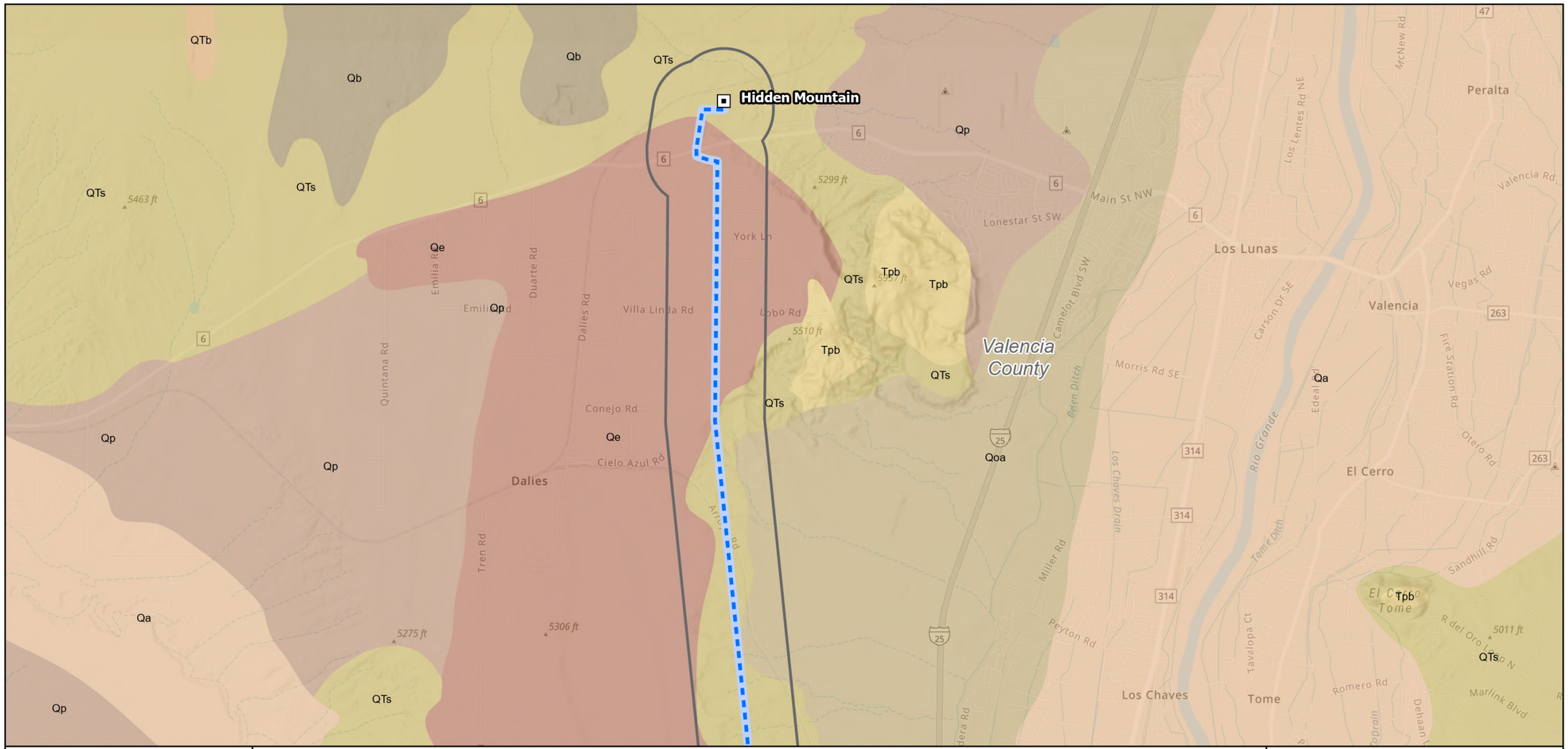
Surface Management
- Bureau of Land Management
- Forest Service
- Fish & Wildlife Service
- National Park Service
- Tribal Land
- State
- State Game & Fish
- State Park
- Private

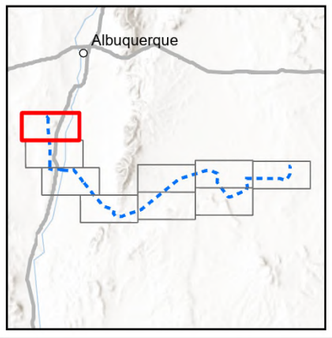
Reference Features
- Existing Substation
- 115kV Transmission Line
- 230kV Transmission Line
- 345kV Transmission Line
- Natural Gas Pipeline
- Railroad
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 1
Project Overview Map

0 5 10 Miles




Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

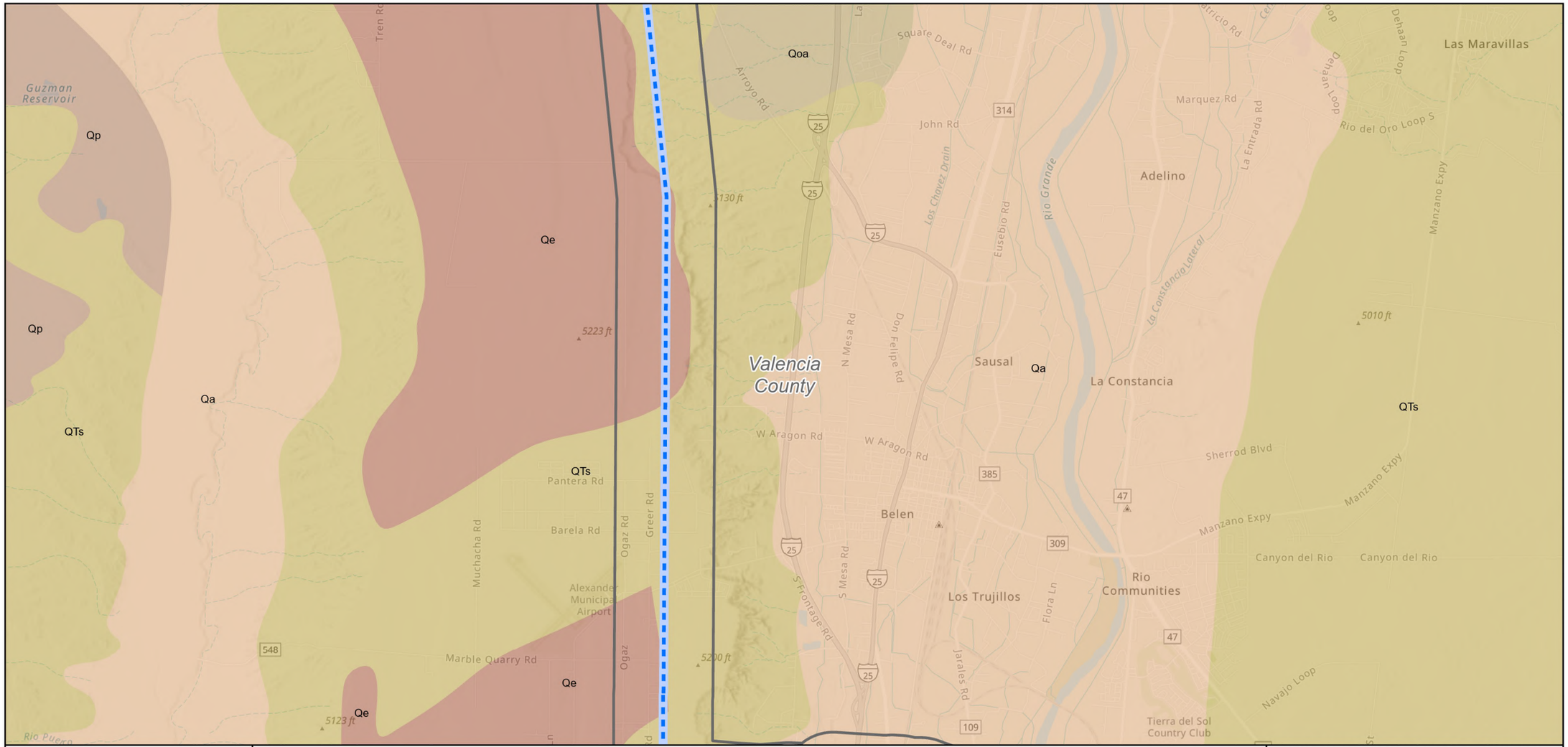
Geology Unit - Description
- Qa - Alluvium
- Qb - Basaltic to andesitic lava flows
- Qe - Eolian deposits
- Qoa - Older alluvial deposits of upland plains and piedmont areas
- Qp - Piedmont alluvial deposits
- QTb - Basaltic to andesitic lava flows
- QTs - Upper Santa Fe Group
- Tpb - Basaltic to andesitic lava flows

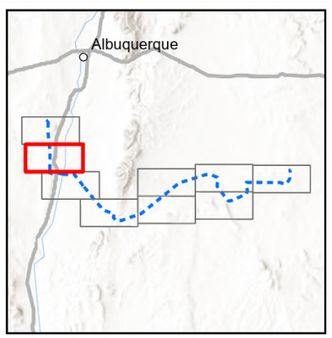
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 2
Geologic Resources Map
Page 1 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

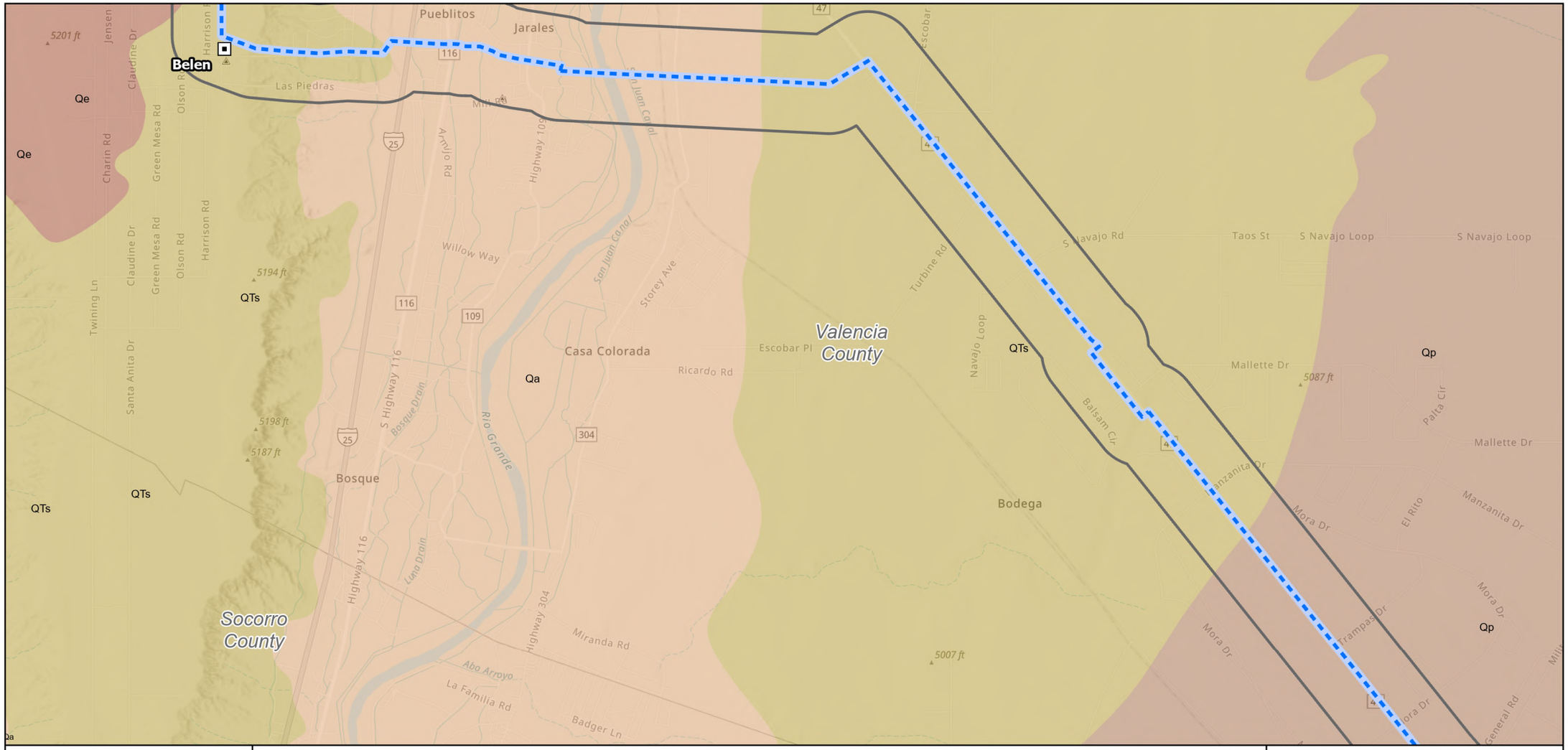
Geology Unit - Description
- Qa - Alluvium
- Qe - Eolian deposits
- Qoa - Older alluvial deposits of upland plains and piedmont areas
- Qp - Piedmont alluvial deposits
- QTs - Upper Santa Fe Group

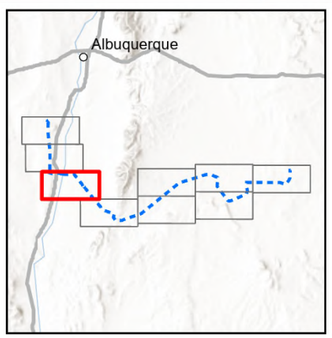
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 2
Geologic Resources Map
Page 2 of 9

0 1 2 Miles




**Project Components**
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

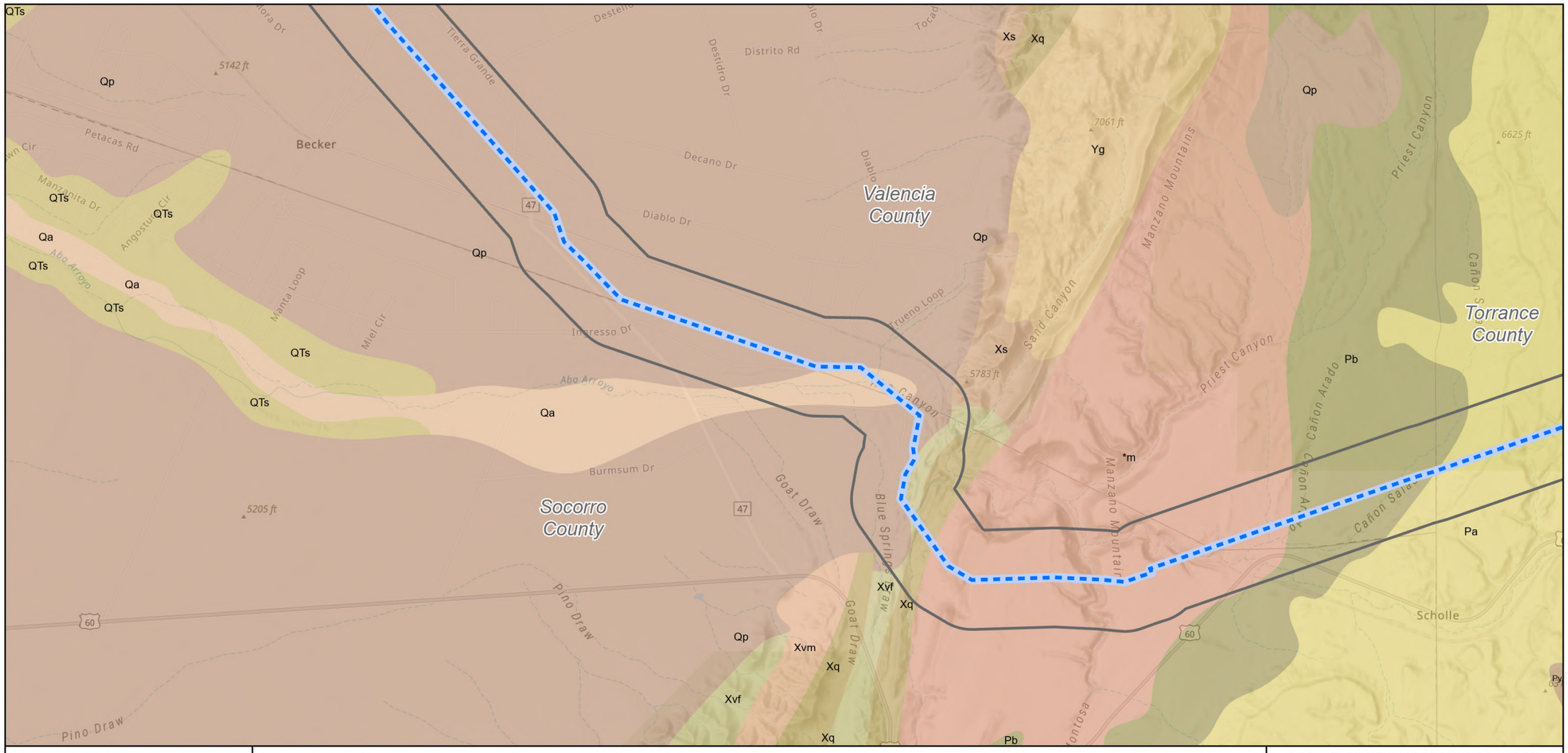
**Geology Unit - Description**
- Qa - Alluvium
- Qe - Eolian deposits
- Qp - Piedmont alluvial deposits
- QTs - Upper Santa Fe Group

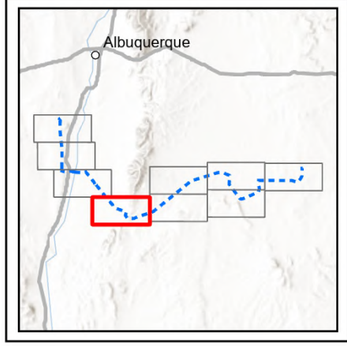
**Reference Features**
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 2
Geologic Resources Map
Page 3 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

Geology Unit - Description
- IPm - Madera Formation
- Pa - Abo Formation
- Pb - Bursum Formation
- Py - Yeso Formation
- Qa - Alluvium
- Qp - Piedmont alluvial deposits
- QTs - Upper Santa Fe Group
- Xq - Paleoproterozoic quartzite
- Xs - Paleoproterozoic metasedimentary rocks
- Xvf - Paleoproterozoic rhyolite and felsic volcanic schist
- Xvm - Paleoproterozoic mafic metavolcanic rocks
- Yg - Mesoproterozoic granitic plutonic rocks

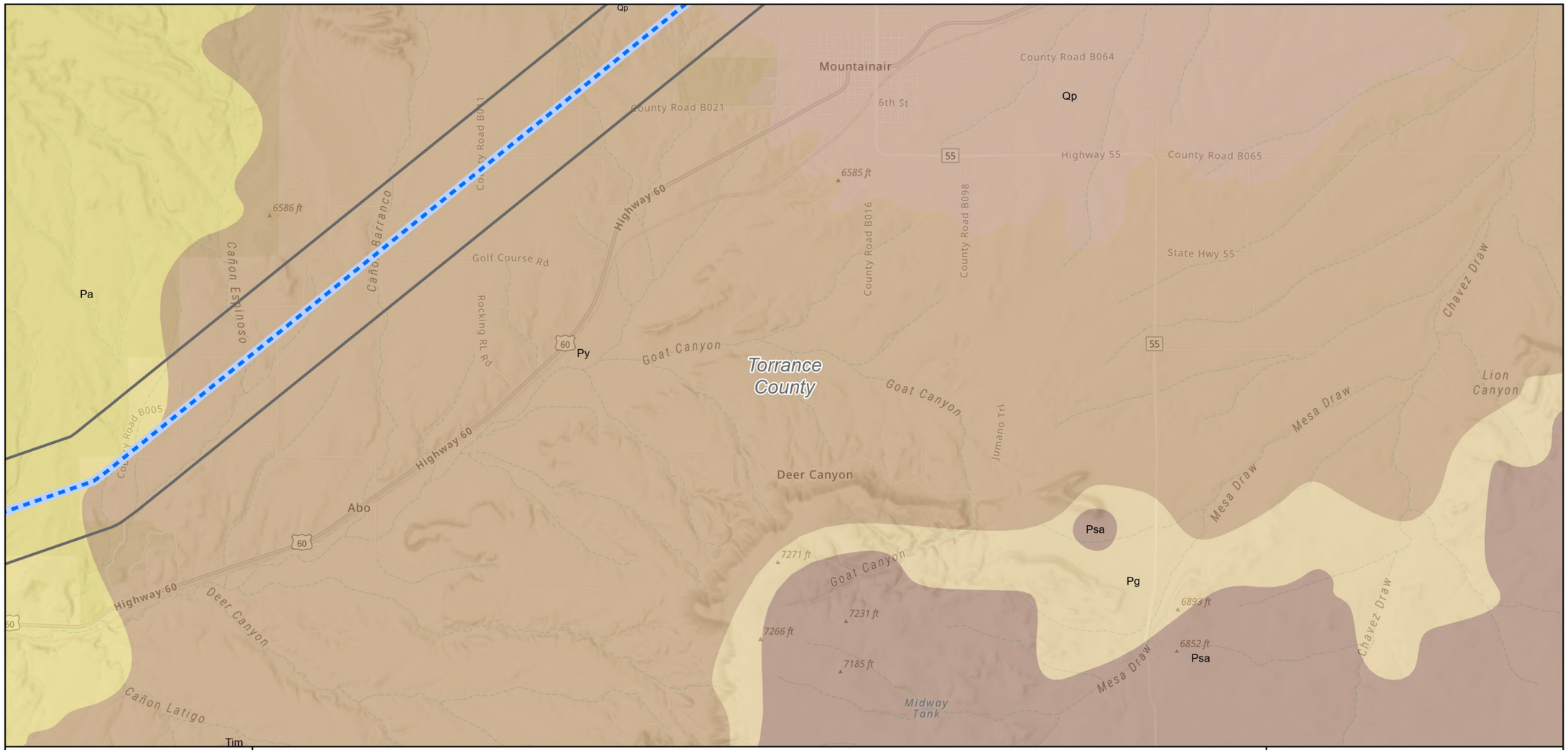
Reference Features
- County Boundary

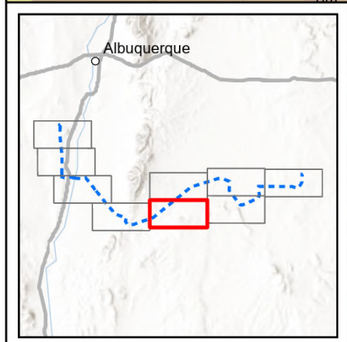
MID-STATE TRANSMISSION PROJECT

Exhibit 2
Geologic Resources Map
Page 4 of 9

0 1 2 Miles

wsp




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

Geology Unit - Description
- Pa - Abo Formation
- Pg - Glorieta Sandstone
- Psa - San Andres Formation
- Py - Yeso Formation
- Qp - Piedmont alluvial deposits
- Tim - Tertiary mafic intrusive rocks

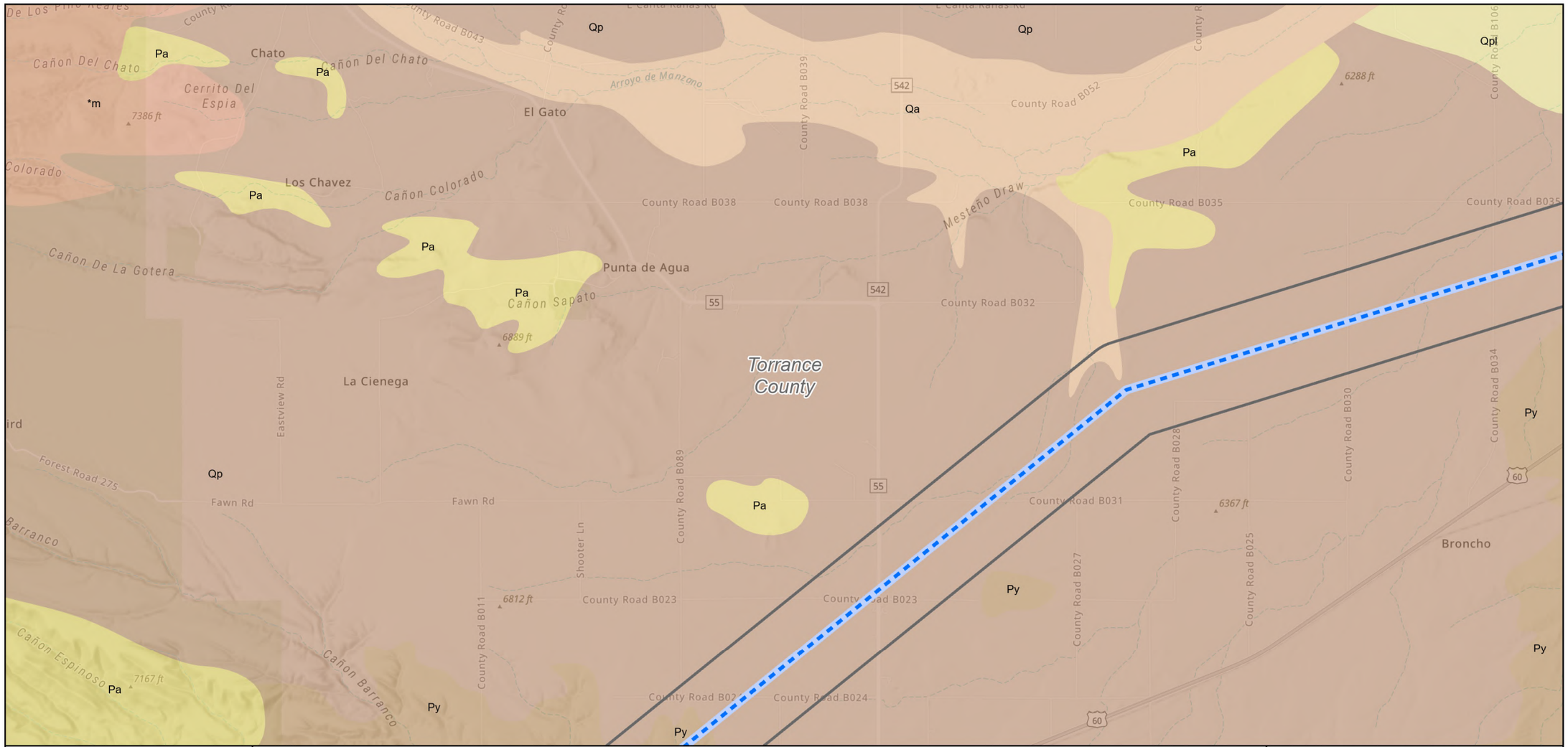
Reference Features
- County Boundary

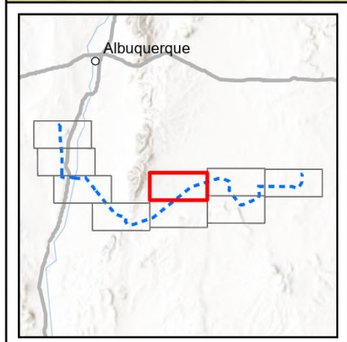
MID-STATE TRANSMISSION PROJECT

Exhibit 2
Geologic Resources Map
Page 5 of 9

0 1 2 Miles

wsp




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

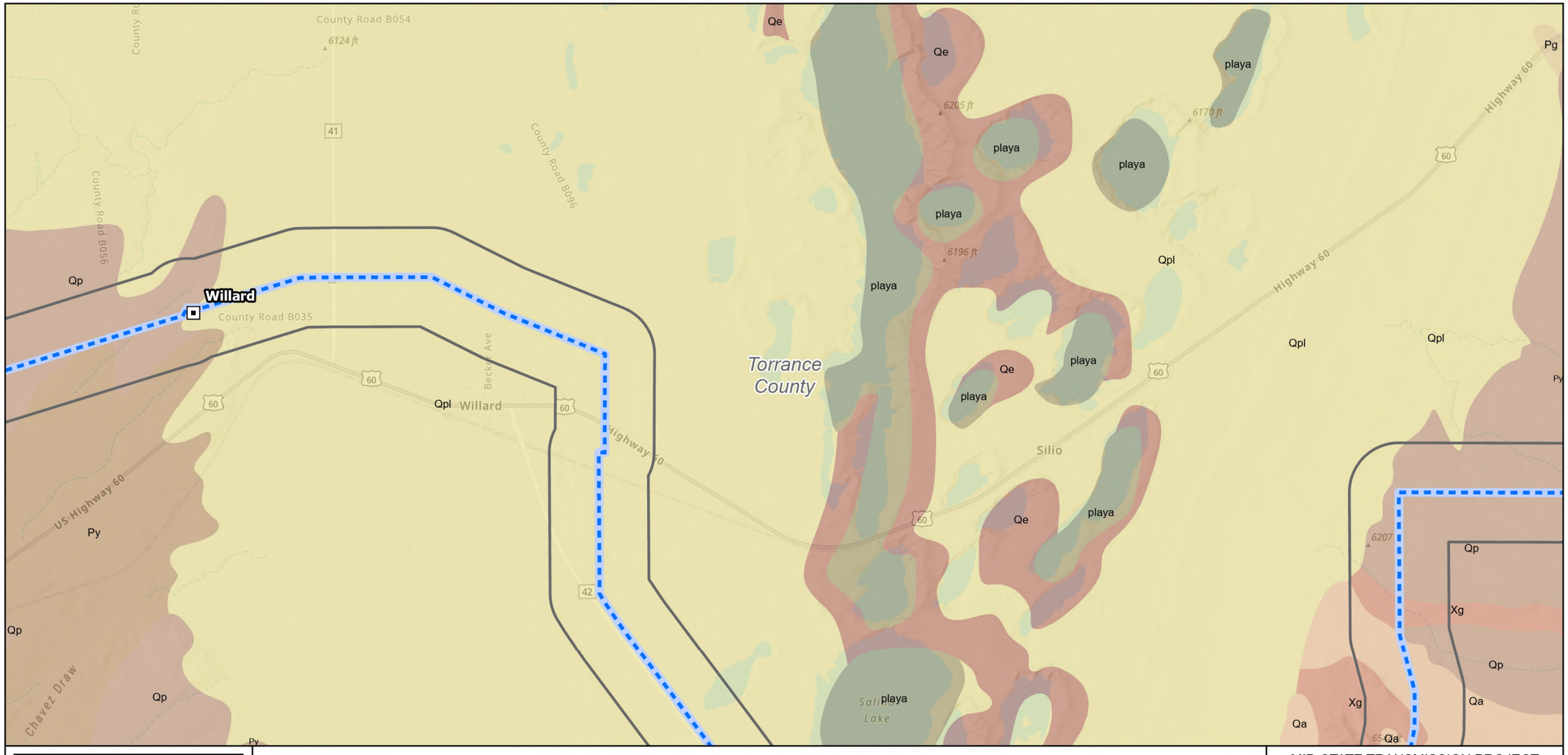
Geology Unit - Description
- IPm - Madera Formation
- Pa - Abo Formation
- Py - Yeso Formation
- Qa - Alluvium
- Qp - Piedmont alluvial deposits
- Qpl - Lacustrine and playa deposits

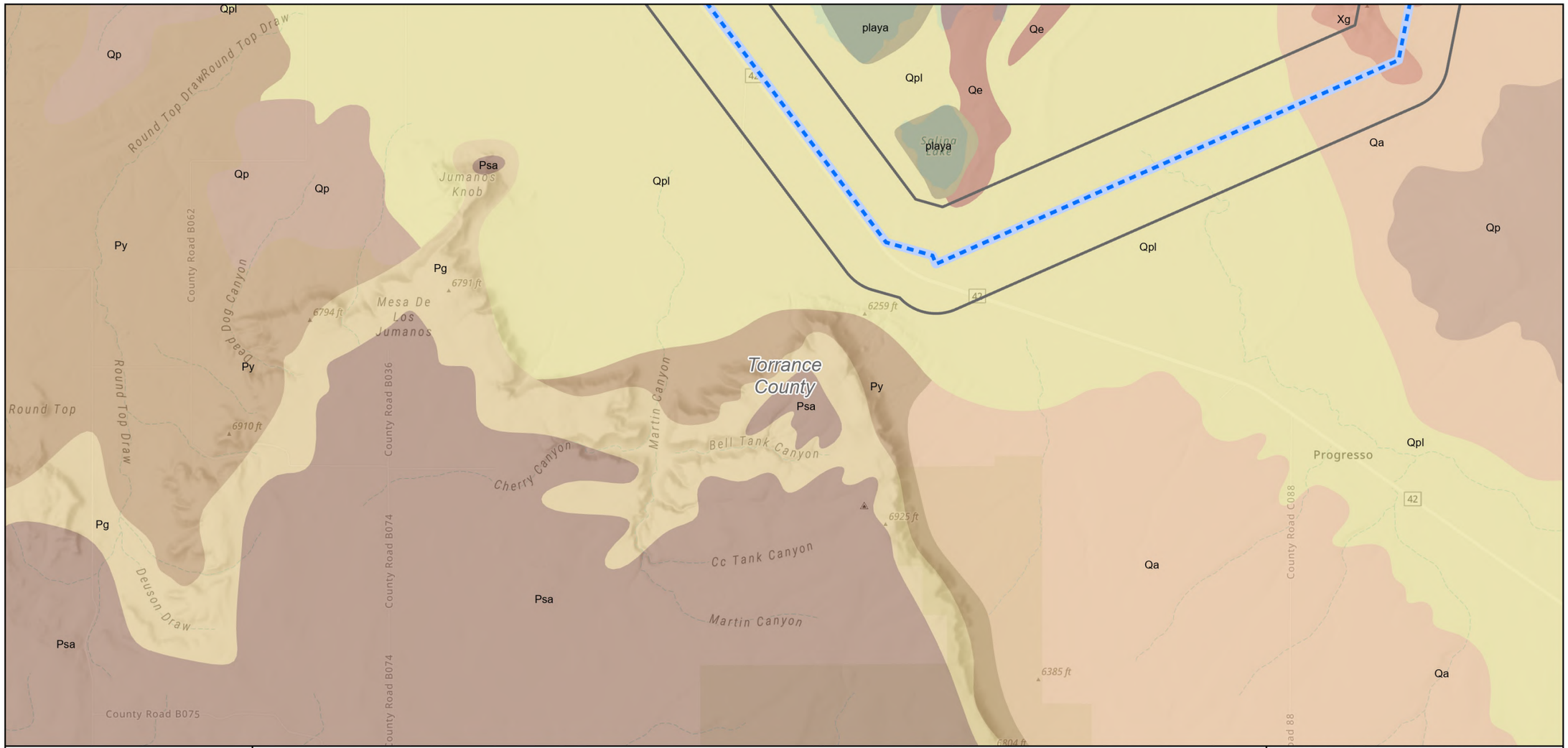
Reference Features
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 2
Geologic Resources Map
Page 6 of 9

0 1 2 Miles


County Road B054
6124 ft
41
County Road B056
County Road B096
Qp
Willard
County Road B035
60
Becker Ave
Qpl
Willard
Highway 60
US Highway 60
Py
Qp
Chavez Draw
Qp
Py
Qe
Qe
6205 ft
playa
playa
playa
6196 ft
playa
Torrance County
Qe
playa
playa
6170 ft
Qpl
Highway 60
Qpl
Qpl
Silio
Qe
playa
42
playa
Salinas Lake
Pg
Highway 60
Py
6207
Qp
Xg
Qp
Xg
Qa
Qa
Qa
Albuquerque
Project Components
Project Substation
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
Geology Unit - Description
Pg - Glorieta Sandstone
Playa
Py - Yeso Formation
Qa - Alluvium
Qe - Eolian deposits
Qp - Piedmont alluvial deposits
Qpl - Lacustrine and playa deposits
Xg - Paleoproterozoic granitic plutonic
Reference Features
Existing Substation
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 2
Geologic Resources Map
Page 7 of 9
0
1
2
Miles
wsp




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

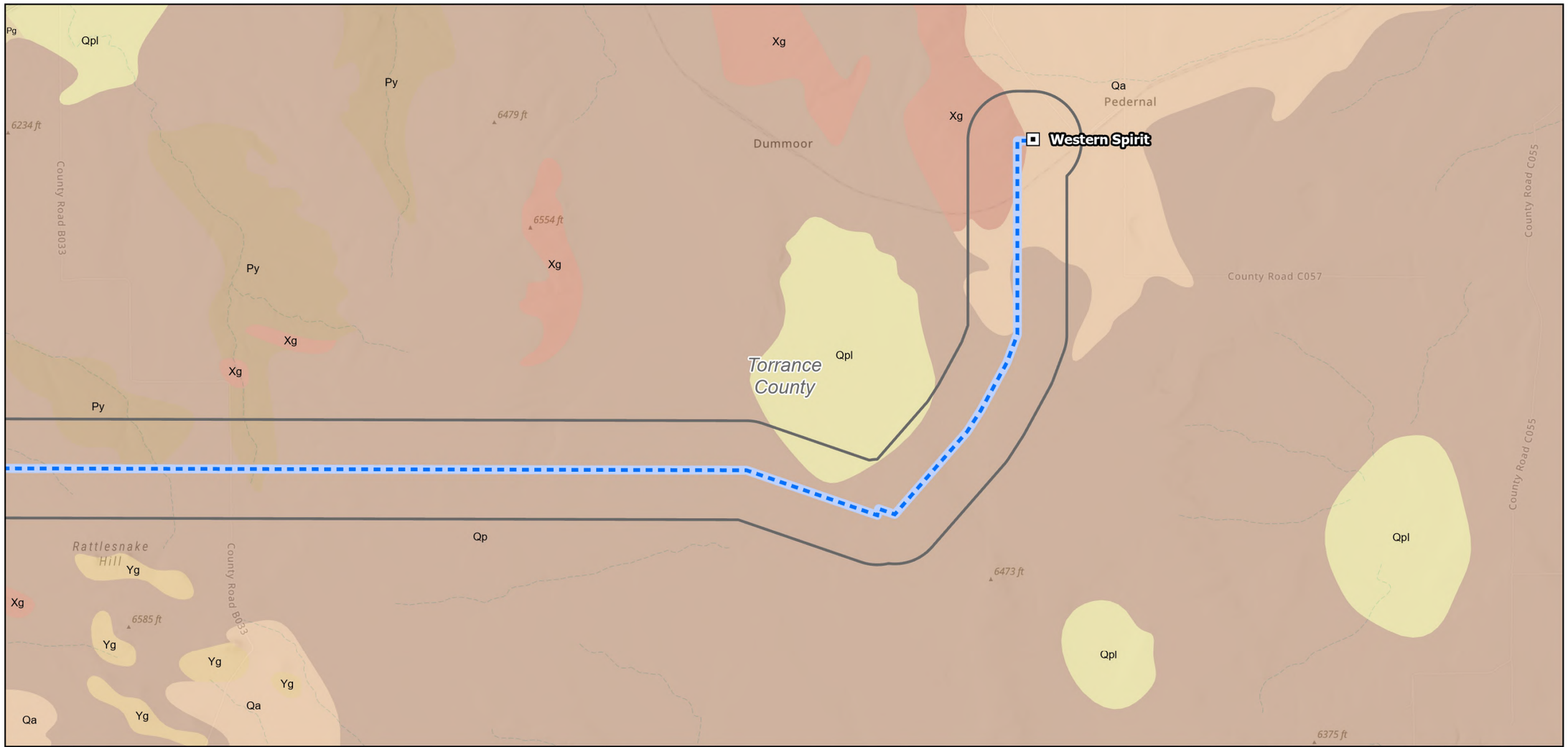
Geology Unit - Description
- Pg - Glorieta Sandstone
- Playa
- Psa - San Andres Formation
- Py - Yeso Formation
- Qa - Alluvium
- Qe - Eolian deposits
- Qp - Piedmont alluvial deposits
- Qpl - Lacustrine and playa deposits
- Xg - Paleoproterozoic granitic plutonic

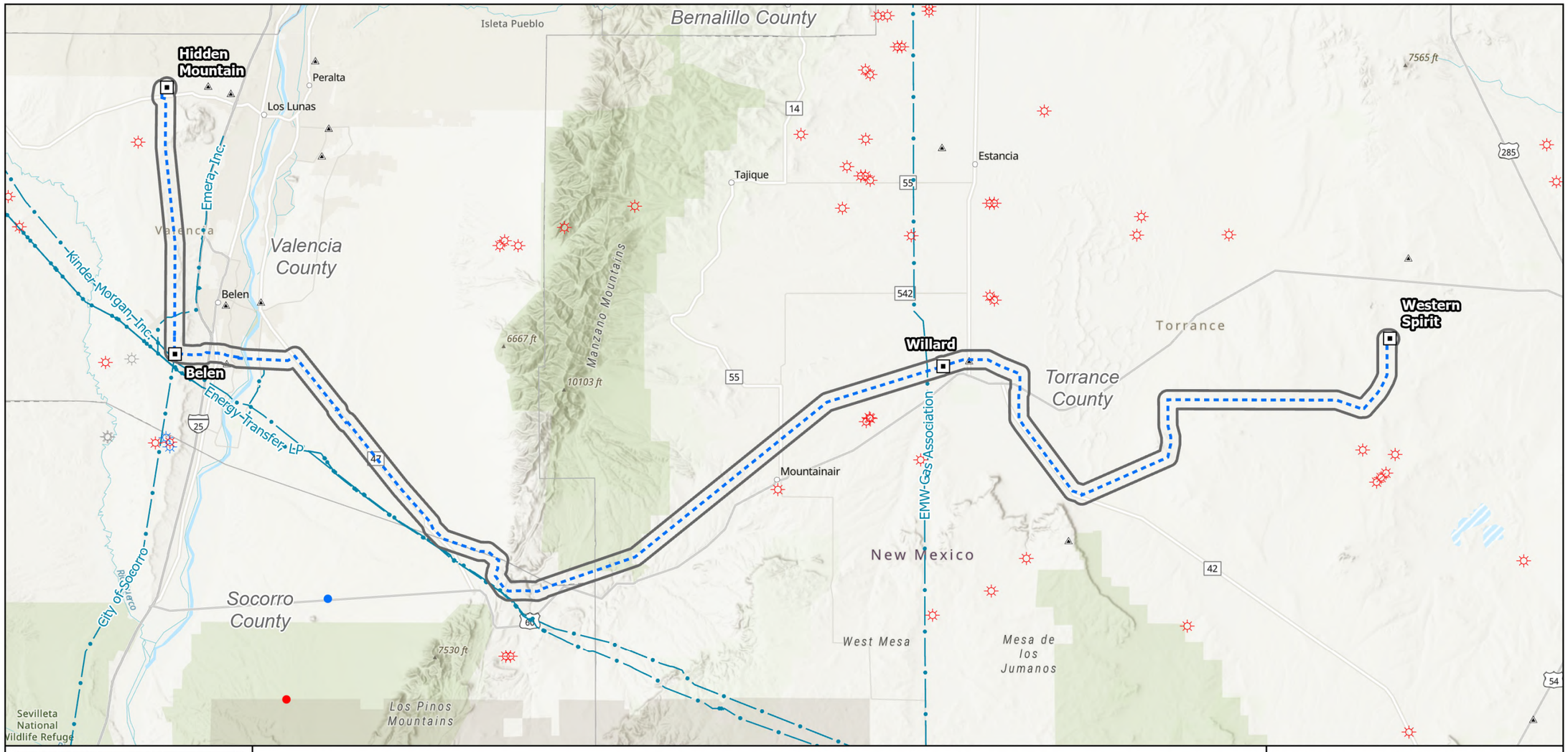
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 2
Geologic Resources Map
Page 8 of 9

0 1 2 Miles


Pg
Qpl
Py
Xg
Qa
Pedernal
6234 ft
6479 ft
Dummoor
Western Spirit
County Road B033
6554 ft
County Road C055
County Road C057
Torrance
County
Qp
Rattlesnake
Hill
Yg
6585 ft
6473 ft
6375 ft
Albuquerque
Project Components
Project Substation
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
Geology Unit - Description
Pg - Glorieta Sandstone
Py - Yeso Formation
Qa - Alluvium
Qp - Piedmont alluvial deposits
Qpl - Lacustrine and playa deposits
Xg - Paleoproterozoic granitic plutonic
Yg - Mesoproterozoic granitic plutonic rocks
Reference Features
Existing Substation
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 2
Geologic Resources Map
Page 9 of 9
N
0
1
2
Miles
wsp







Project Components
- Project Substation
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

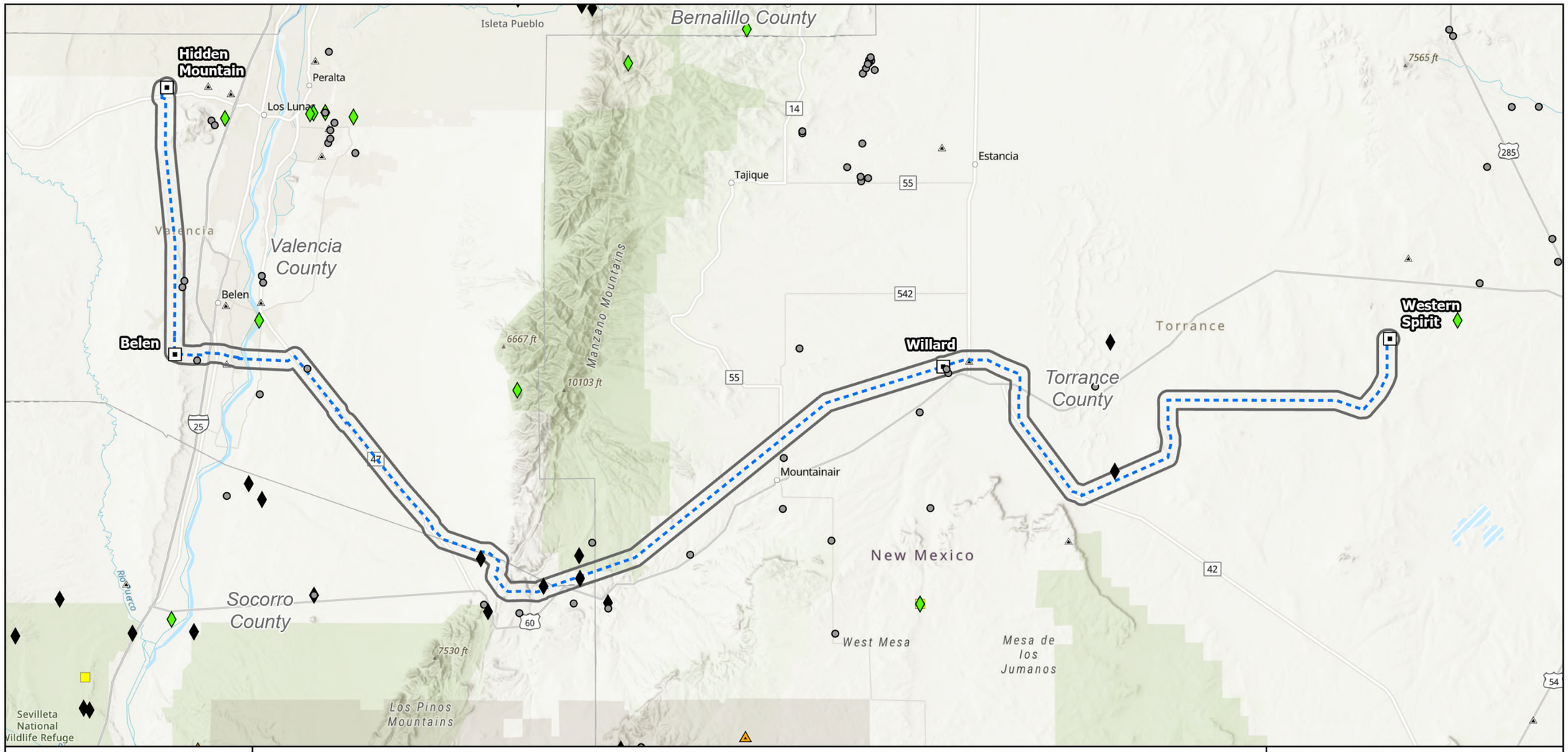
Oil and Gas Facilities
- Cancelled Gas Well
- New Gas Well
- New Oil Well
- Plugged Gas Well
- Plugged Oil Well
- Natural Gas Pipeline

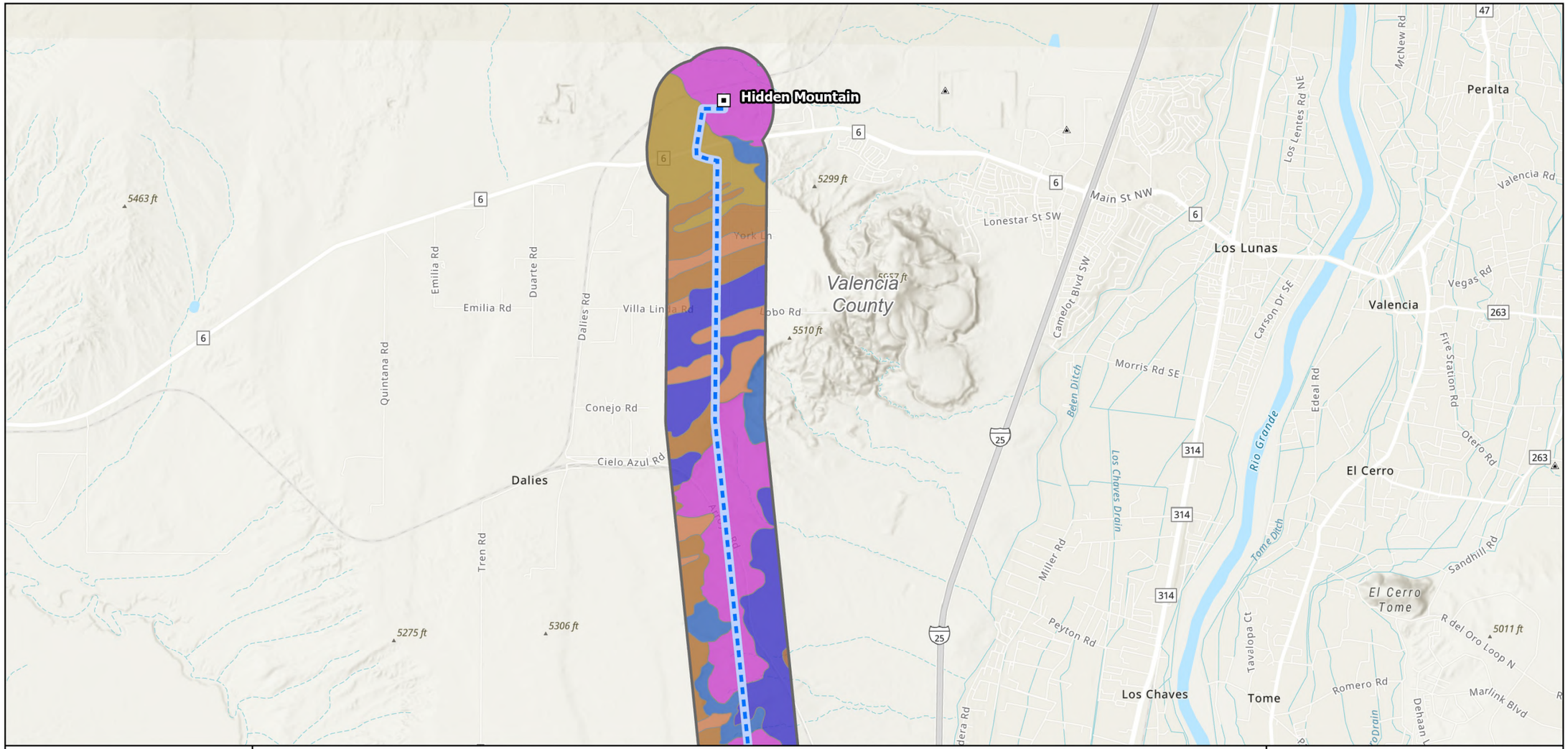
Reference Features
- Existing Substation
- County Boundary

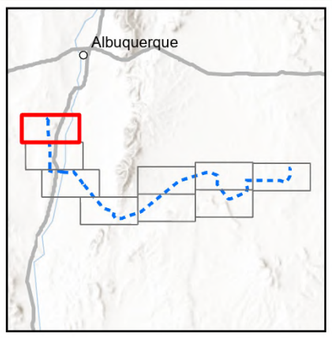
MID-STATE TRANSMISSION PROJECT

Exhibit 3
Oil and Gas Resources Map

0 5 10 Miles


Bernalillo County
Isleta Pueblo
Hidden Mountain
Peralta
Los Lunas
Valencia
Valencia County
Belen
Belen
Tajique
Estancia
7565 ft
285
14
55
542
Manzano Mountains
6667 ft
10103 ft
Willard
Torrance
Torrance County
Western Spirit
Mountainair
New Mexico
42
25
47
60
Socorro County
West Mesa
Mesa de los Jumanos
7530 ft
Los Pinos Mountains
54
Sevilleta National Wildlife Refuge
Project Area
NEW MEXICO
Albuquerque
Las Cruces
El Paso
Project Components
Project Substation
Transmission Centerline
Transmission Study Corridor (1 Mile)
Mineral Resource
Mineral Resource Occurrence
Past Producer
Producer
Prospect
Unknown
Reference Features
Existing Substation
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 4
Mineral Resources Map
0
5
10
Miles




Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

Mapunit Name
- Badland
- Bluepoint loamy fine sand, 1 to 9 percent slopes
- Bluepoint loamy fine sand, hummocky
- Bluepoint loamy sand, hilly
- Caliza-Bluepoint complex, 1 to 25 percent slopes
- Madurez-Bluepoint association, hummocky
- Madurez-Wink association, undulating
- Wink-Madurez association, gently sloping

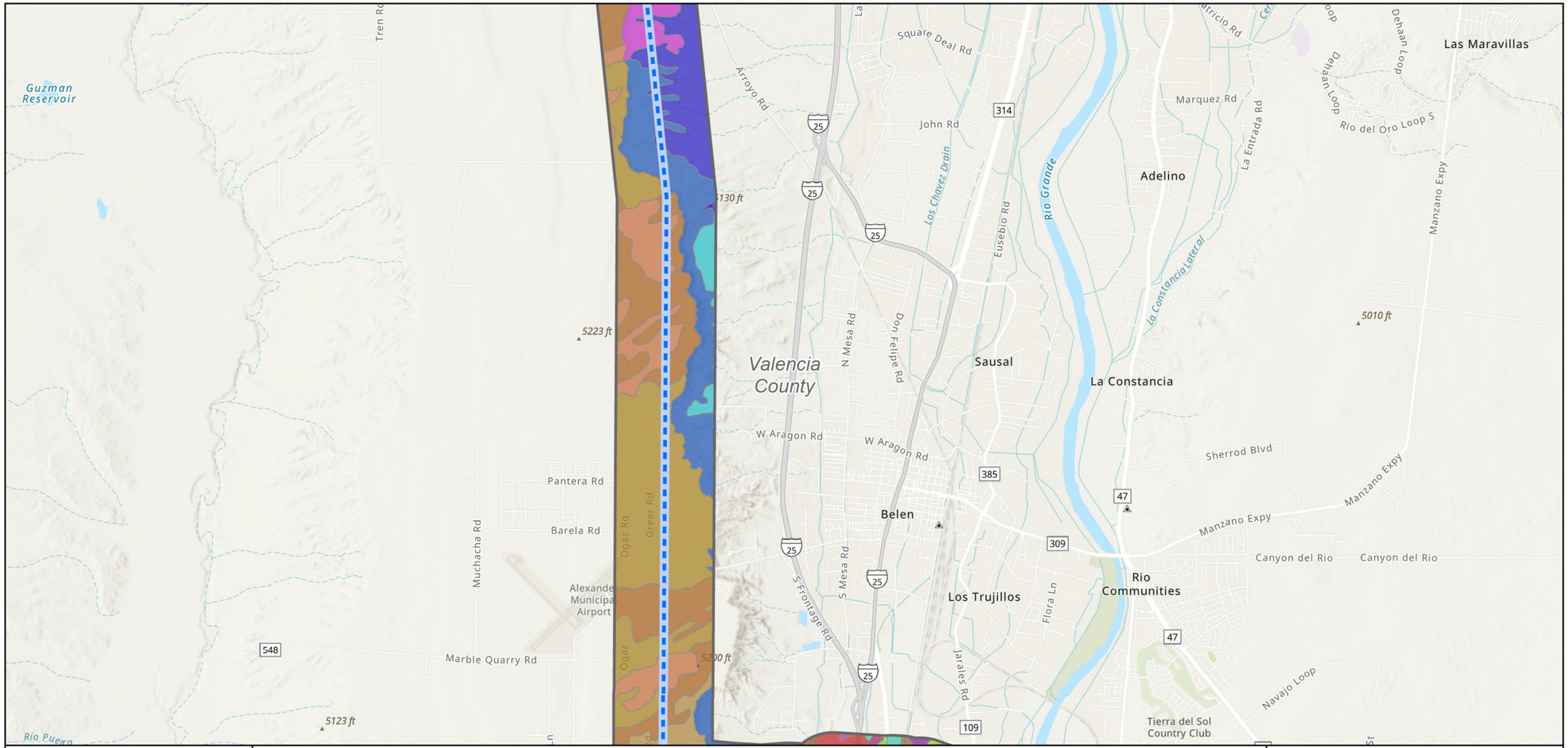
Reference Features
- Existing Substation
- County Boundary

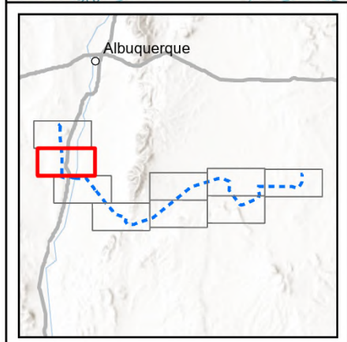
MID-STATE TRANSMISSION PROJECT

Exhibit 5
Soil Resources Map
Page 1 of 9

0 1 2 Miles

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Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

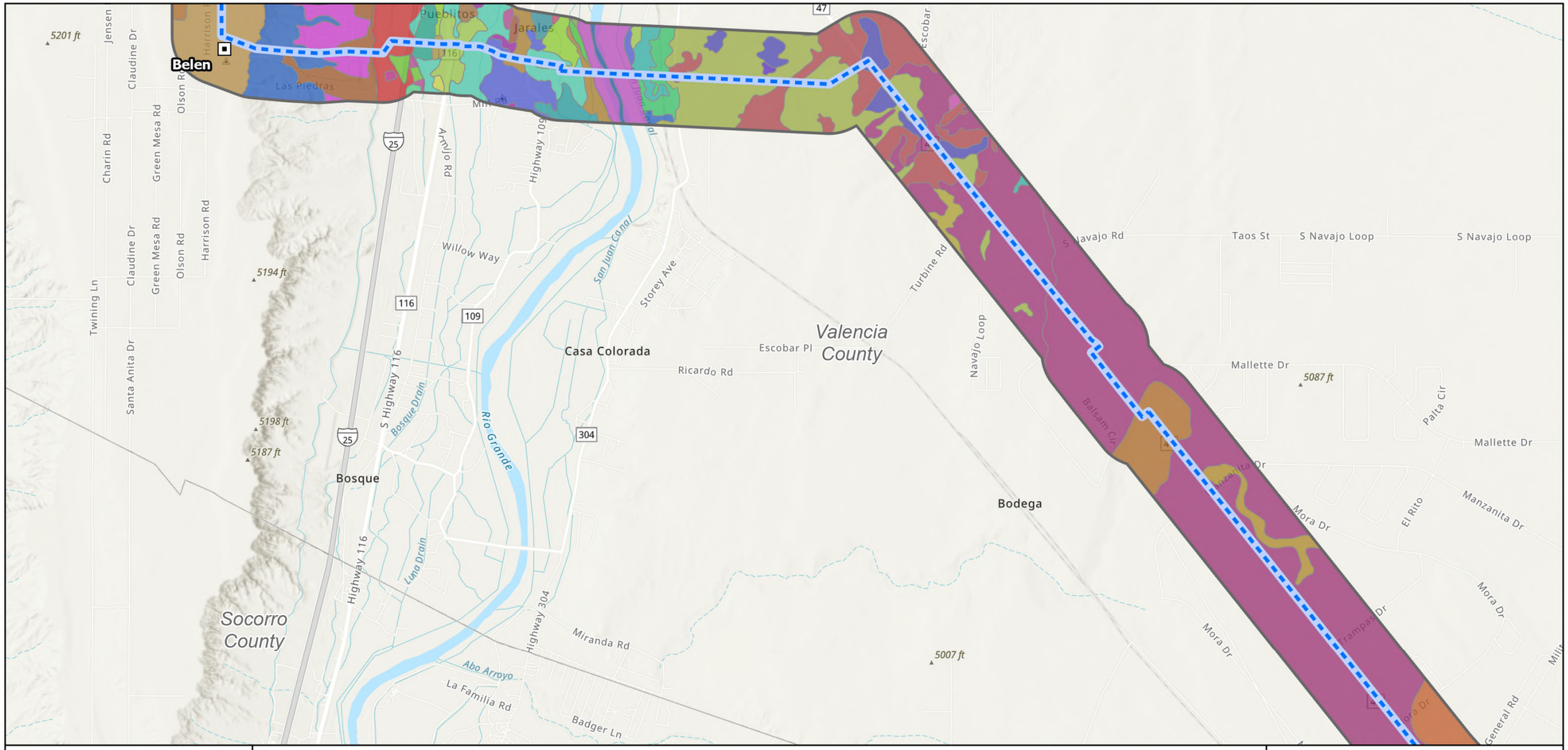
Mapunit Name
- Armijo clay
- Armijo loam, moderately alkali
- Badland
- Bluepoint loamy fine sand, 1 to 3 percent slopes
- Bluepoint loamy fine sand, 1 to 9 percent slopes
- Bluepoint loamy fine sand, hummocky
- Bluepoint loamy sand, hilly
- Caliza-Bluepoint complex, 1 to 25 percent slopes
- Gila clay loam
- Gila loam, 0 to 1 percent slopes mlra 42-1
- Gila loam, moderately alkali
- Madurez-Bluepoint association, hummocky
- Madurez-Wink association, undulating
- Vinton loam
- Vinton loam, loamy subsoil variant MLRA 42
- Vinton loamy fine sand, moderately alkali
- Wink fine sandy loam
- Wink-Madurez association, gently sloping

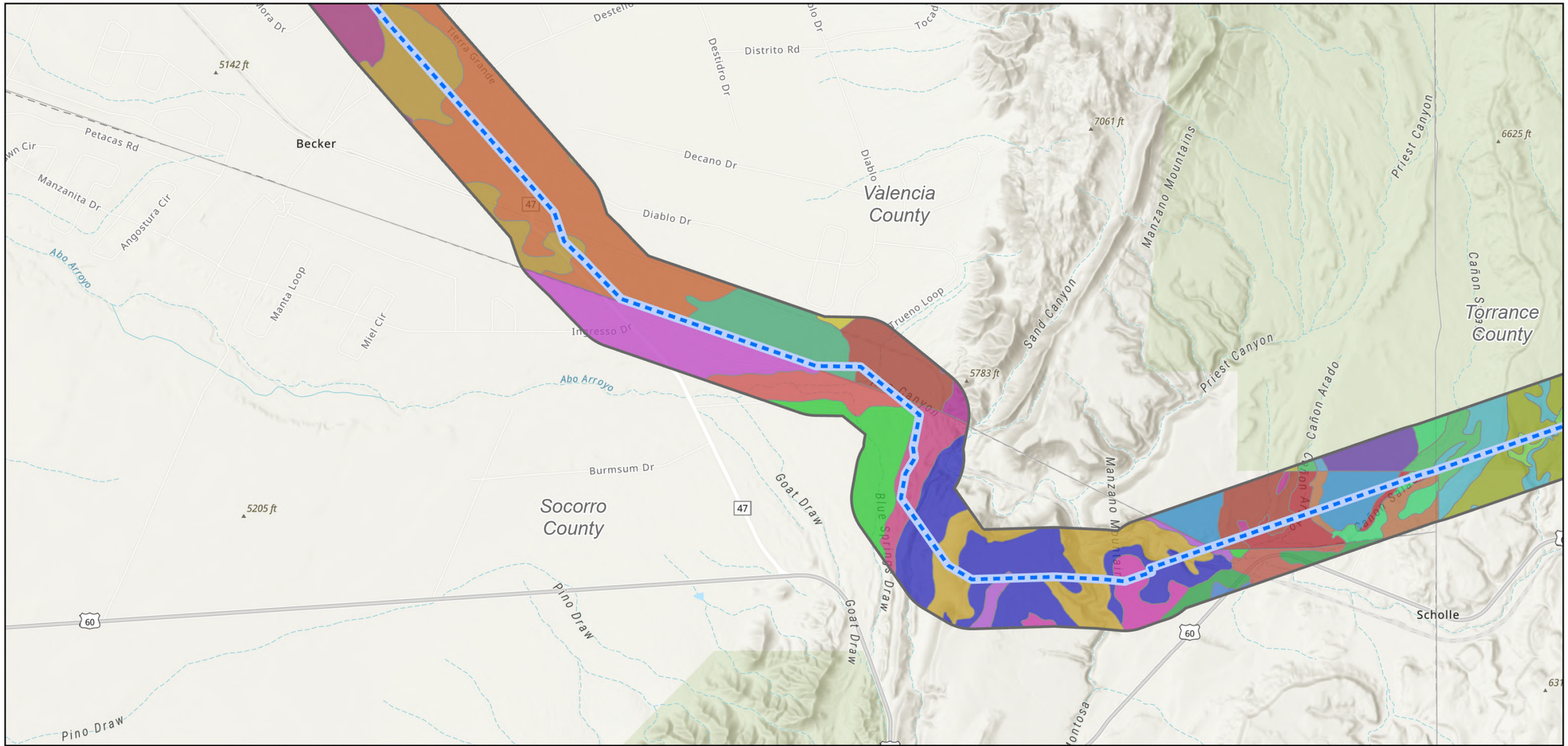
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 5
Soil Resources Map
Page 2 of 9

0 1 2 Miles


Belen
Pueblitos
Jarales
Las Piedras
Valencia County
Casa Colorada
Bosque
Socorro County
Bodega
Mallette Dr
Taos St
S Navajo Loop
Willow Way
Ricardo Rd
Escobar Pl
Miranda Rd
La Familia Rd
Badger Ln
Abo Arroyo
Mora Dr
Manzanita Dr
Turbine Rd
Navajo Loop
Storey Ave
Arroyo Rd
Highway 116
Highway 304
Highway 109
S Highway 116
Rio Grande
San Juan Canal
Luna Drain
Bosque Drain
Charin Rd
Claudine Dr
Green Mesa Rd
Olson Rd
Harrison Rd
Jensen
Twining Ln
Santa Anita Dr
Palta Cir
El Rito
General Rd
5201 ft
5194 ft
5198 ft
5187 ft
5087 ft
5007 ft
Albuquerque
Project Components
Project Substation
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
Mapunit Name
Agua loam, slightly saline
Armijo clay
Armijo loam, moderately alkali
Badland
Belen clay loam, moderately alkali
Belen loam
Bluepoint loamy fine sand, 1 to 3 percent slopes
Bluepoint loamy fine sand, 1 to 9 percent slopes
Bluepoint loamy sand, hilly
Bluepoint sandy clay loam, 1 to 3 percent slopes
Bluepoint-Wink complex, hummocky
Brazito loamy fine sand
Brazito sandy clay loam, thick surface
Gila clay loam
Gila clay loam, slightly saline
Gila loam, 0 to 1 percent slopes mlra 42-1
Gila loam, moderately alkali
Gila loam, slightly saline
Gila loam, strongly alkali
Gila loam, strongly saline and alkali
Gila loamy fine sand
Glendale clay loam, 0 to 1 percent slopes MLRA 42.1
Gravel and caliche pits
Latene loam
Madurez loamy fine sand
Madurez loamy sand, hummocky
Madurez-Wink association, undulating
Mixed alluvial land
Pajarito loamy fine sand
Riverwash
Vinton loam
Vinton loam, loamy subsoil variant MLRA 42
Vinton loam, slightly saline
Vinton loamy fine sand
Vinton loamy fine sand, moderately alkali
Wink complex, 1 to 9 percent slopes, eroded
Wink fine sandy loam
Wink loamy sand
Wink loamy sand, clayey substratum
Wink loamy sand, hummocky
Wink-Caliza complex, 1 to 15 percent slopes
Wink-Madurez association, gently sloping
Reference Features
Existing Substation
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 5
Soil Resources Map
Page 3 of 9
0
1
2
Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

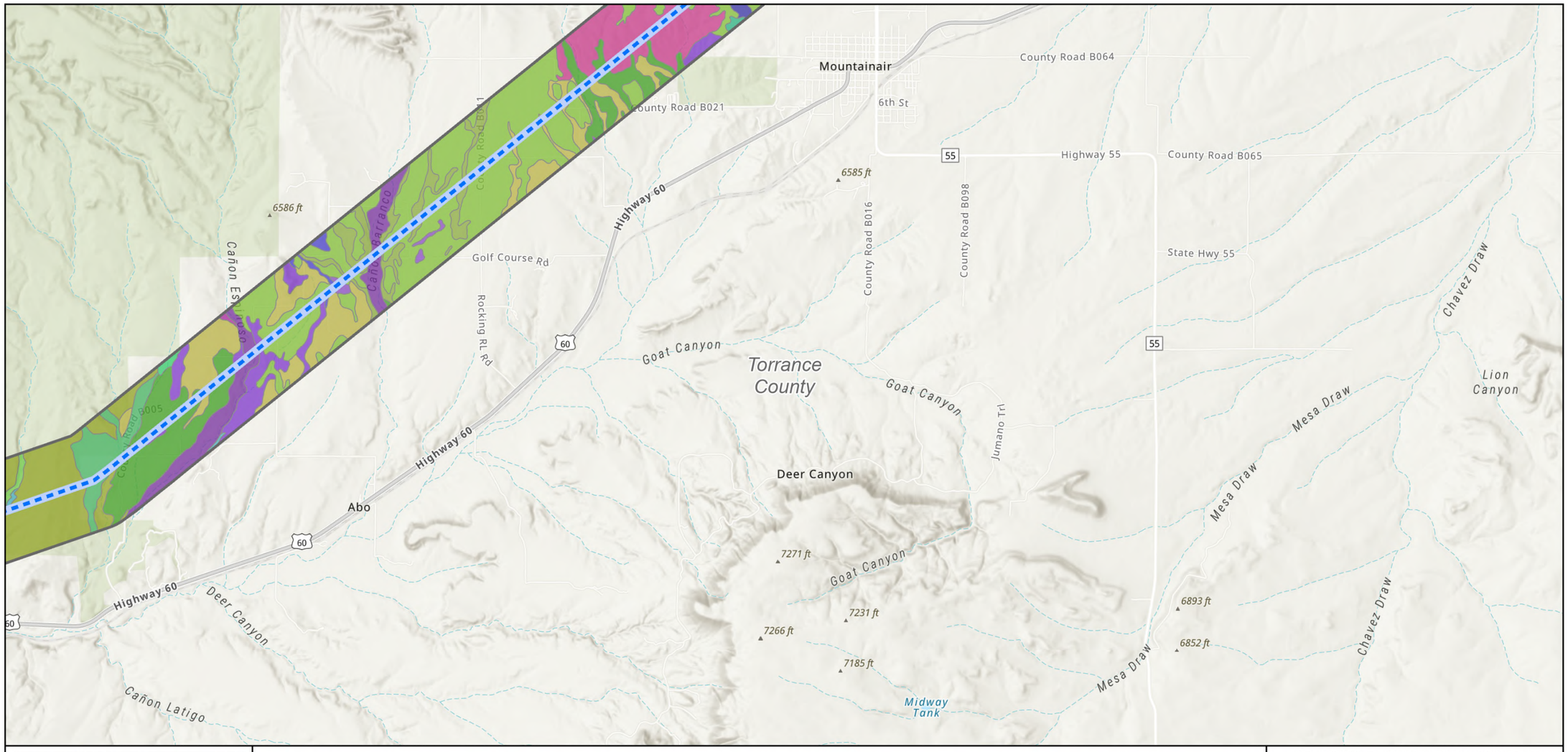
Mapunit Name
- Creel-Musofare-Clovis complex, 1 to 15 percent slopes
- Deama-Rock outcrop complex, 3 to 40 percent slopes
- Dean-Pinon association, gently sloping
- Encierro channery loam, 1 to 9 percent slopes
- Gravel and caliche pits
- Harvey-Dean association, 1 to 9 percent slopes
- Harvey-Ildecarb-Pinon complex, 2 to 10 percent slopes
- Harvey-La Fonda association, 1 to 9 percent slopes
- Hassell loam, 2 to 5 percent slopes
- La Fonda loam, gravelly substratum, 2 to 8 percent slopes
- Largo loam
- Largo loam, 0 to 3 percent slopes
- Latene loam
- Madurez loamy fine sand
- Millett-Tesajo associatin, sloping
- Moriarty clay loam, 2 to 6 percent slopes
- Ponciano very bouldery clay loam, 15 to 60 percent slopes
- Prewitt and Manzano soils
- Puertecito, moist-Rock outcrop complex, 15 to 60 percent slopes
- Rock land
- Rock outcrops and Slides
- Salas very stony loam, 30 to 70 percent slopes
- San Mateo-Glenberg complex, 0 to 2 percent slopes
- Scholle gravelly loam, 1 to 9 percent slopes
- Sedillo very gravelly loam, 3 to 9 percent slopes
- Sedillo-Clovis association, 1 to 6 percent slopes
- Steep rock land
- Tapia loam, 0 to 5 percent slopes
- Tres Hermanos-Madurez association, gently sloping
- Wink-Dona Ana loamy sands, 1 to 3 percent slopes
- Wink-Madurez association, gently sloping
- Winona-Rock outcrop complex, 5 to 45 percent slopes

Reference Features
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 5
Soil Resources Map
Page 4 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

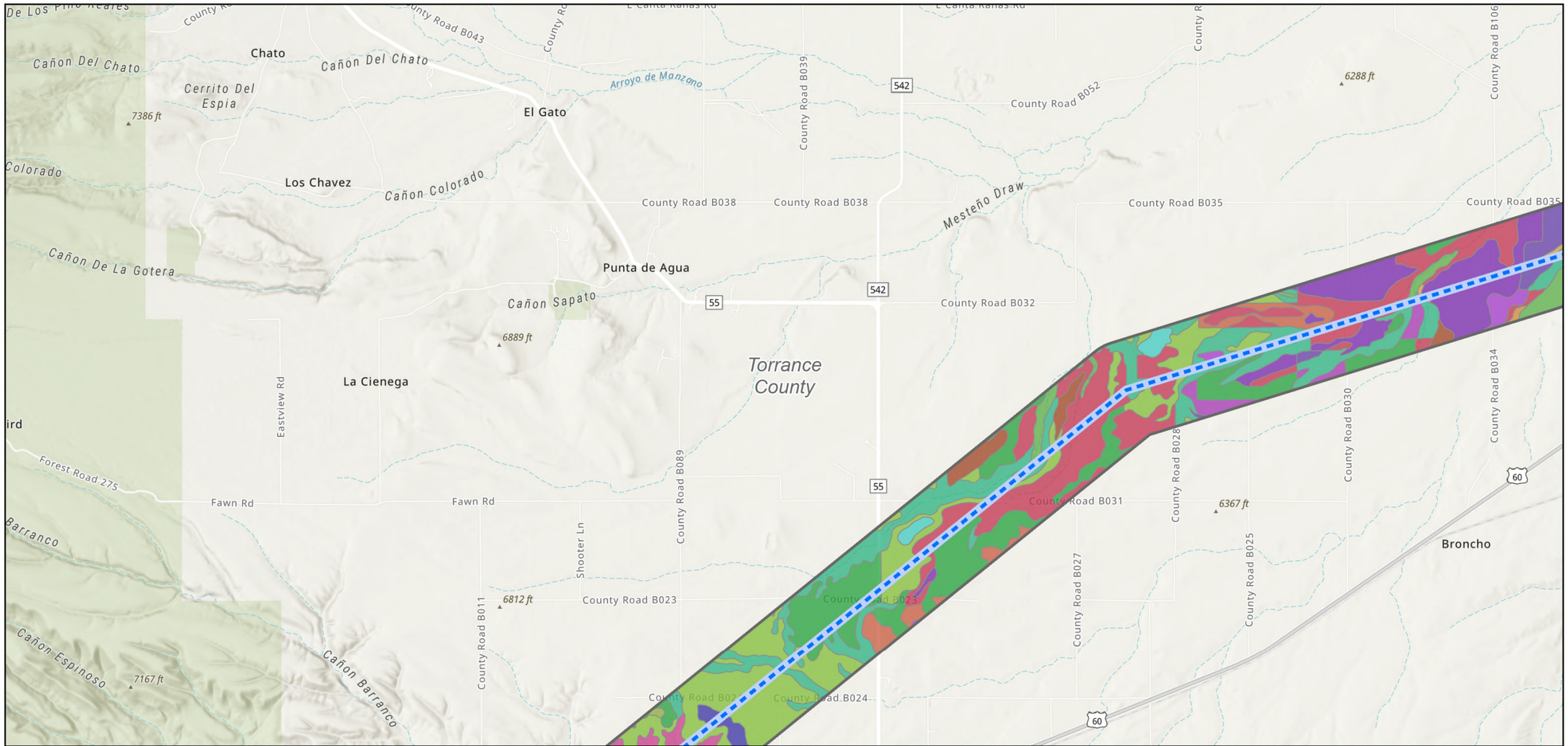
Mapunit Name
- Alicia loam, 1 to 6 percent slopes
- Chilton gravelly loam
- Clovis loam, 0 to 5 percent slopes
- Encierro channery loam, 1 to 9 percent slopes
- Harvey loam, 1 to 9 percent slopes
- Hassell loam, 2 to 5 percent slopes
- La Fonda loam, 1 to 9 percent slopes
- La Fonda loam, gravelly substratum, 2 to 8 percent slopes
- Laporte-Rock outcrop complex
- Moriarty clay loam, 2 to 6 percent slopes
- Pinon channery loam, 3 to 20 percent slopes
- Scholle gravelly loam, 1 to 9 percent slopes
- Steep rock land
- Stony steep land
- Washoe cobbly loam, 9 to 25 percent slopes
- Washoe gravelly loam, 1 to 9 percent slopes
- Witt loam, 1 to 6 percent slopes

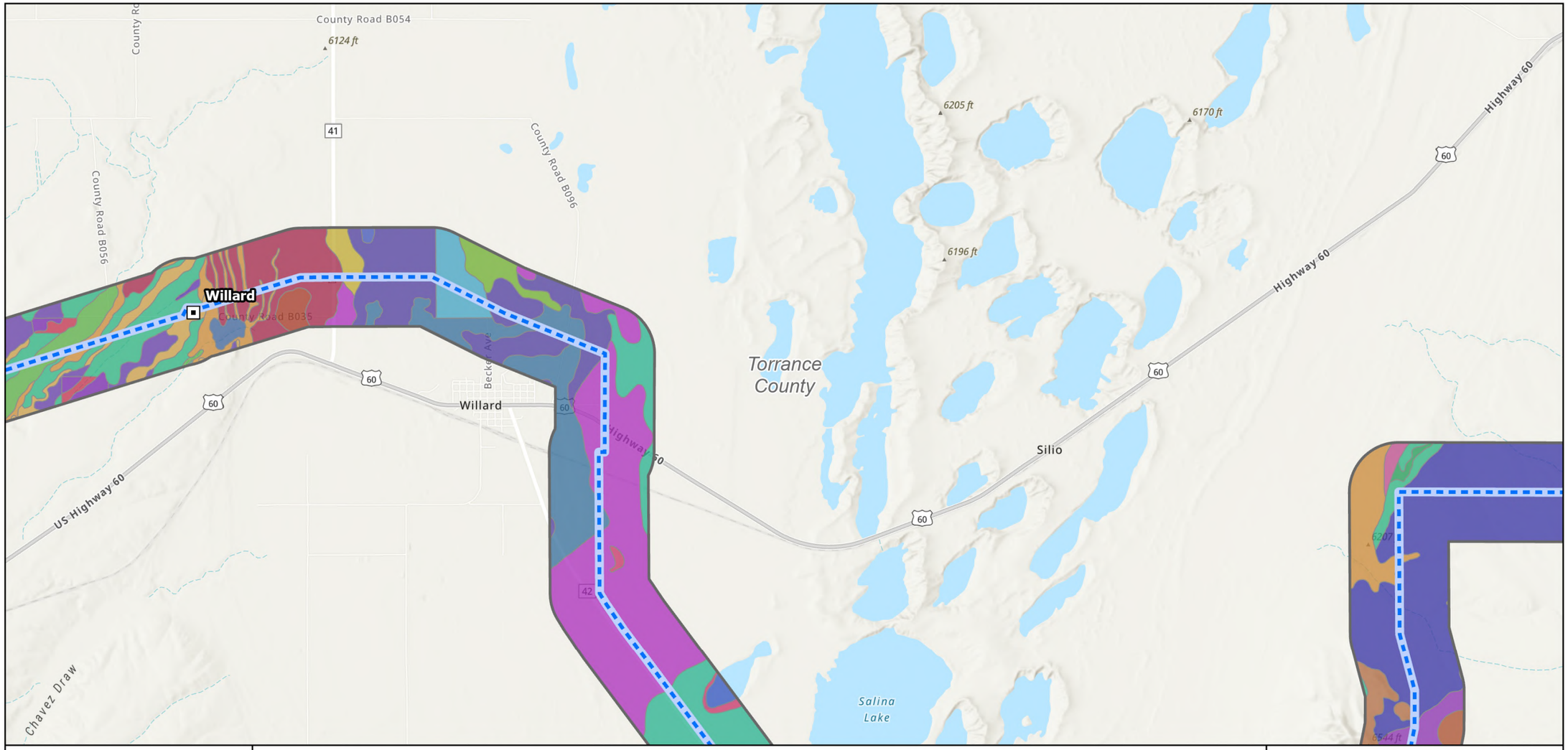
Reference Features
- County Boundary

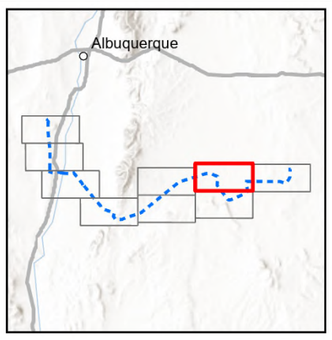
MID-STATE TRANSMISSION PROJECT

Exhibit 5
Soil Resources Map
Page 5 of 9

0 1 2 Miles


Chato
Cañon Del Chato
Cerrito Del Espia
7386 ft
El Gato
Arroyo de Manzano
County Road B039
542
County Road B052
6288 ft
County Road B106
Colorado
Los Chavez
Cañon Colorado
County Road B038
County Road B038
Mesteño Draw
County Road B035
County Road B035
Cañon De La Gotera
Punta de Agua
Cañon Sapato
55
542
County Road B032
6889 ft
Torrance County
La Cienega
Eastview Rd
Forest Road 275
Fawn Rd
Fawn Rd
County Road B089
55
County Road B031
County Road B028
6367 ft
County Road B030
County Road B034
60
Barranco
Shooter Ln
Broncho
6812 ft
County Road B023
County Road B023
County Road B011
County Road B027
County Road B025
Cañon Espinoso
7167 ft
Cañon Barranco
County Road B024
60
Albuquerque
Project Components
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
Mapunit Name
Clovis loam, 0 to 5 percent slopes
Clovis soils, 0 to 5 percent slopes, eroded
Harvey and Dean soils, eroded
Harvey loam, 1 to 9 percent slopes
Harvey-Dean loams, 1 to 9 percent slopes
Ildefonso fine sandy loam, 0 to 5 percent slopes
Manzano loam, 0 to 1 percent slopes
Pastura loam, 1 to 9 percent slopes
Pinon channery loam, 3 to 20 percent slopes
Tapia and Dean soils, eroded
Tapia loam, 0 to 5 percent slopes
Washoe cobbly loam, 9 to 25 percent slopes
Washoe gravelly loam, 1 to 9 percent slopes
Witt clay loam, 0 to 1 percent slopes, eroded
Witt clay loam, 1 to 6 percent slopes, eroded
Witt loam, 0 to 1 percent slopes
Witt loam, 1 to 6 percent slopes
Witt-Harvey loams, 0 to 3 percent slopes
Reference Features
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 5
Soil Resources Map
Page 6 of 9
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1
2
Miles
wsp




Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

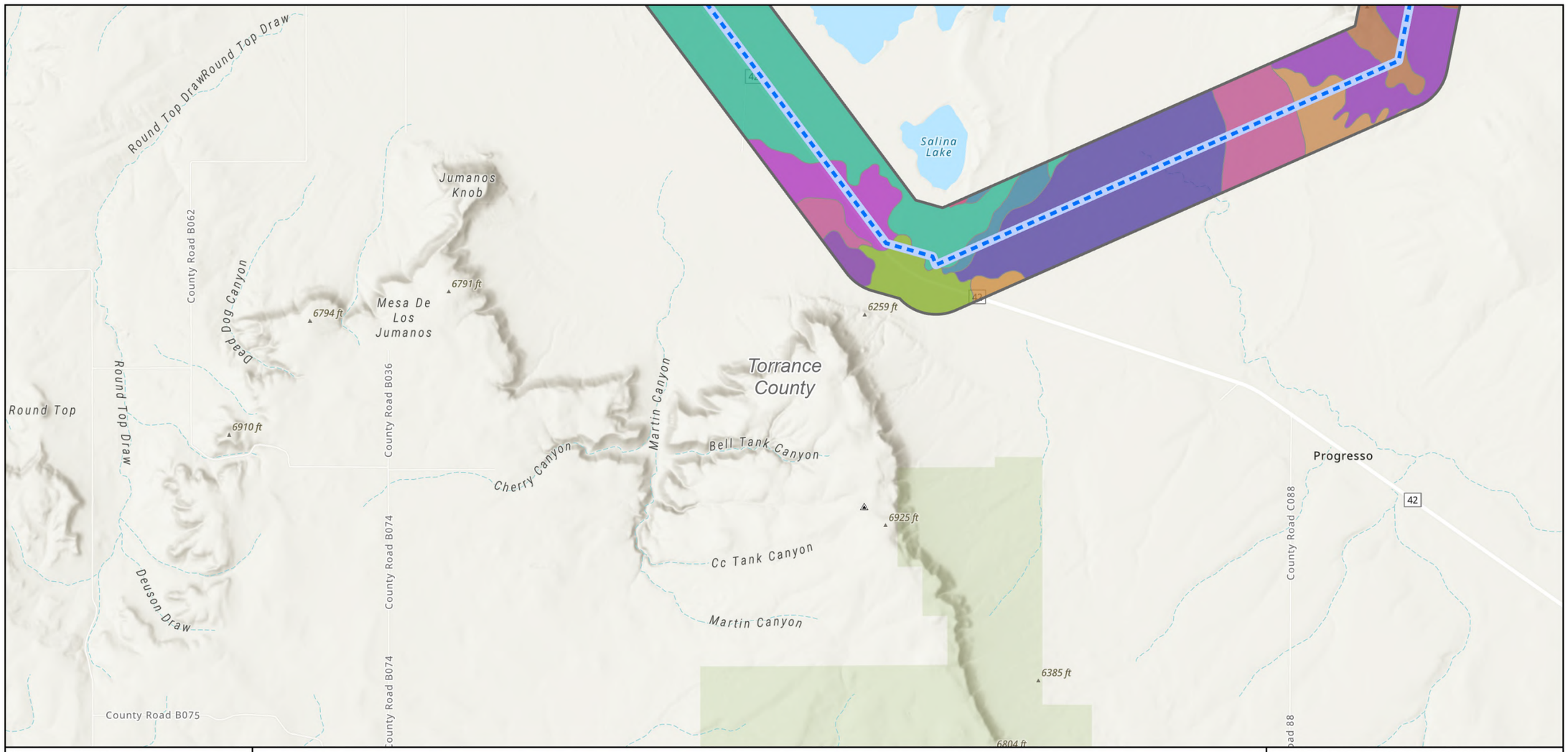
Mapunit Name
- Blown-out land
- Caliche pit
- Clovis loam, 0 to 5 percent slopes
- Harvey and Dean soils, eroded
- Harvey loam, 1 to 9 percent slopes
- Harvey loam, alkali
- Ildefonso fine sandy loam, 0 to 2 percent slopes
- Ildefonso fine sandy loam, 0 to 5 percent slopes
- Ildefonso loamy fine sand, 0 to 5 percent slopes
- Karde loam, saline
- Manzano loam, 0 to 1 percent slopes
- Manzano loam, saline substratum, 0 to 1 percent slopes
- Moriarty clay loam, 0 to 1 percent slopes
- Otero and Palma soils
- Otero and Palma soils, hummocky
- Pastura loam, 1 to 9 percent slopes
- Pastura loam, 9 to 25 percent slopes
- Pedrick loamy fine sand
- Pedrick loamy fine sand, hummocky
- Playas
- Rock land
- Tapia and Dean soils, eroded
- Tapia loam, 0 to 5 percent slopes
- Willard fine sandy loam
- Willard loam
- Willard loam, strongly saline

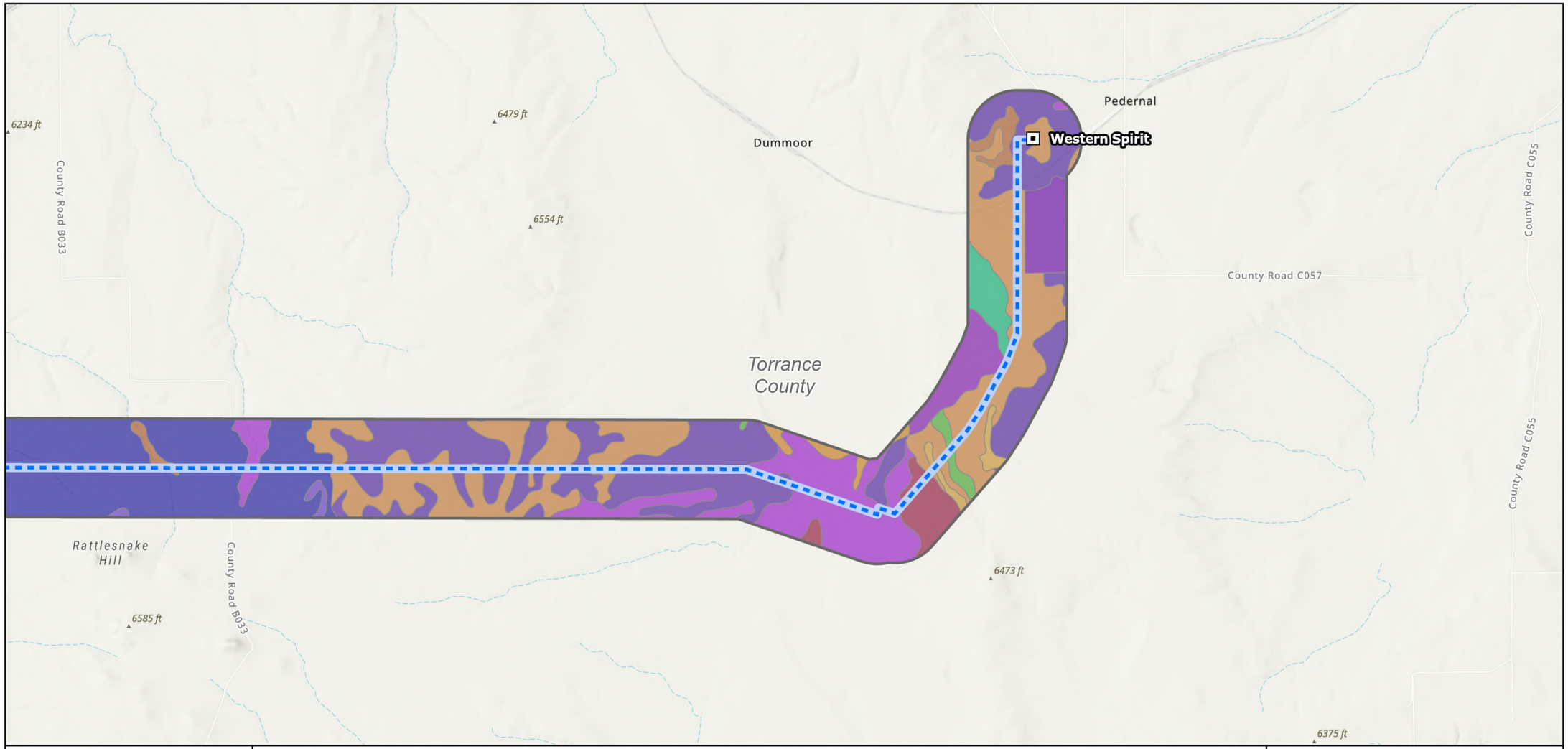
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 5
Soil Resources Map
Page 7 of 9

0 1 2 Miles


Round Top Draw
Round Top Draw
Jumanos Knob
Salina Lake
County Road B062
Dead Dog Canyon
6791 ft
6794 ft
Mesa De Los Jumanos
6259 ft
Torrance County
Martin Canyon
Round Top
Round Top Draw
6910 ft
County Road B036
Cherry Canyon
Bell Tank Canyon
Progresso
42
6925 ft
County Road B074
Cc Tank Canyon
Martin Canyon
County Road C088
Deuson Draw
6385 ft
County Road B075
County Road B074
6804 ft
Albuquerque
Project Components
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
Mapunit Name
Alicia loam, 1 to 6 percent slopes
Dean loam, 1 to 9 percent slopes
Ildefonso fine sandy loam, 0 to 5 percent slopes
Ildefonso loamy fine sand, 0 to 5 percent slopes
Karde loam, saline
Karde-Willard loams, saline
Otero and Palma soils
Otero and Palma soils, hummocky
Pedrick loamy fine sand
Penistaja fine sandy loam, 1 to 6 percent slopes
Rock land
Willard loam
Willard loam, strongly saline
Reference Features
Existing Substation
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 5
Soil Resources Map
Page 8 of 9
0
1
2
Miles
wsp




Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

Mapunit Name
- Clovis loam, 0 to 5 percent slopes
- Dean loam, 1 to 9 percent slopes
- Harvey loam, 1 to 9 percent slopes
- Harvey-Dean loams, 1 to 9 percent slopes
- Ildefonso fine sandy loam, 0 to 5 percent slopes
- Kech gravelly loam, 1 to 9 percent slopes
- Manzano loam, 0 to 1 percent slopes
- Otero and Palma soils
- Pastura loam, 1 to 9 percent slopes
- Rock land
- Tapia and Dean soils, eroded
- Tapia loam, 0 to 5 percent slopes
- Tapia-Dean loams, 0 to 5 percent slopes

Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 5
Soil Resources Map
Page 9 of 9

0 1 2 Miles







Project Components
- Project Substation
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

Geological Unit Name
- Cenozoic: Neogene
- Cenozoic: Paleogene
- Cenozoic: Quaternary
- Mesozoic: Cretaceous
- Mesozoic: Triassic
- Neoproterozoic
- Paleoproterozoic
- Paleozoic: Carboniferous
- Paleozoic: Permian

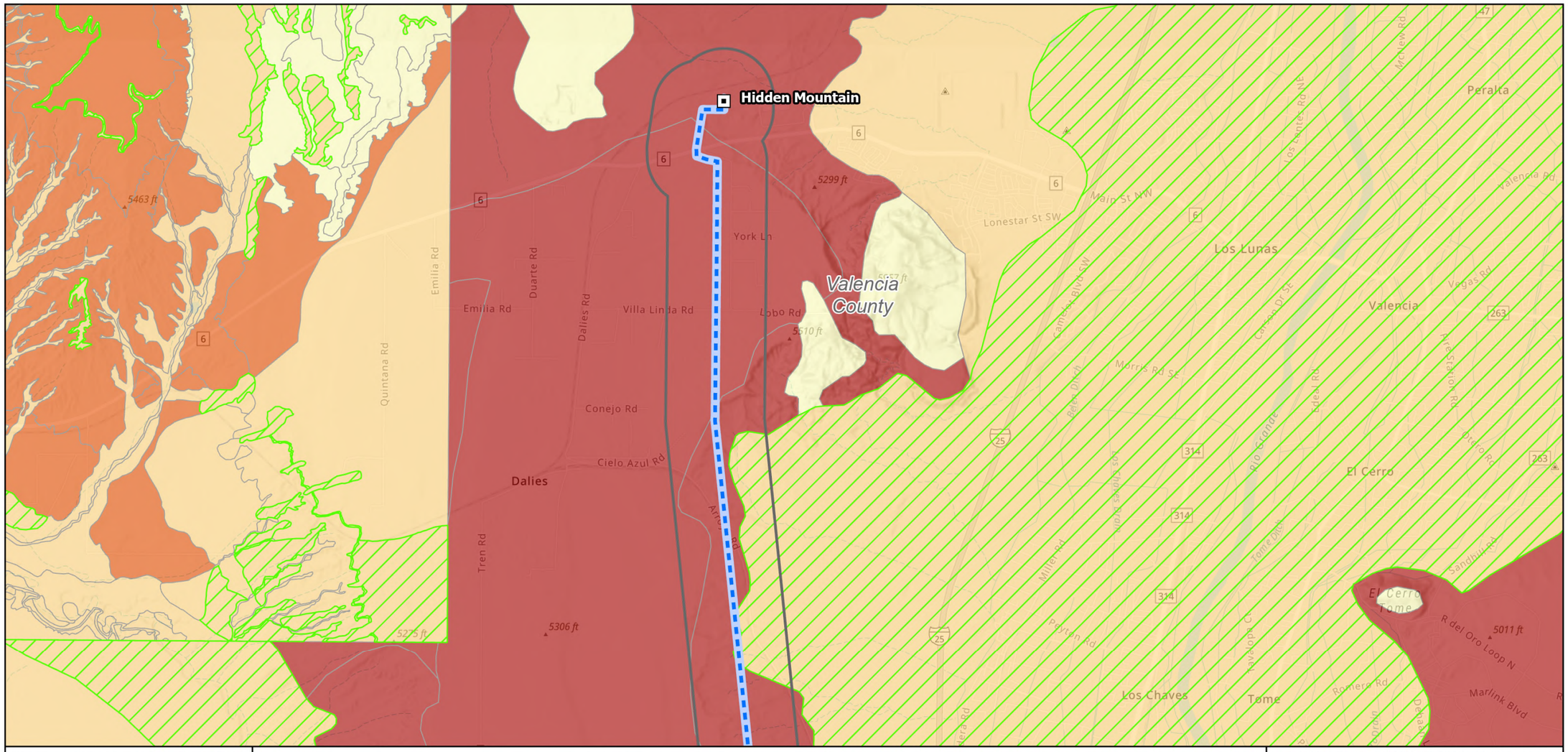
Reference Features
- Existing Substation
- County Boundary

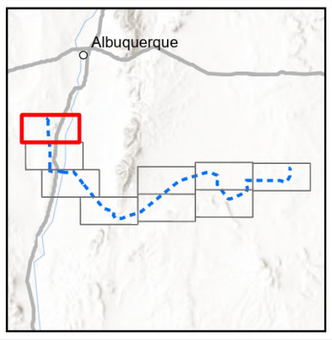
MID-STATE TRANSMISSION PROJECT

## Exhibit 6
## Paleontological Resources Map

0 5 10 Miles

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Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

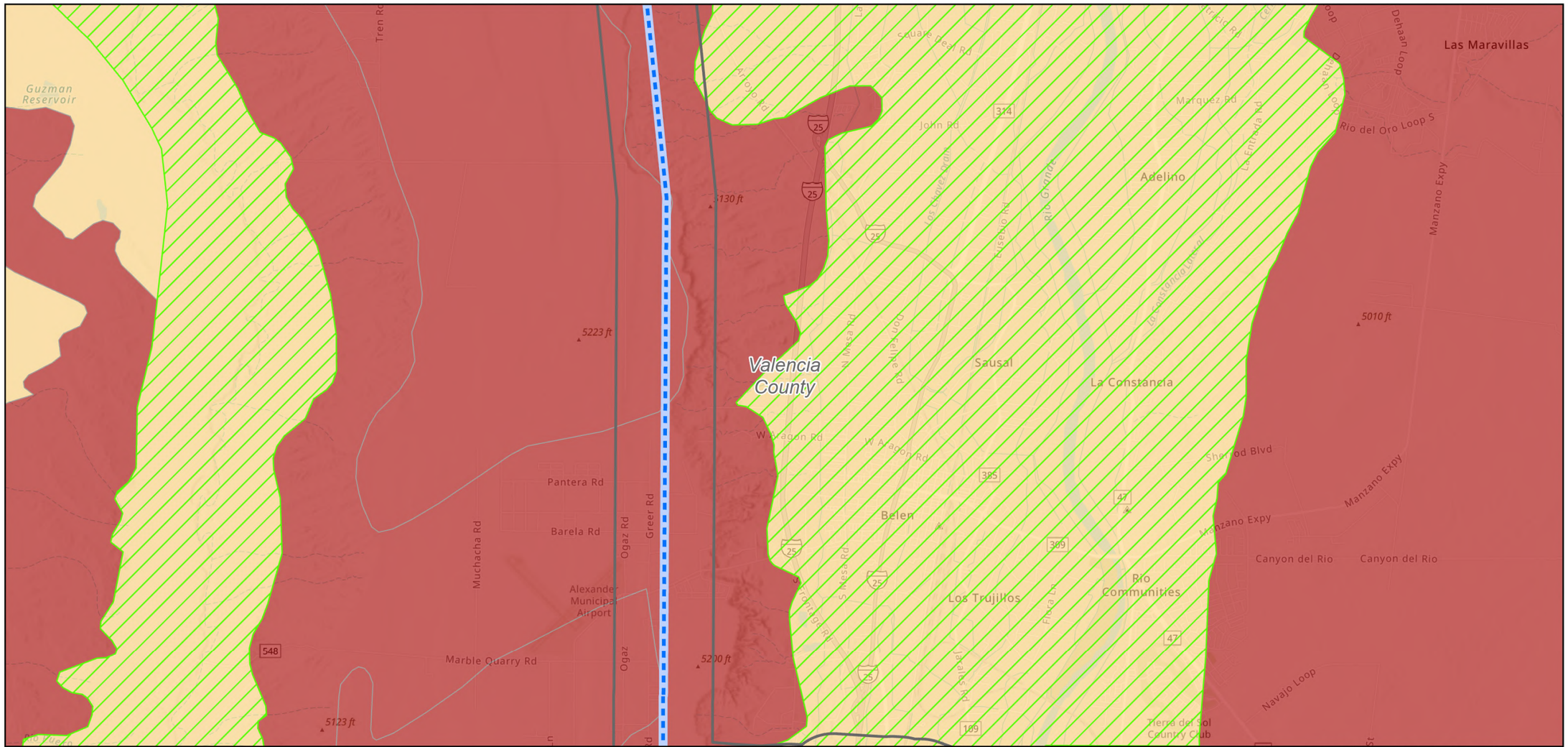
PFYC Class
- Provisional Class
- Class 1
- Class 2
- Class 4
- Class 5

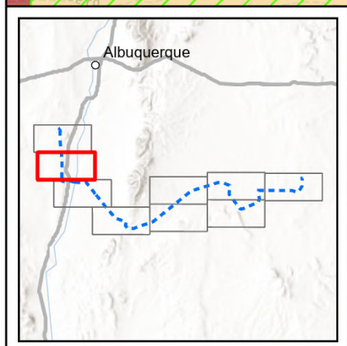
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 7
Paleontological Fossil
Yield Classification Map
Page 1 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

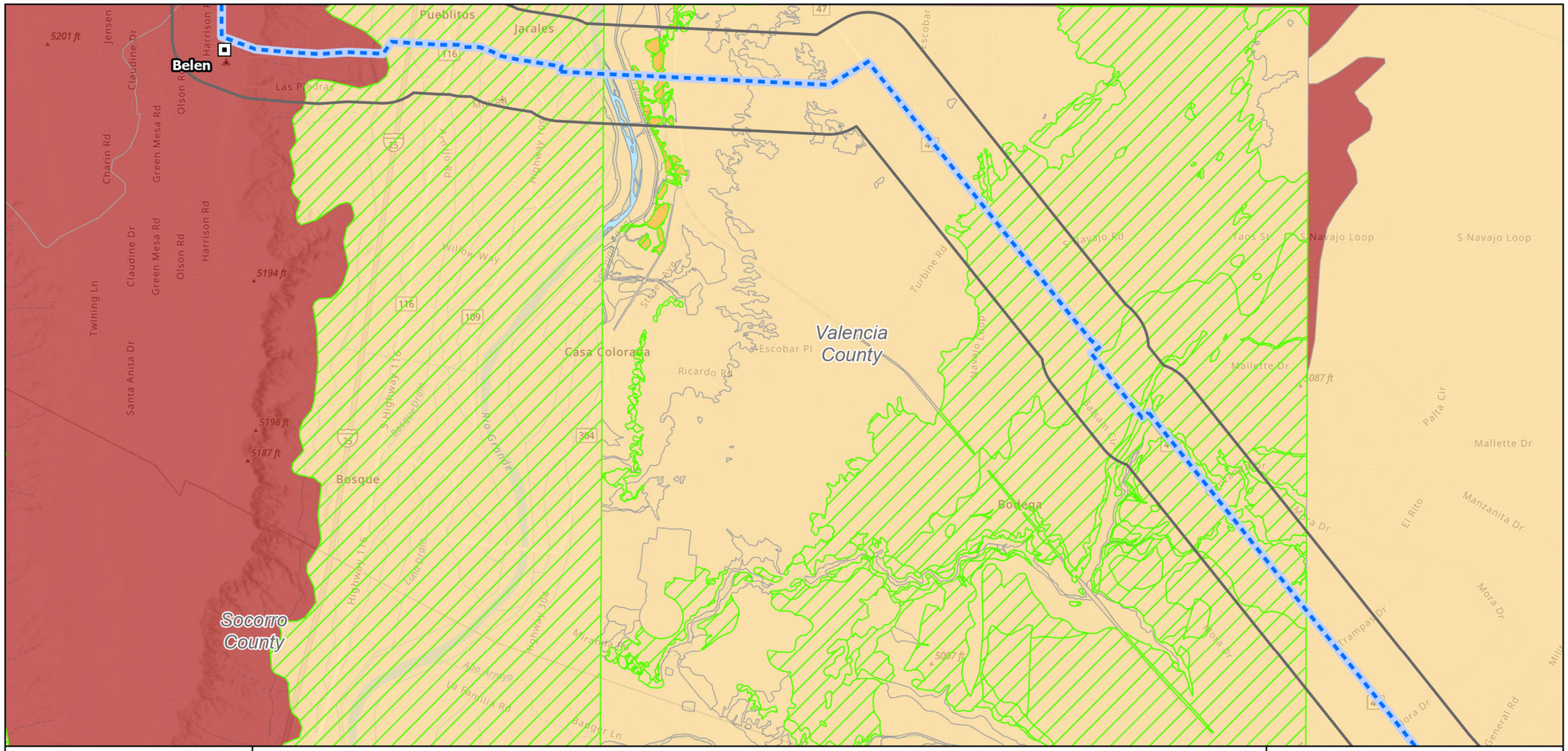
PFYC Class
- Provisional Class
- Class 2
- Class 3
- Class 5

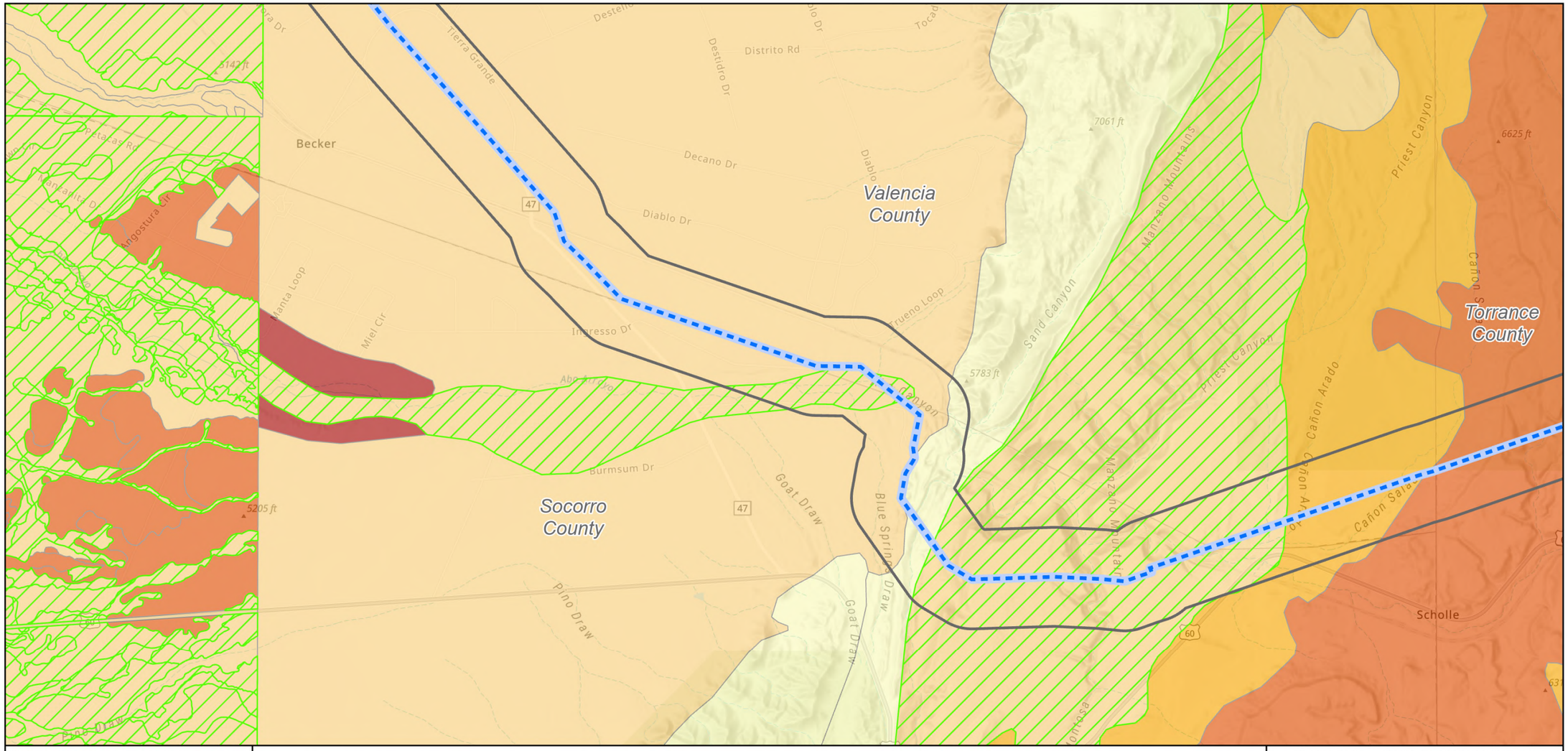
Reference Features
- Existing Substation
- County Boundary

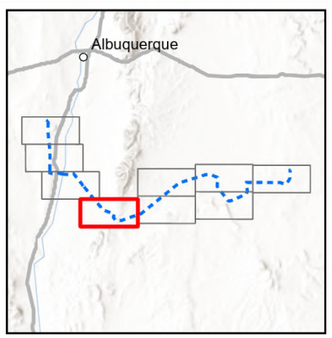
MID-STATE TRANSMISSION PROJECT

Exhibit 7
Paleontological Fossil
Yield Classification Map
Page 2 of 9

0 1 2 Miles


Belen
Pueblitos
Jarales
Las Piedras
Valencia County
Casa Colorada
Bosque
Socorro County
Bodega
Albuquerque
Project Components
Project Substation
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
PFYC Class
Provisional Class
Class 2
Class 3
Class 5
Reference Features
Existing Substation
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 7
Paleontological Fossil
Yield Classification Map
Page 3 of 9
0
1
2
Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

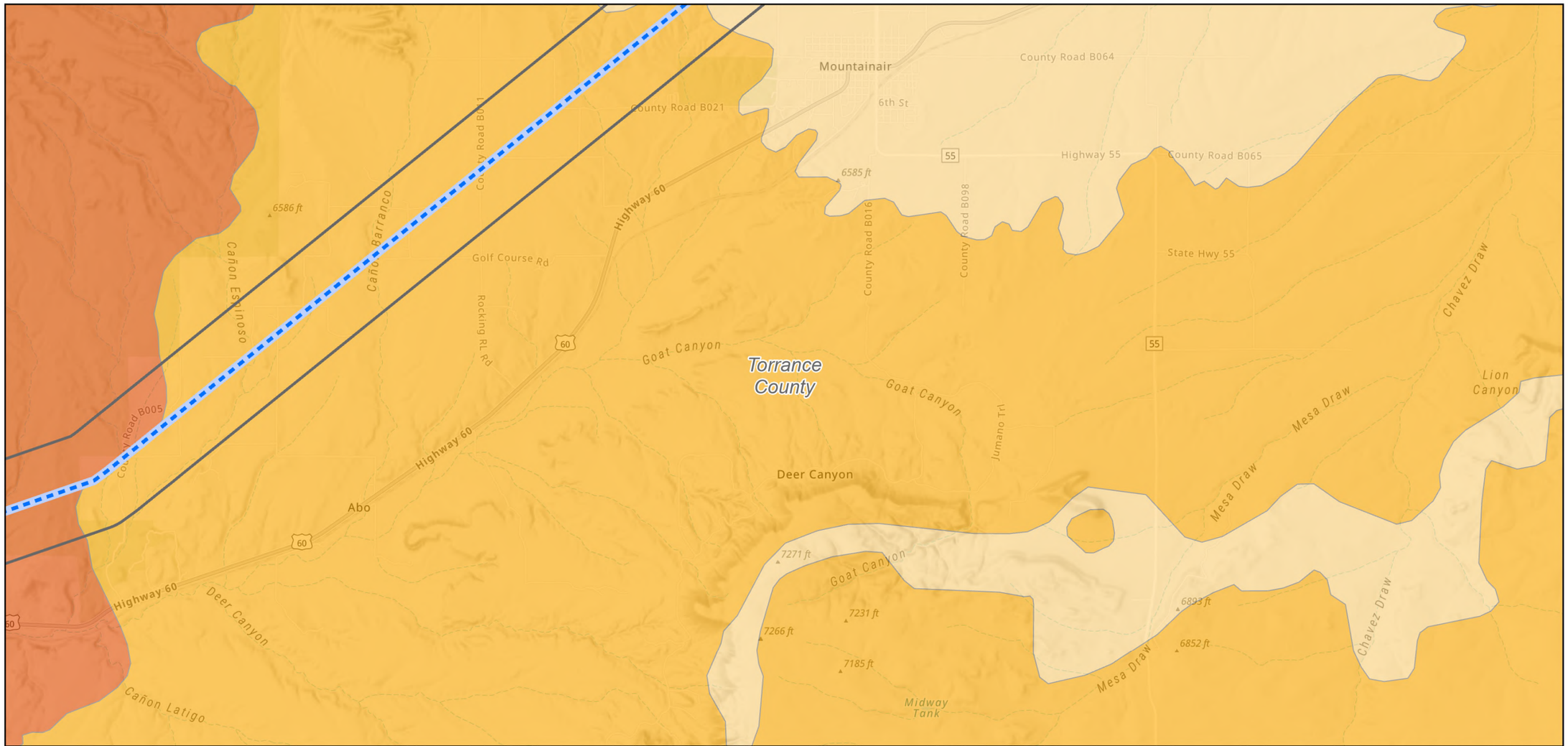
PFYC Class
- Provisional Class
- Class 1
- Class 2
- Class 3
- Class 4
- Class 5

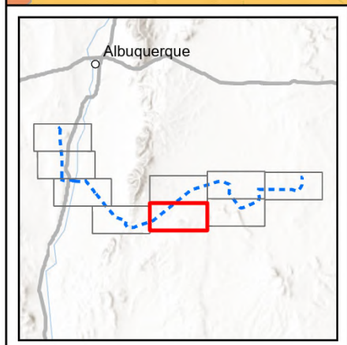
Reference Features
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 7
Paleontological Fossil
Yield Classification Map
Page 4 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

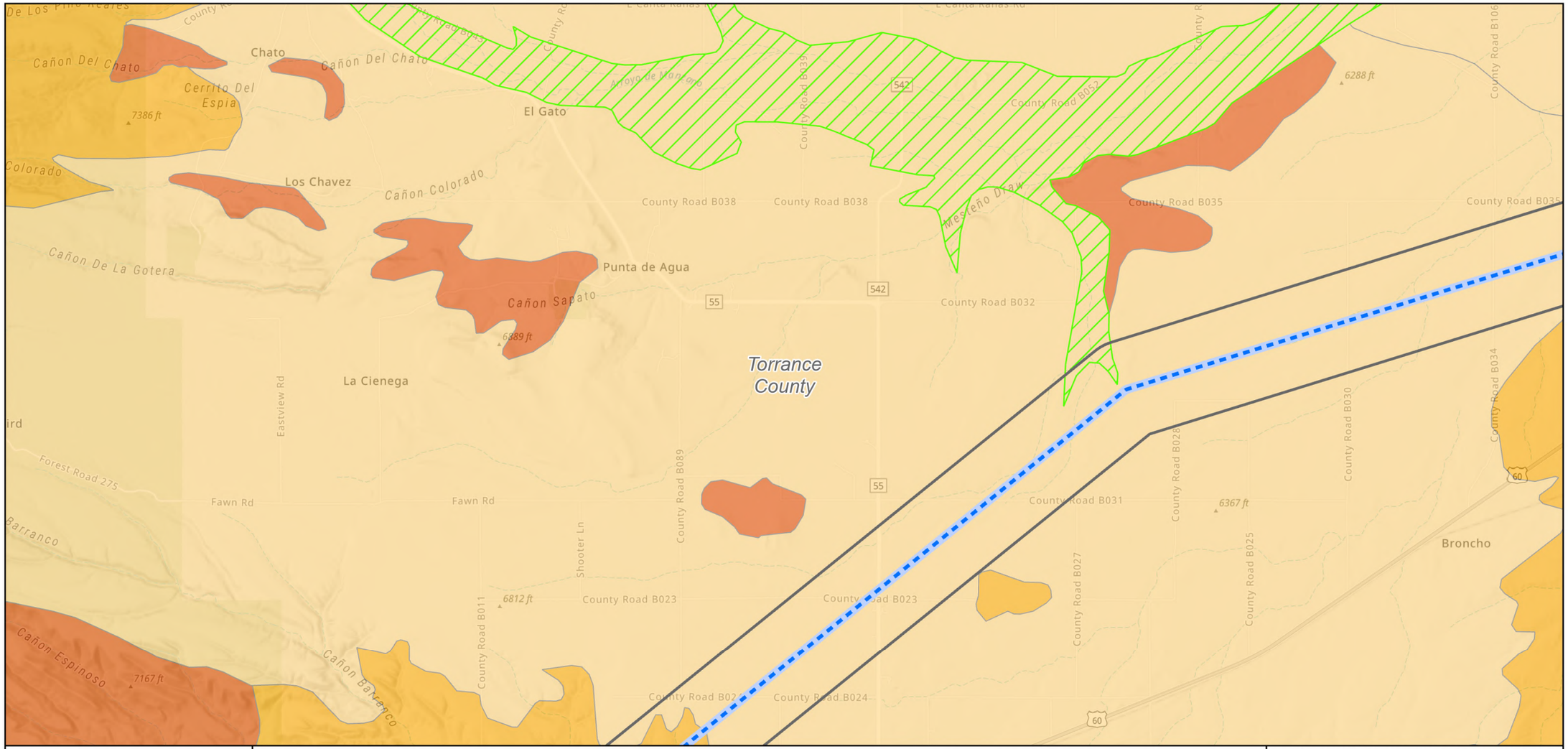
PFYC Class
- Class 1
- Class 2
- Class 3
- Class 4

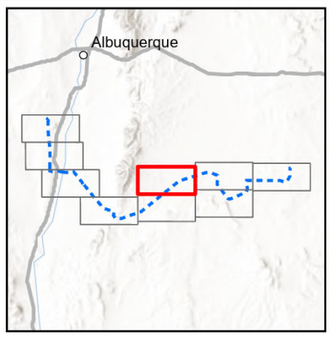
Reference Features
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 7
Paleontological Fossil
Yield Classification Map
Page 5 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

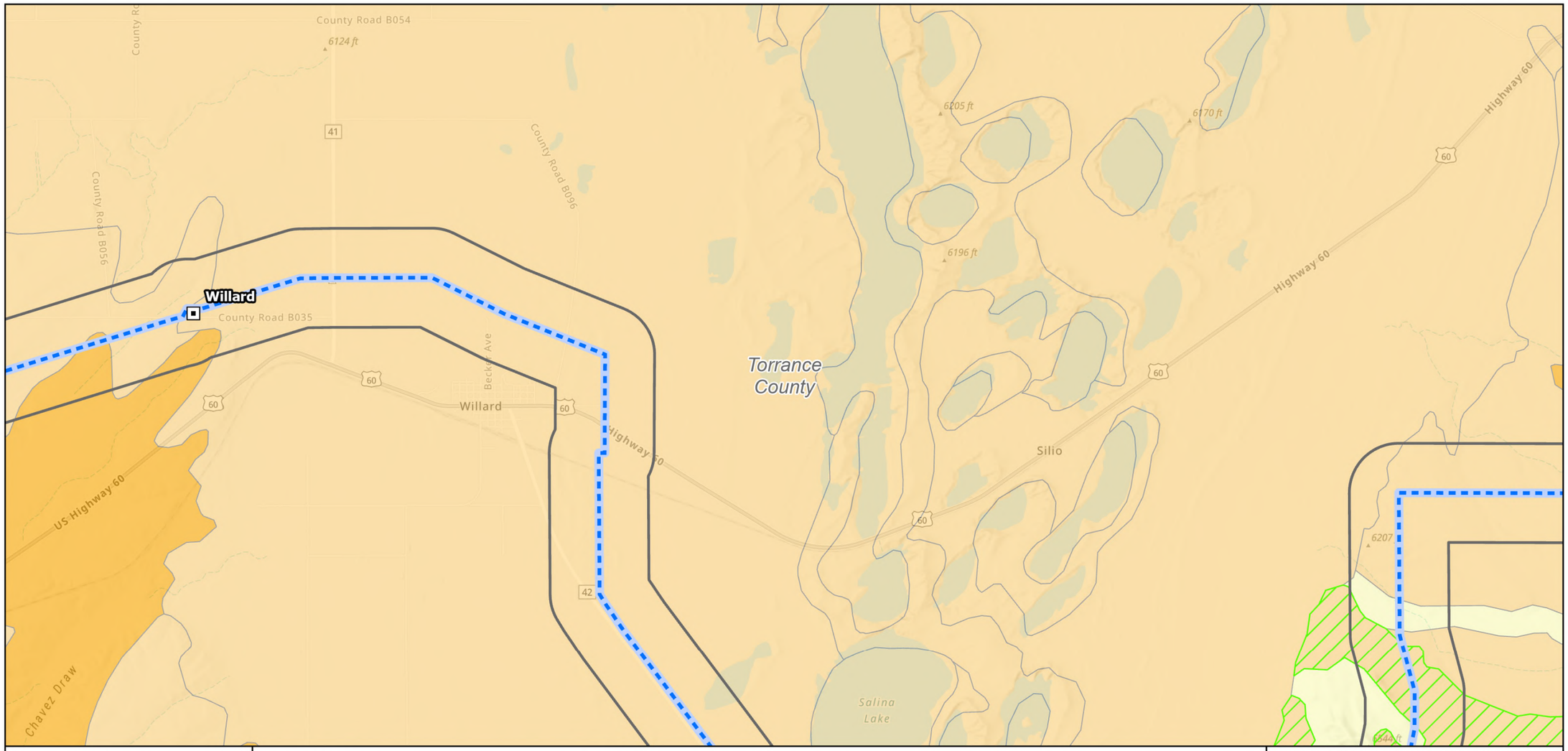
PFYC Class
- Provisional Class
- Class 2
- Class 3
- Class 4

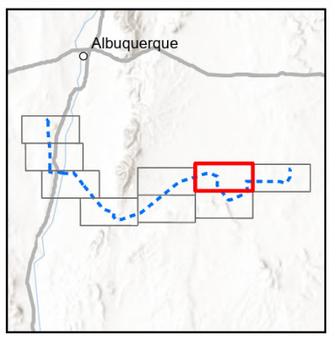
Reference Features
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 7
Paleontological Fossil
Yield Classification Map
Page 6 of 9

0 1 2 Miles




Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

PFYC Class
- Provisional Class
- Class 1
- Class 2
- Class 3

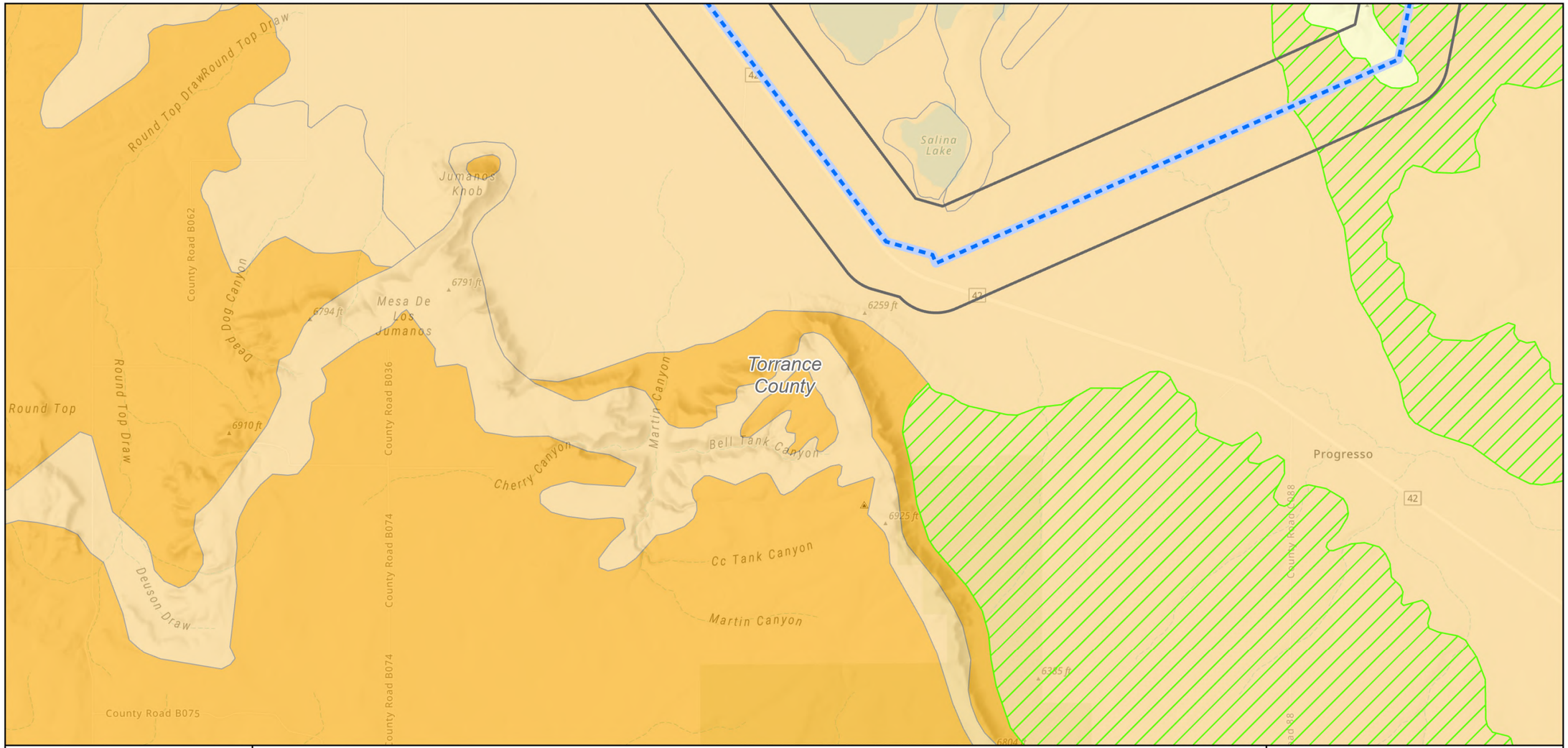
Reference Features
- Existing Substation
- County Boundary

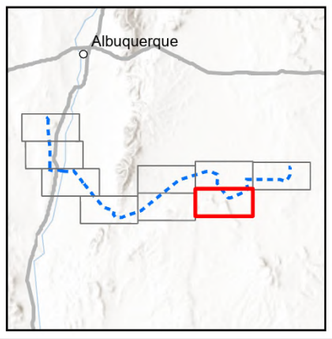
MID-STATE TRANSMISSION PROJECT

Exhibit 7
Paleontological Fossil
Yield Classification Map
Page 7 of 9

0 1 2 Miles

wsp




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

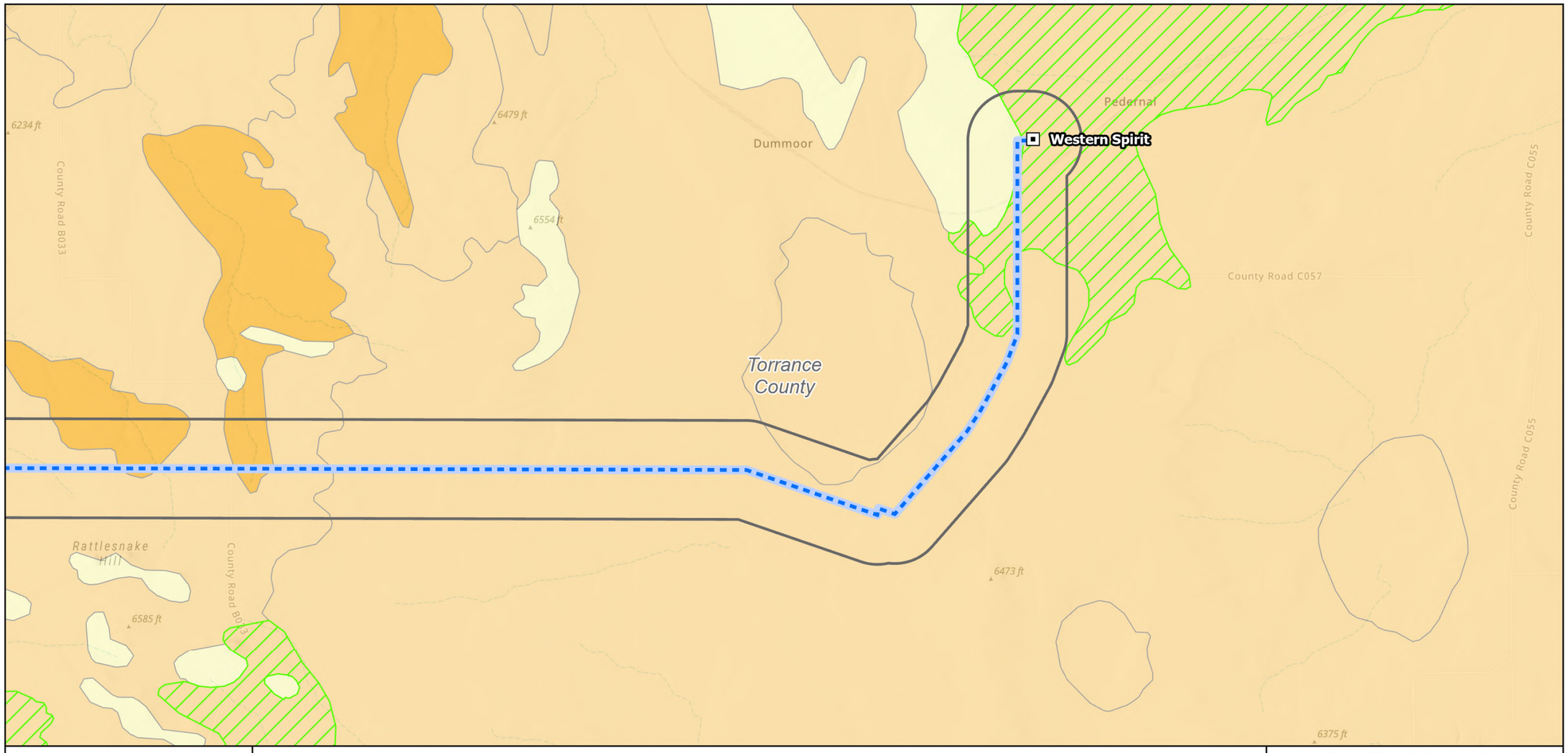
PFYC Class
- Provisional Class
- Class 1
- Class 2
- Class 3

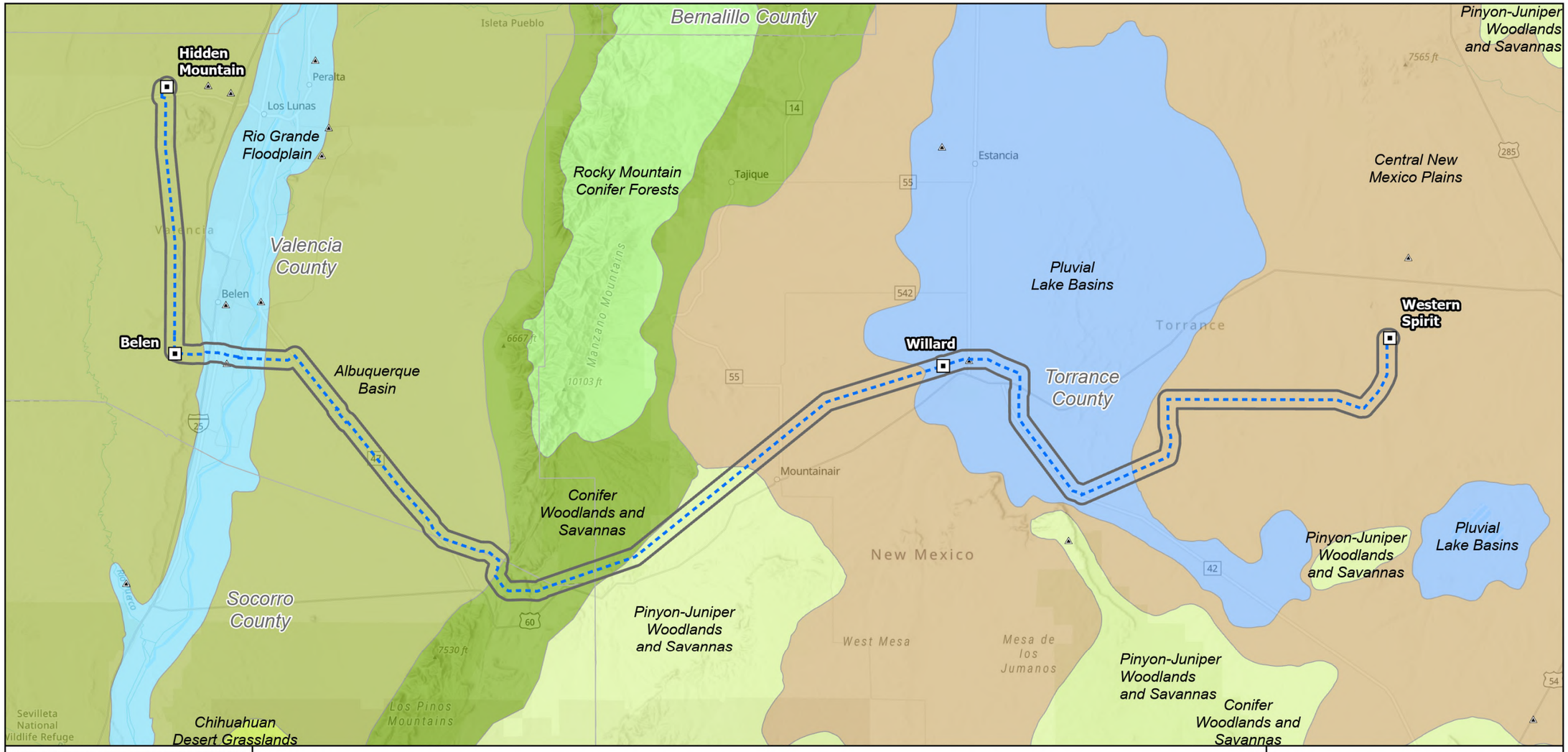
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 7
Paleontological Fossil
Yield Classification Map
Page 8 of 9

0 1 2 Miles


6234 ft
County Road B033
6479 ft
6554 ft
Dummoor
Pedernal
Western Spirit
County Road C057
County Road C055
Torrance
County
Rattlesnake
Hill
County Road B033
6585 ft
6473 ft
6375 ft
Albuquerque
Project Components
Project Substation
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
PFYC Class
Provisional Class
Class 1
Class 2
Class 3
Reference Features
Existing Substation
County Boundary
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Paleontological Fossil
Yield Classification Map
Page 9 of 9
0
1
2
Miles







Project Components
- Project Substation
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

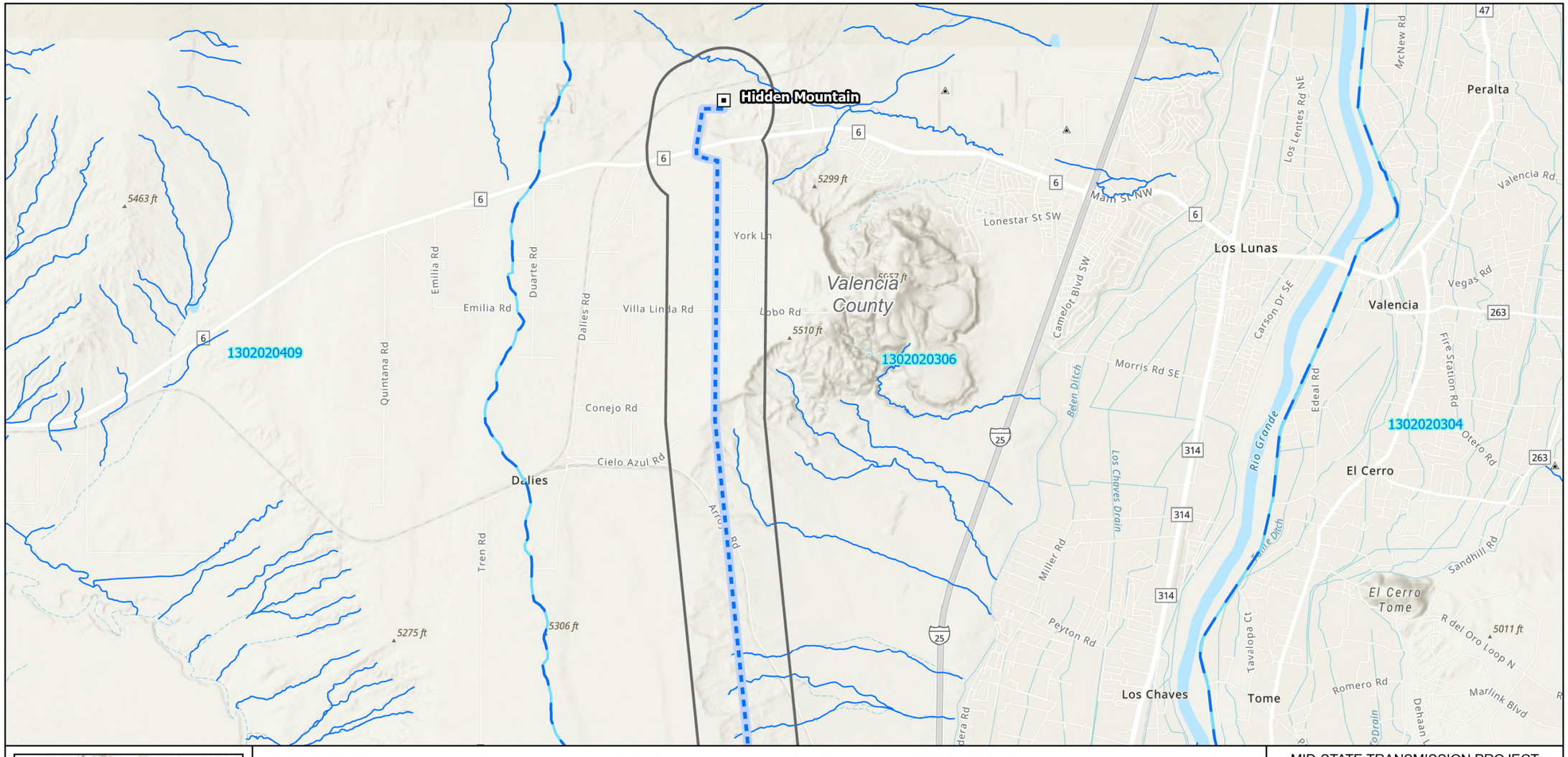
Level IV Ecoregions
- Albuquerque Basin
- Central New Mexico Plains
- Chihuahuan Desert Grasslands
- Conifer Woodlands and Savannas
- Pinyon-Juniper Woodlands and Savannas
- Pluvial Lake Basins
- Rio Grande Floodplain
- Rocky Mountain Conifer Forests

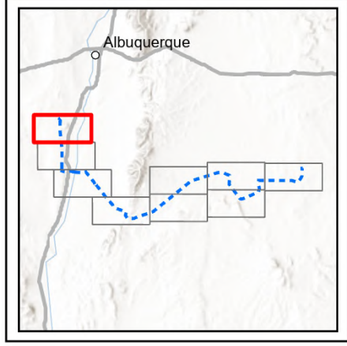
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 8
Ecoregions Map

0 5 10 Miles




Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

Surface Waters
- NHD Flowline Stream/River
- HUC 10 Boundary

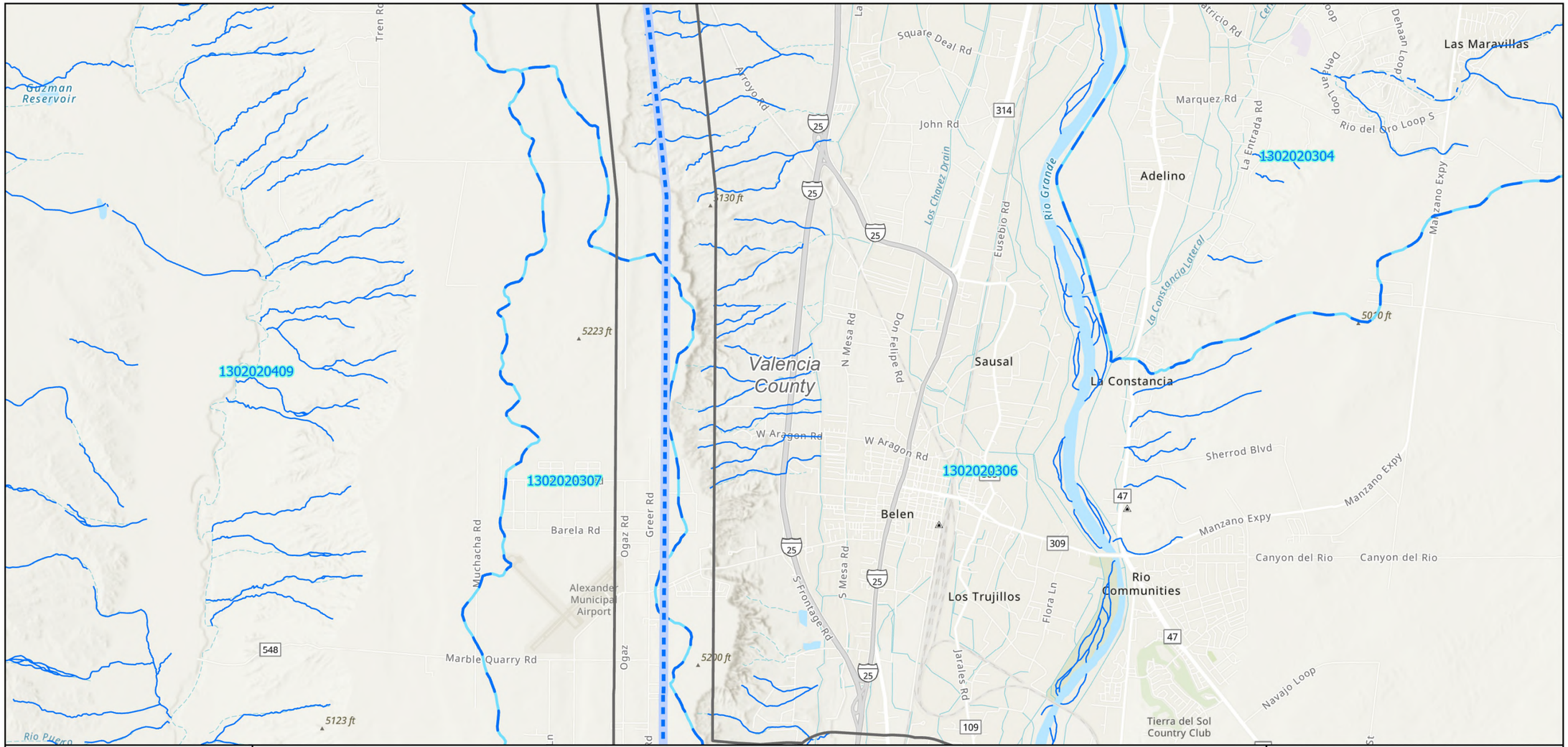
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- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 9
Surface Waters Map
Page 1 of 9

0 1 2 Miles

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**Project Components**
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

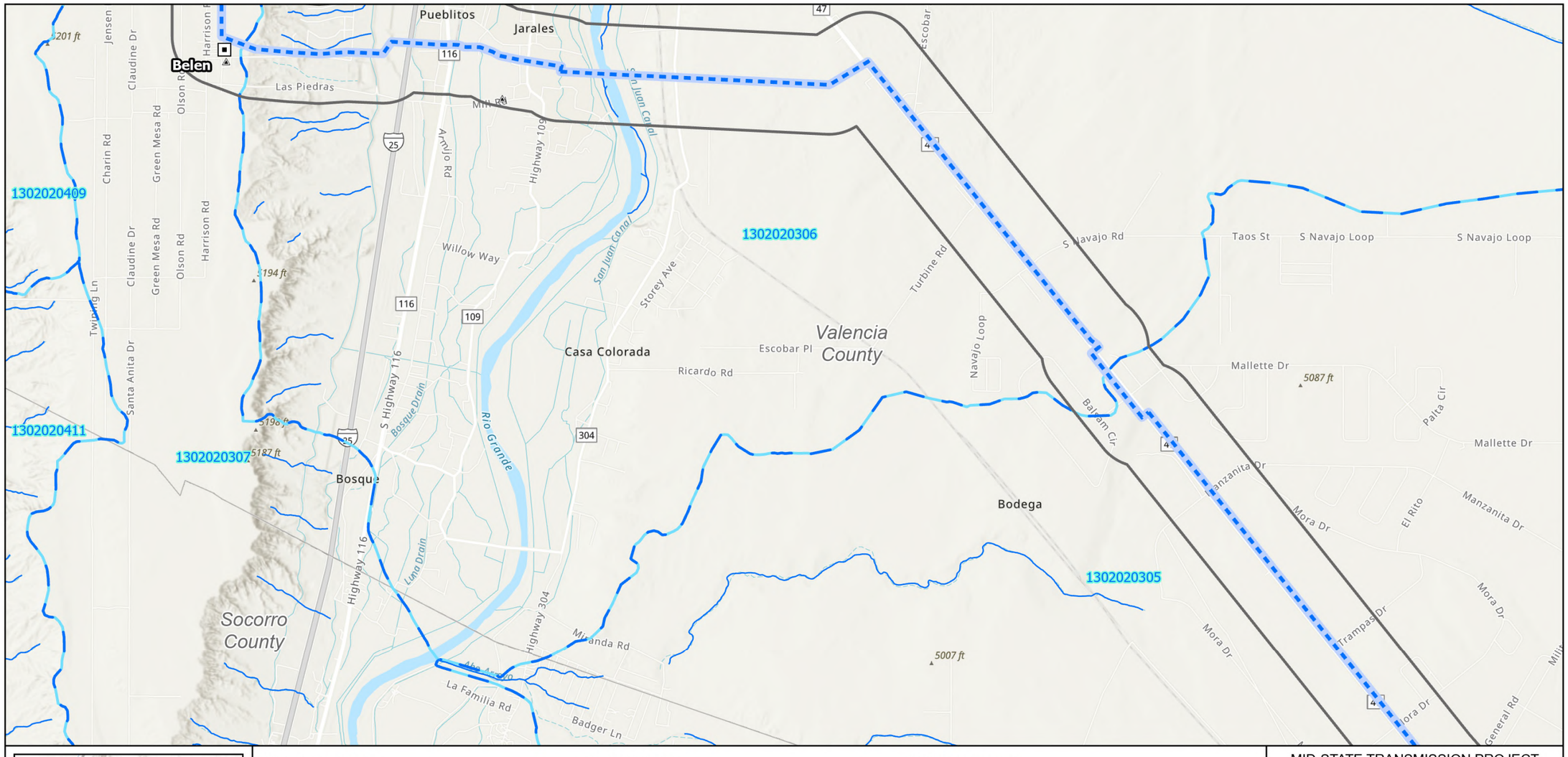
**Surface Waters**
- NHD Flowline Stream/River
- HUC 10 Boundary

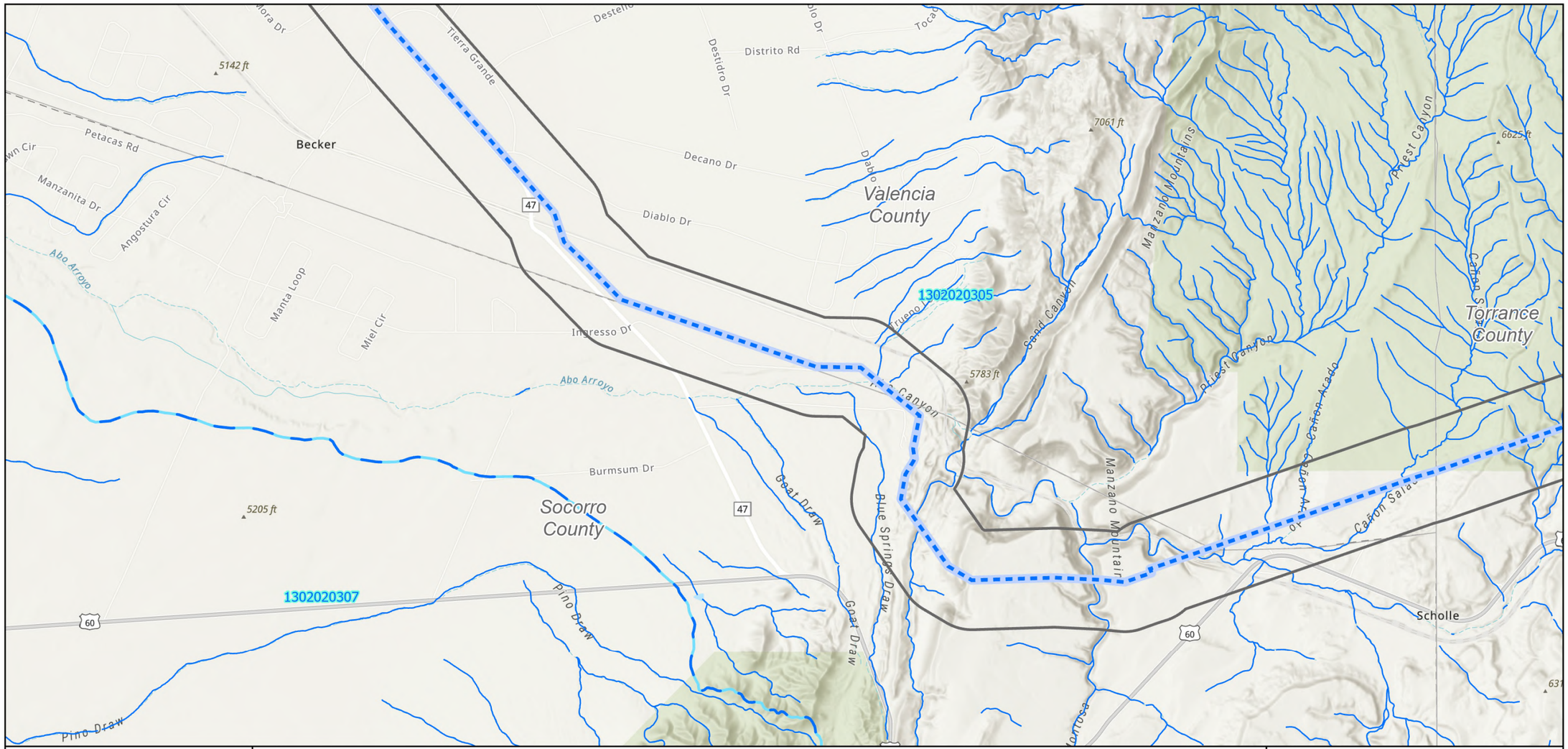
**Reference Features**
- Existing Substation
- County Boundary

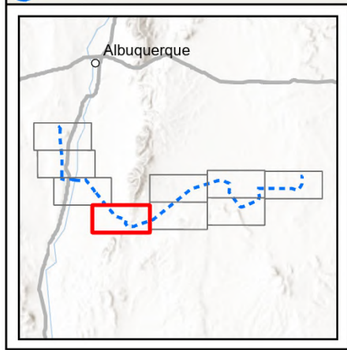
MID-STATE TRANSMISSION PROJECT

Exhibit 9
Surface Waters Map
Page 2 of 9

0 1 2 Miles


Pueblitos
Jarales
Belen
Las Piedras
Mill Rd
Arroyo Rd
Highway 109
San Juan Canal
Jensen
Claudine Dr
Charin Rd
Green Mesa Rd
Olson Rd
Harrison Rd
1302020409
Twining Ln
Santa Anita Dr
Willow Way
Storey Ave
1302020306
Turbine Rd
S Navajo Rd
Taos St
S Navajo Loop
Valencia County
Casa Colorado
Escobar Pl
Ricardo Rd
Navajo Loop
Mallette Dr
5087 ft
Palta Cir
Balsam Cir
1302020411
1302020307
5187 ft
Bosque
S Highway 116
Bosque Drain
Rio Grande
Bodega
Manzanita Dr
Mora Dr
El Rito
1302020305
Socorro County
Highway 116
Luna Drain
Highway 304
Miranda Rd
5007 ft
La Familia Rd
Badger Ln
Trampas Dr
General Rd
Albuquerque
Project Components
Project Substation
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
Surface Waters
NHD Flowline Stream/River
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Reference Features
Existing Substation
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Exhibit 9
Surface Waters Map
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Miles
wsp




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

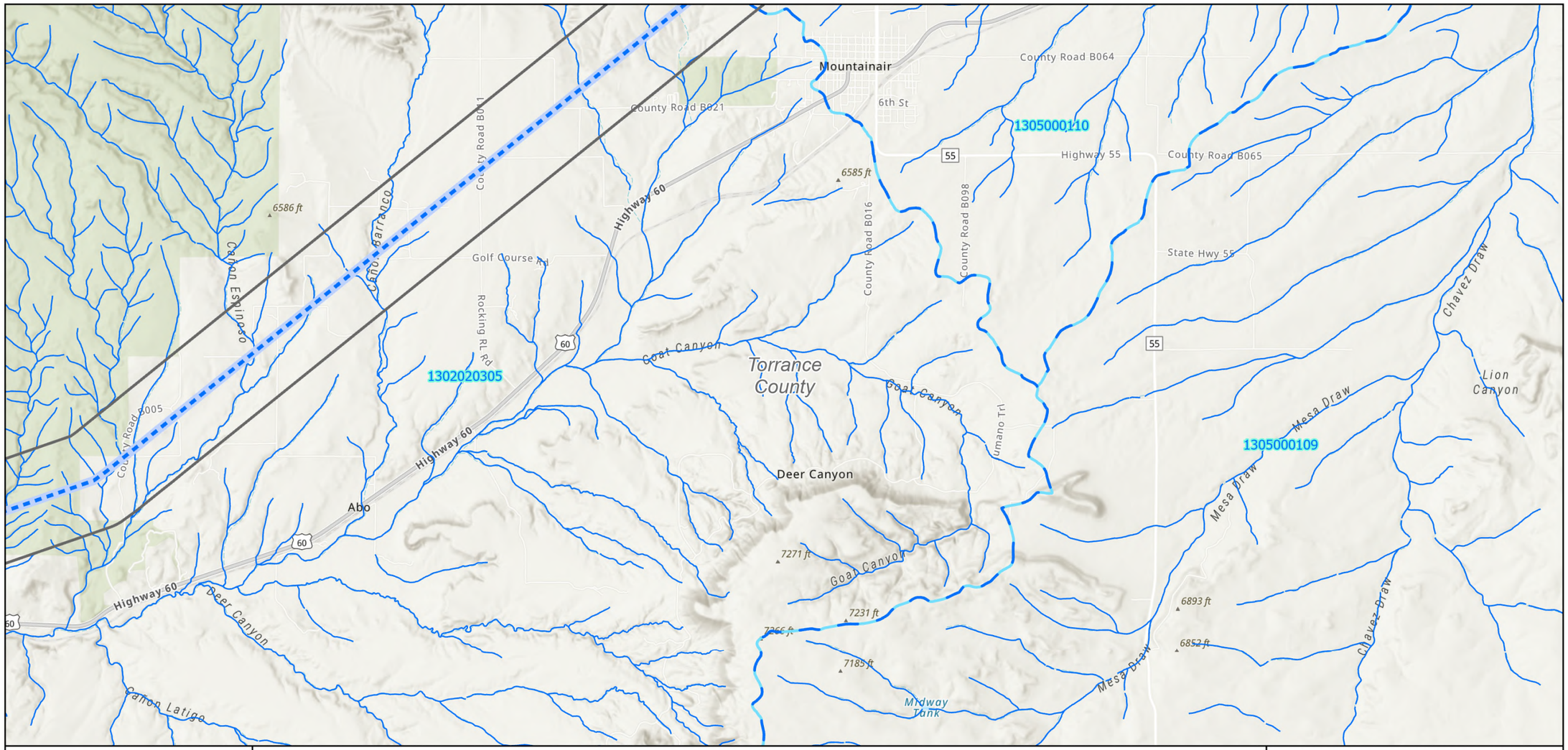
Surface Waters
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- HUC 10 Boundary

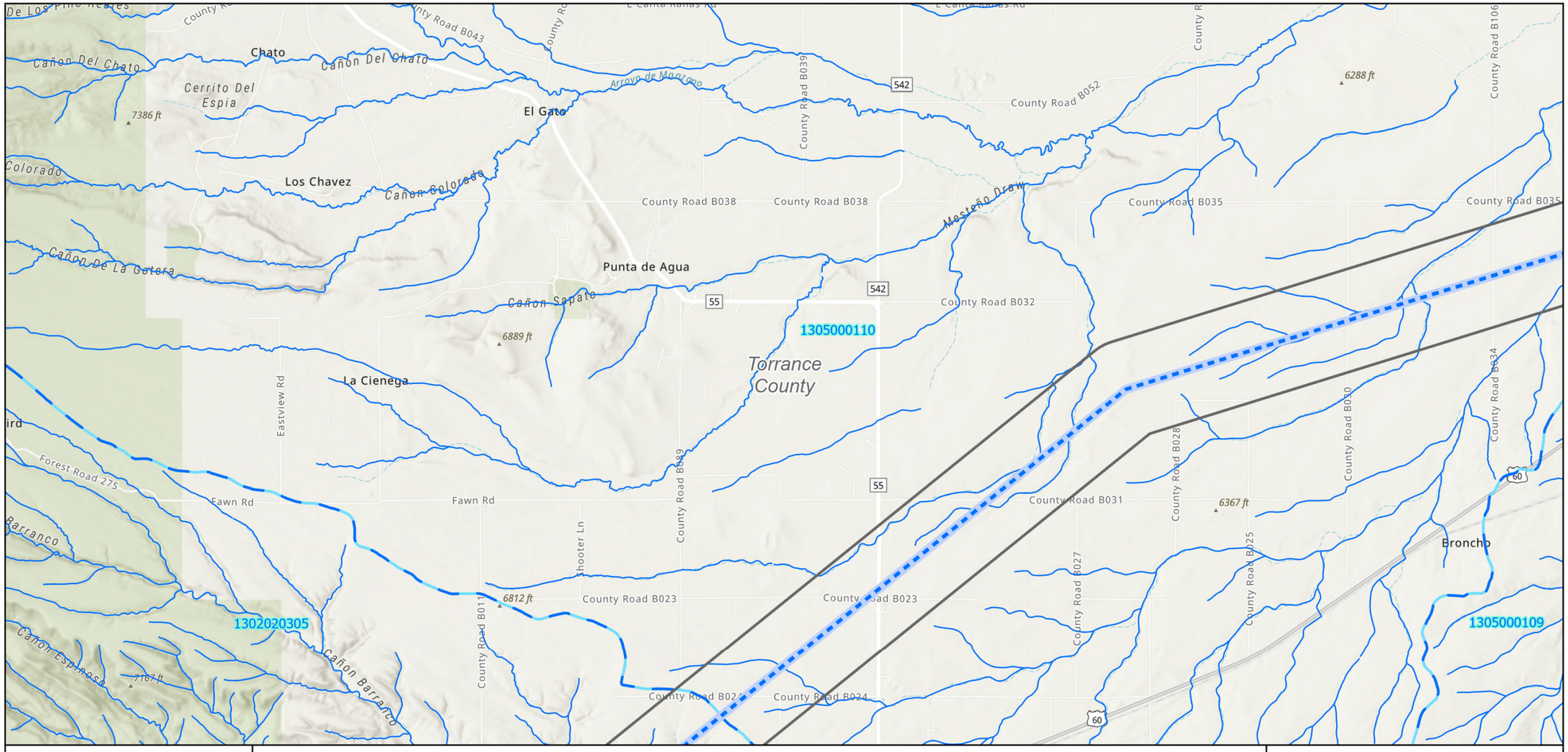
Reference Features
- County Boundary

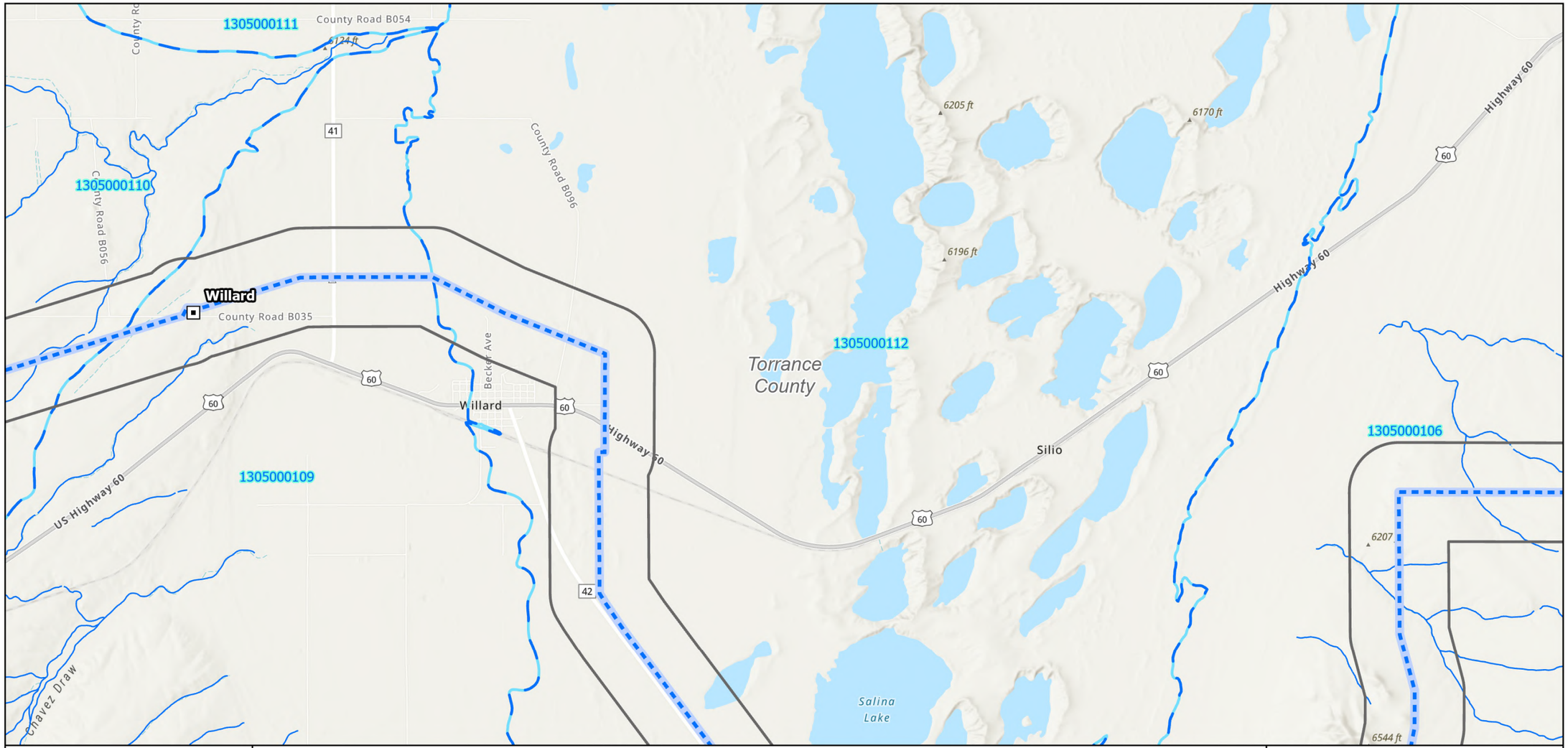
MID-STATE TRANSMISSION PROJECT

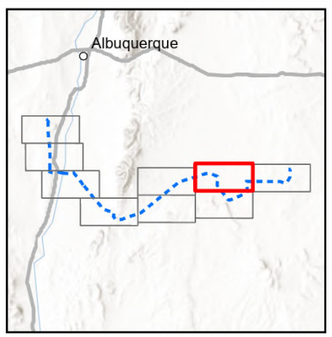
Exhibit 9
Surface Waters Map
Page 4 of 9

0 1 2 Miles


Mountainair
County Road B064
6th St
County Road B021
County Road B011
1305000110
Highway 55
County Road B065
6585 ft
55
Highway 60
6586 ft
Canon Carrizo
Canon Estripado
Golf Course Rd
County Road B016
County Road B098
State Hwy 55
Chavez Draw
Rocking RL Rd
60
Goat Canyon
1302020305
Torrance County
Goat Canyon
Lion Canyon
Mesa Draw
1305000109
County Road B005
Deer Canyon
Abo
Highway 60
Deer Canyon
7271 ft
Goat Canyon
7231 ft
7266 ft
6893 ft
6852 ft
7185 ft
Mesa Draw
Chavez Draw
Midway Tank
Canon Latigo
Albuquerque
Project Components
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
Surface Waters
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County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 9
Surface Waters Map
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0
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2
Miles


Chato
Cañon Del Chato
Cerrito Del Espia
7386 ft
El Gato
Arroyo de Manzano
County Road B039
542
County Road B052
6288 ft
County Road B106
Los Chavez
Cañon Colorado
County Road B038
County Road B038
Mesteño Draw
County Road B035
County Road B035
Cañon De La Gotera
Punta de Agua
55
542
Cañon Sapato
County Road B032
6889 ft
1305000110
Torrance County
La Cienega
Eastview Rd
Forest Road 275
Fawn Rd
Fawn Rd
Shooter Ln
County Road B039
County Road B031
6367 ft
County Road B028
County Road B030
County Road B034
60
Broncho
Barranco
County Road B011
6812 ft
County Road B023
County Road B023
County Road B027
County Road B025
1305000109
1302020305
Cañon Espinoso
7167 ft
Cañon Barranco
County Road B022
County Road B024
60
Albuquerque
Project Components
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
Surface Waters
NHD Flowline Stream/River
HUC 10 Boundary
Reference Features
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 9
Surface Waters Map
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Miles
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Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

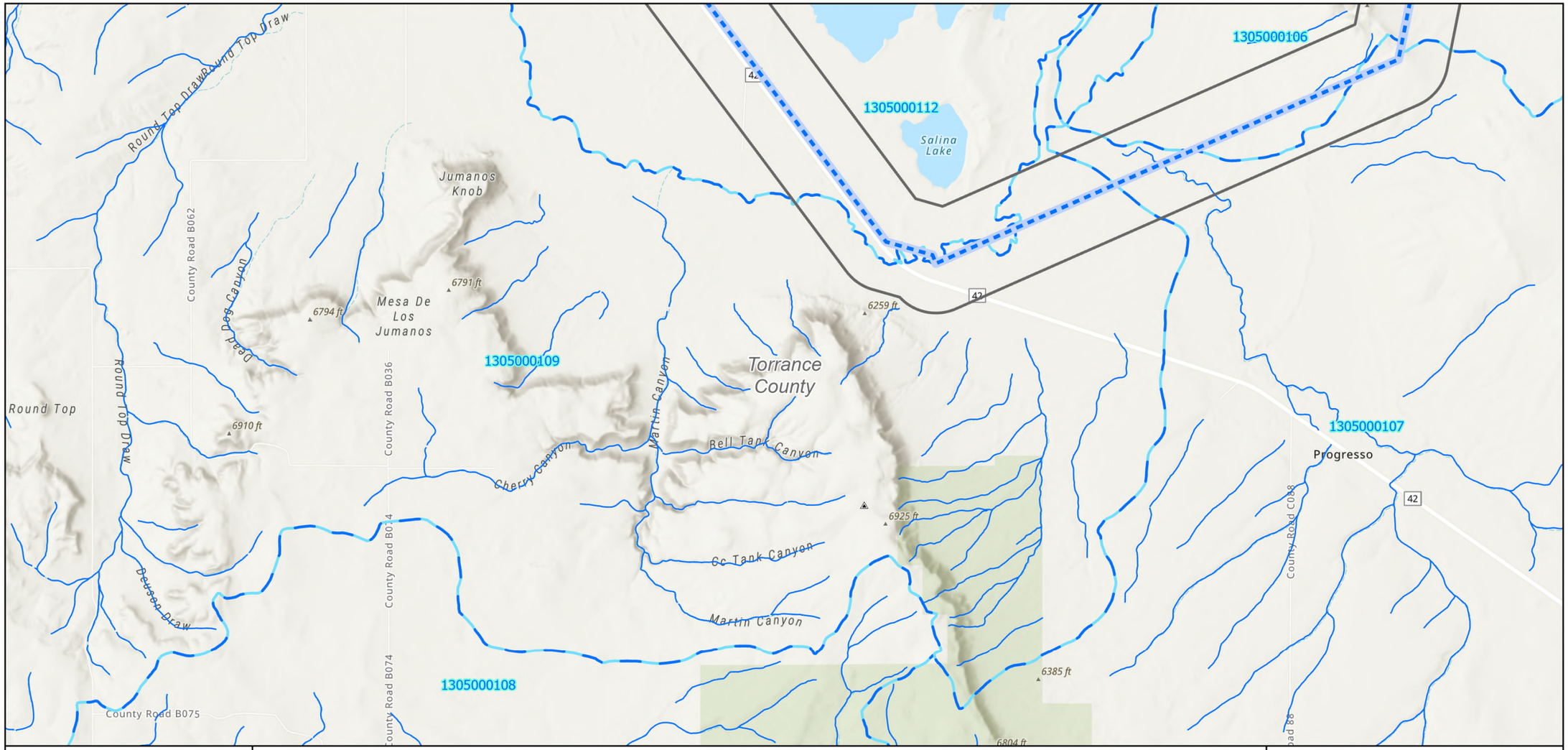
Surface Waters
- NHD Flowline Stream/River
- HUC 10 Boundary

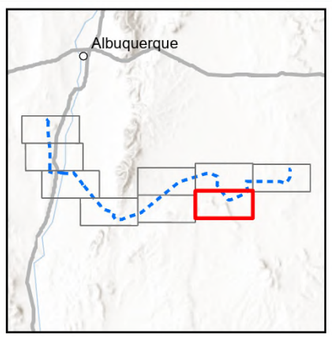
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 9
Surface Waters Map
Page 7 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

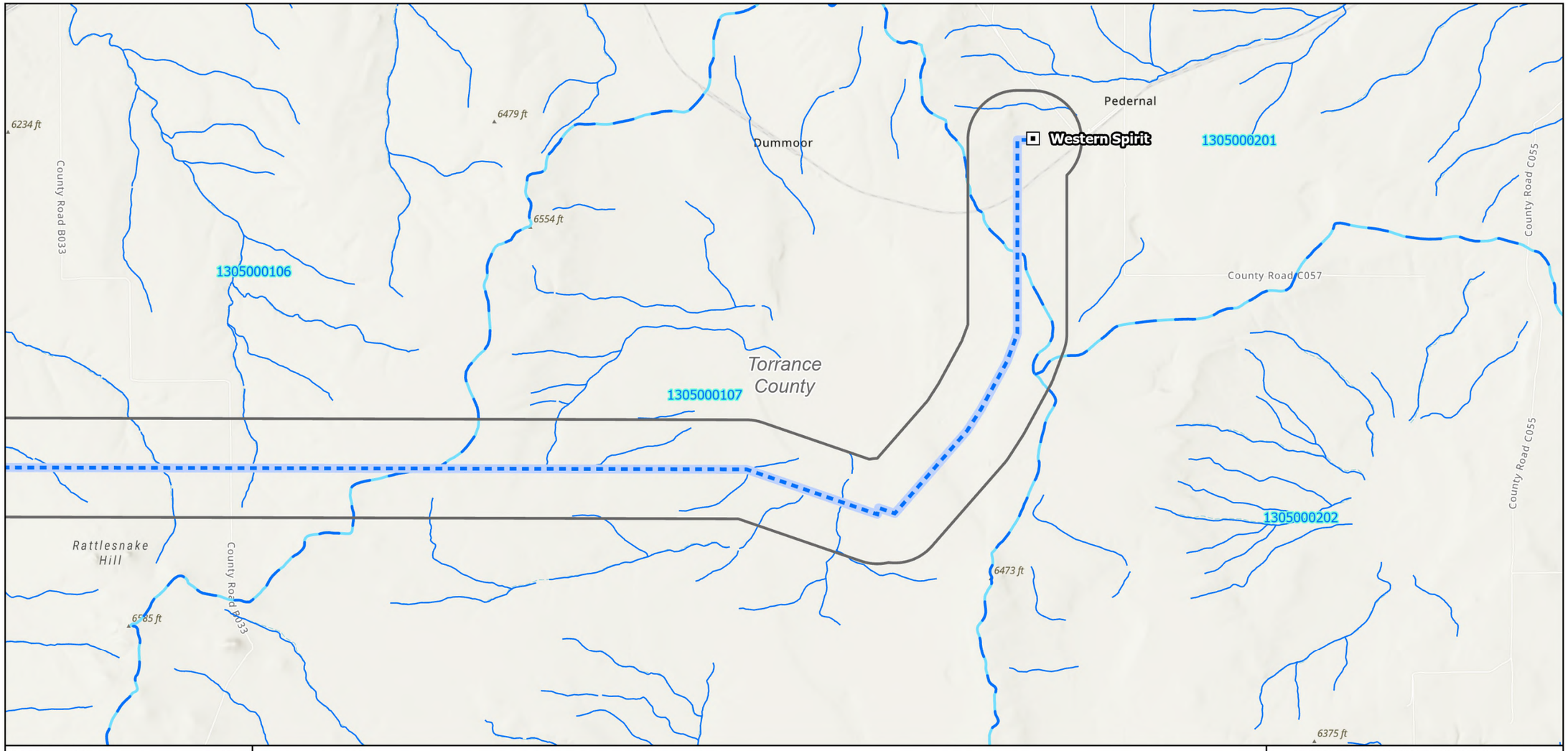
Surface Waters
- NHD Flowline Stream/River
- HUC 10 Boundary

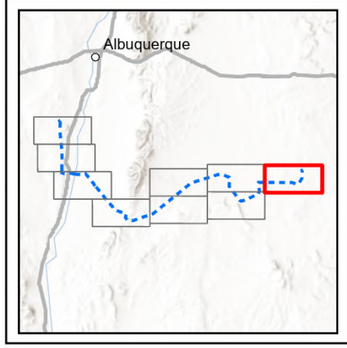
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- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 9
Surface Waters Map
Page 8 of 9

0 1 2 Miles




Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

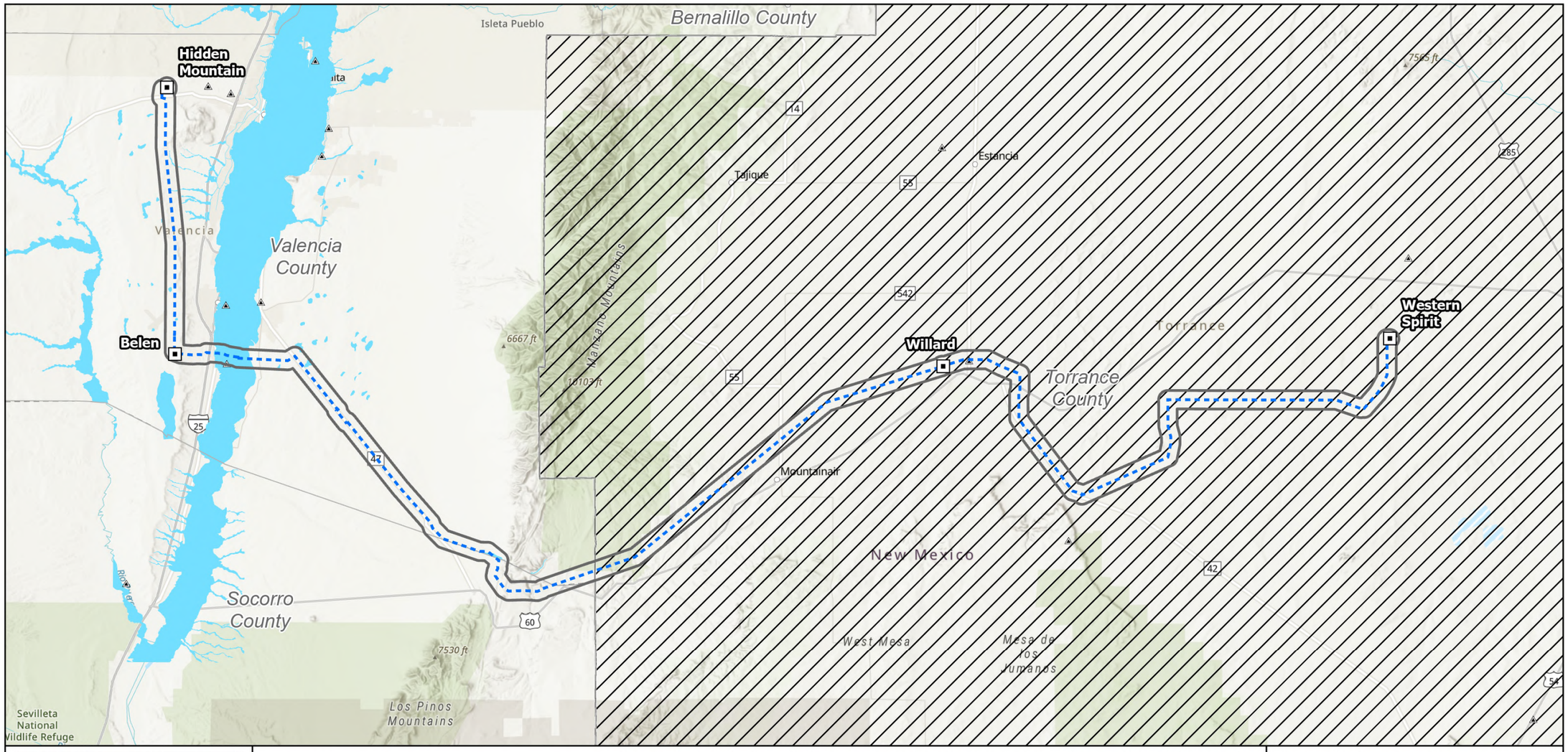
Surface Waters
- NHD Flowline Stream/River
- HUC 10 Boundary

Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 9
Surface Waters Map
Page 9 of 9

0 1 2 Miles







Project Components
- Project Substation
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

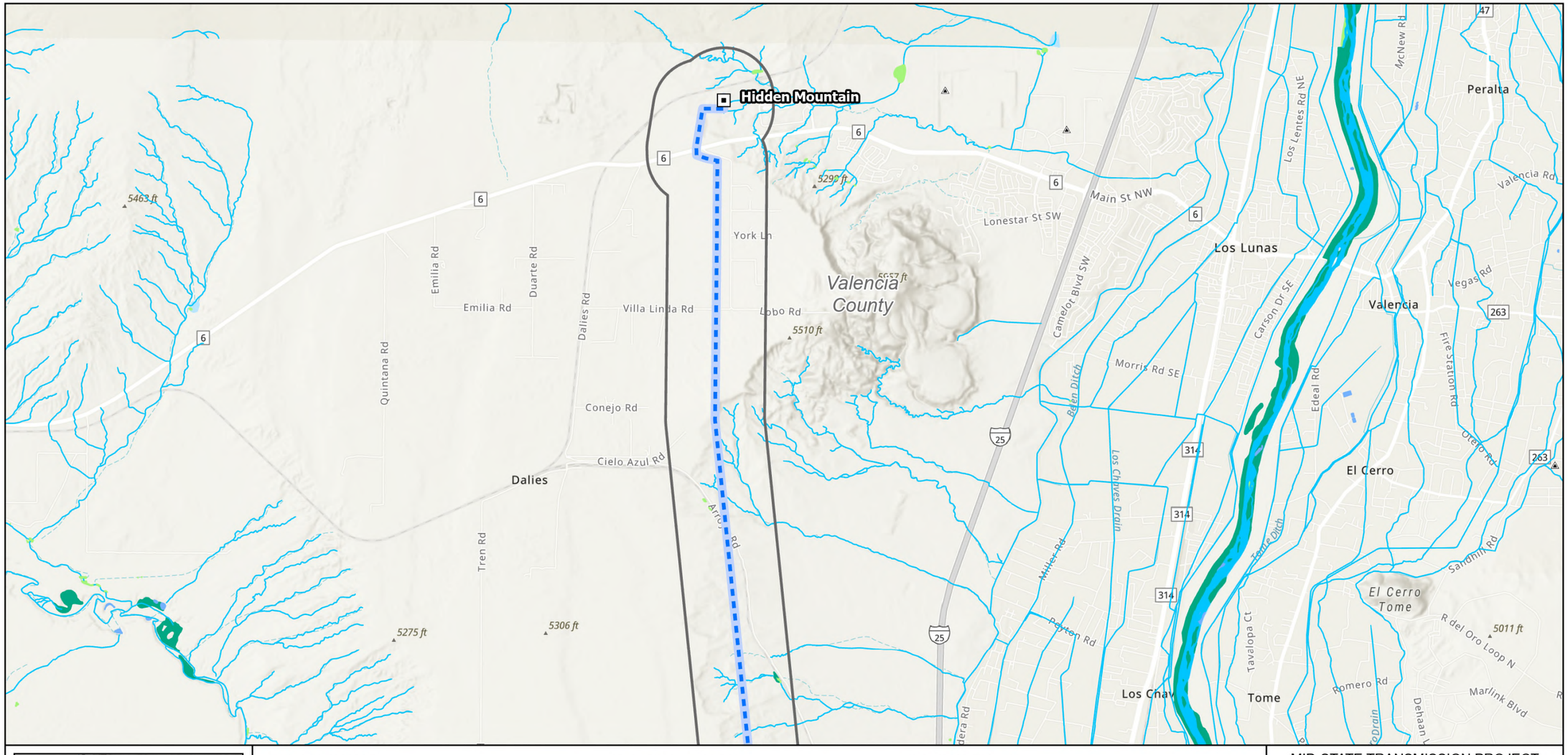
Flood Zones
- FEMA - Zone A
- Not Mapped

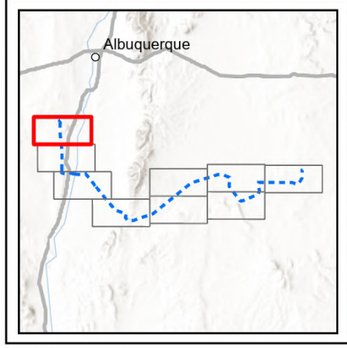
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 10
Flood Zone Map

0 5 10 Miles




Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

National Wetland Inventory
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

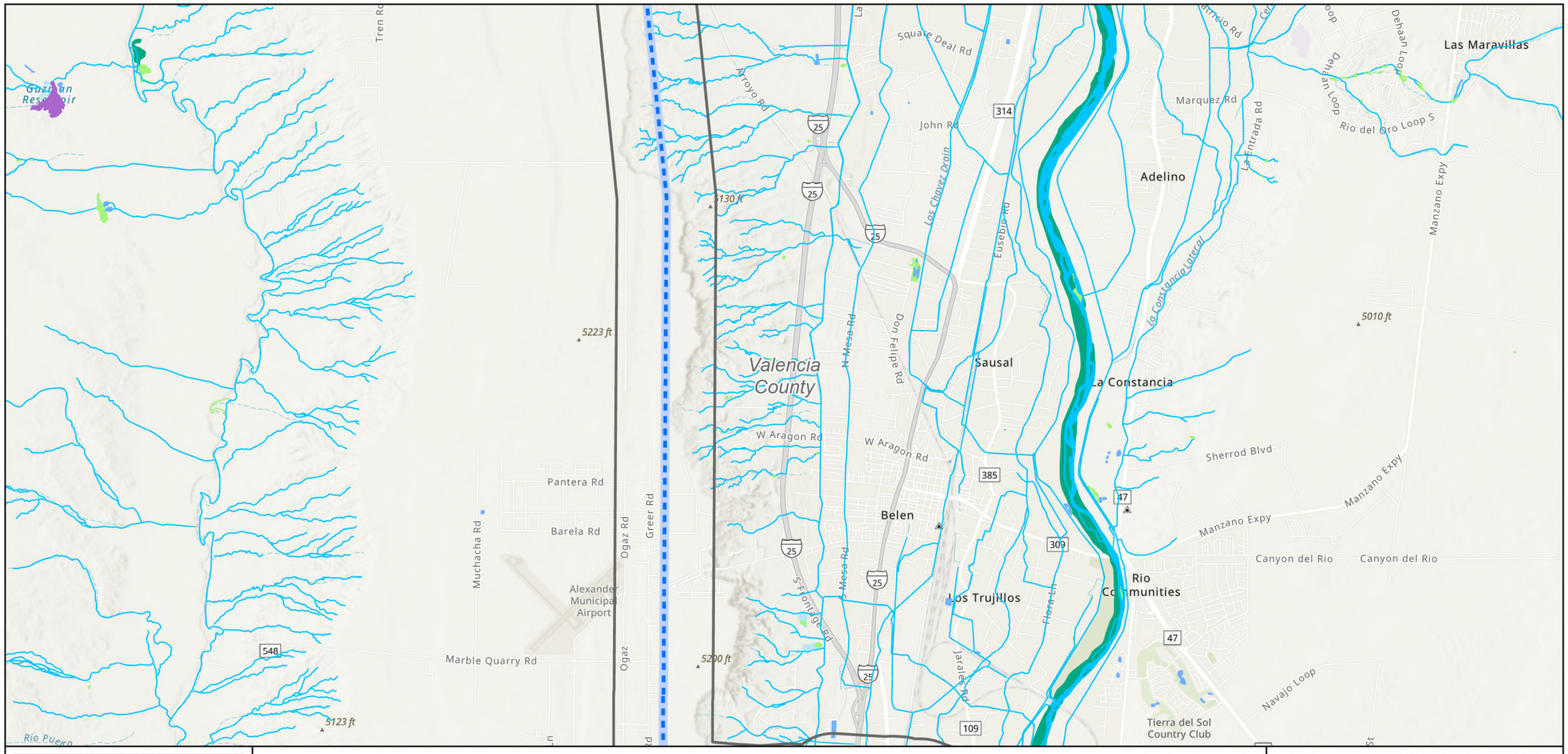
Reference Features
- Existing Substation
- County Boundary

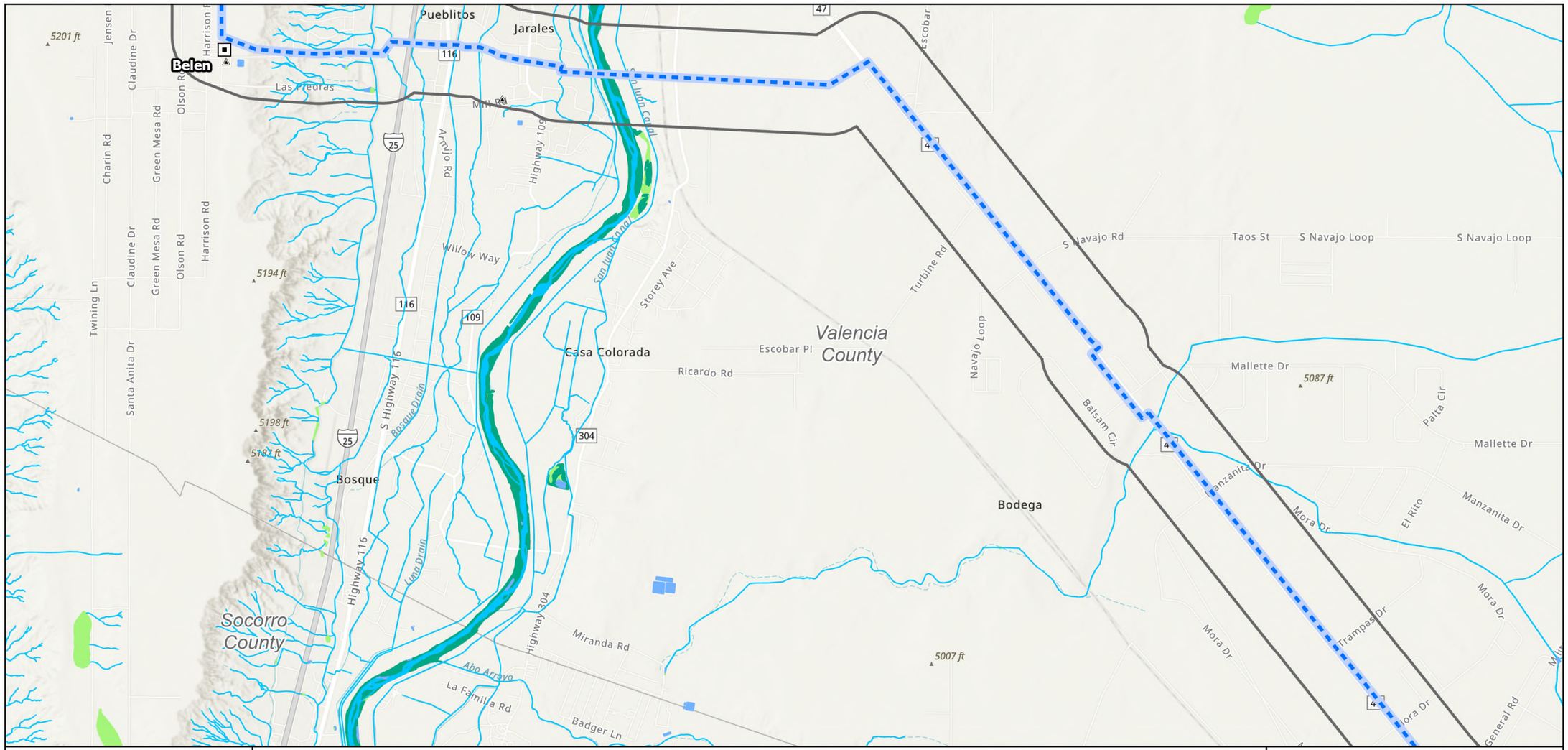
MID-STATE TRANSMISSION PROJECT

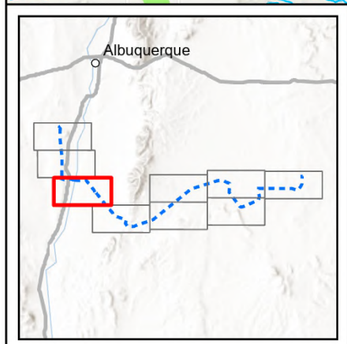
Exhibit 11
National Wetland
Inventory Map
Page 1 of 9

0 1 2 Miles

wsp


Guzman Reservoir
Tren Rd
Arroyo Rd
Square Deal Rd
John Rd
314
Marquez Rd
La Entrada Rd
Dehaan Loop
Las Maravillas
Rio del Oro Loop S
Manzano Expy
Adelino
Los Chavez Drain
Eusebio Rd
La Constancia Lateral
5130 ft
5223 ft
5010 ft
Valencia County
N Mesa Rd
Don Felipe Rd
Sausal
La Constancia
W Aragon Rd
Sherrod Blvd
385
47
Pantera Rd
Barela Rd
Muchacha Rd
Ogaz Rd
Greer Rd
Belen
309
Manzano Expy
Canyon del Rio
Alexander Municipal Airport
S Mesa Rd
S Frontage Rd
Los Trujillos
Horse Ln
Rio Communities
548
Marble Quarry Rd
5200 ft
Jarales Rd
Navajo Loop
Tierra del Sol Country Club
109
5123 ft
Rio Puerco
Albuquerque
Project Components
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
National Wetland Inventory
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine
Reference Features
Existing Substation
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 11
National Wetland Inventory Map
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**Project Components**
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

**National Wetland Inventory**
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

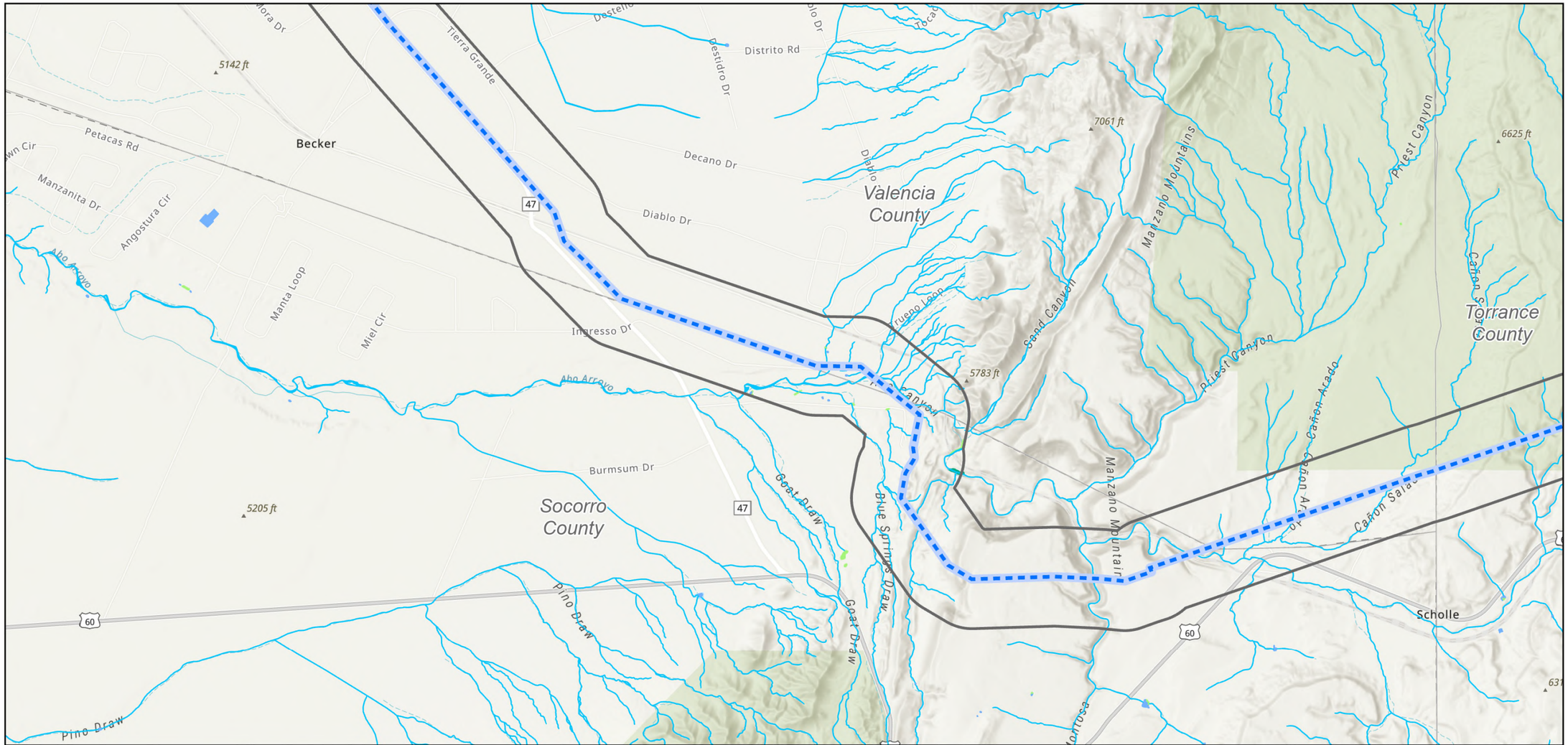
**Reference Features**
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 11
National Wetland
Inventory Map
Page 3 of 9

0 1 2 Miles

wsp




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

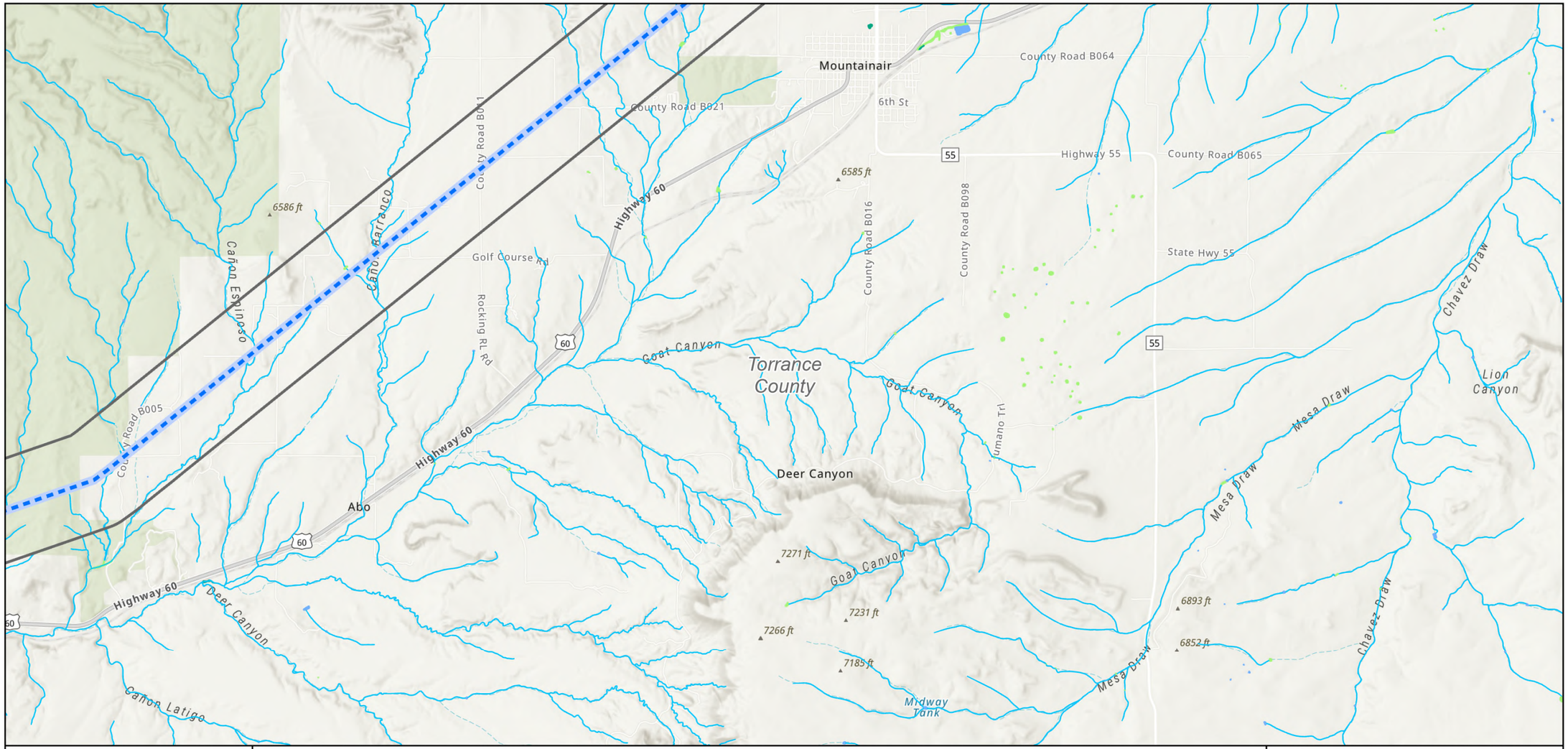
National Wetland Inventory
- Freshwater Emergent Wetland
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- Riverine

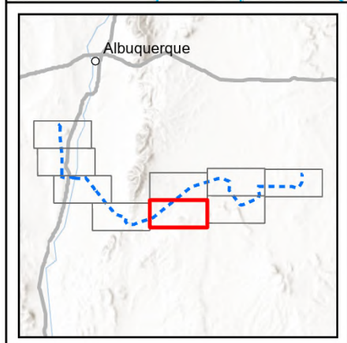
Reference Features
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 11
National Wetland
Inventory Map
Page 4 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
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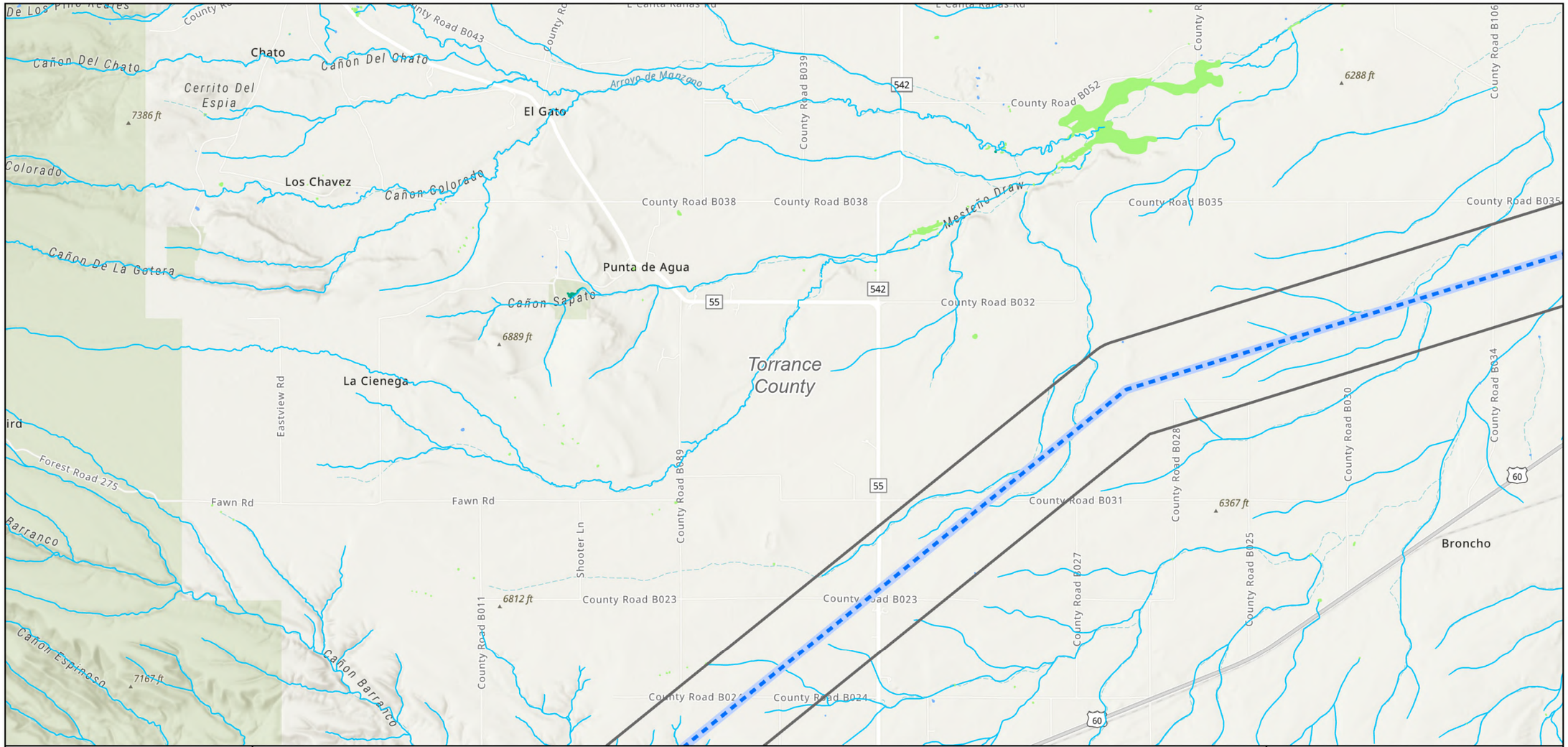
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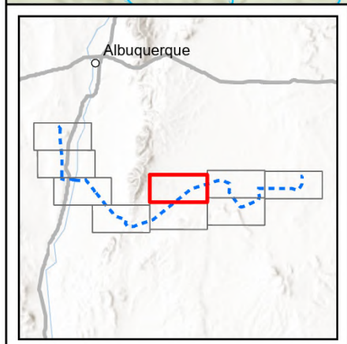
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MID-STATE TRANSMISSION PROJECT

Exhibit 11
National Wetland
Inventory Map
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0 1 2 Miles




Project Components
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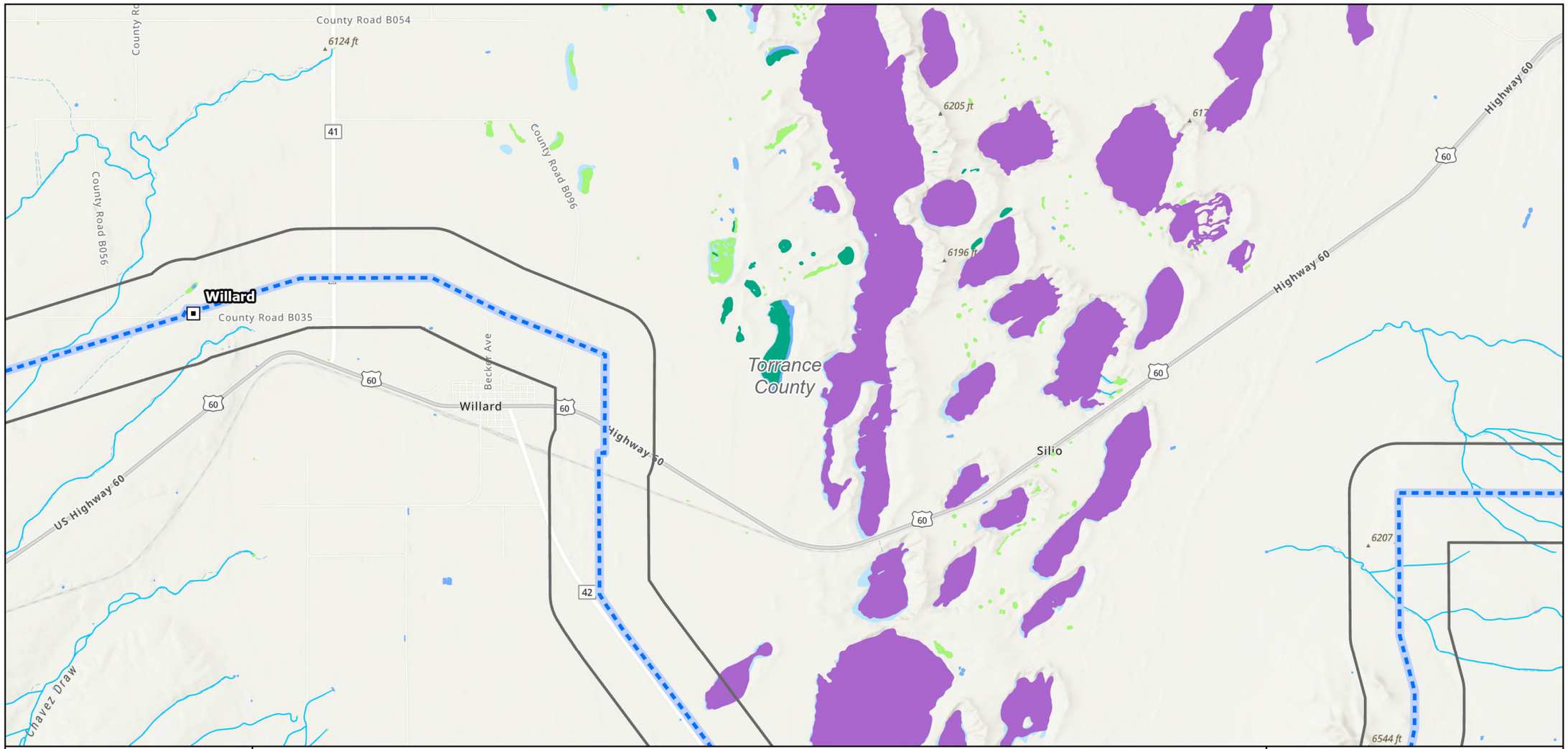
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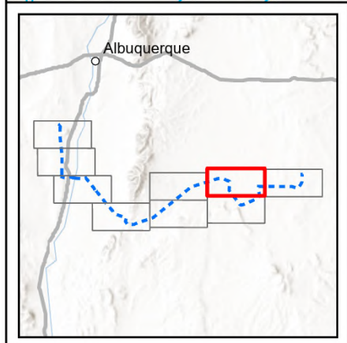
MID-STATE TRANSMISSION PROJECT

Exhibit 11
National Wetland
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Page 6 of 9

0 1 2 Miles

wsp




Project Components
- Project Substation
- Transmission Centerline
- Transmission ROW (200 ft)
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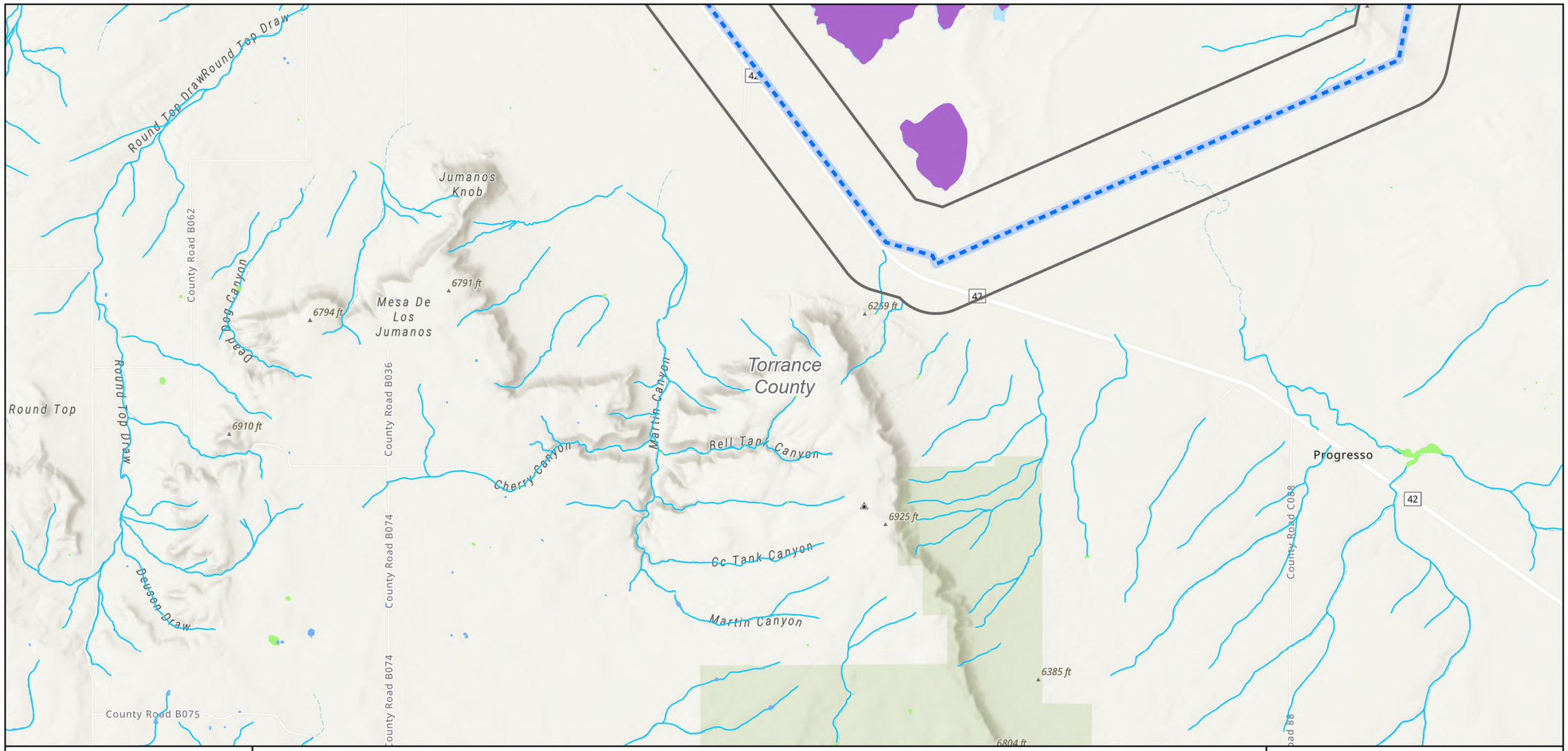
National Wetland Inventory
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

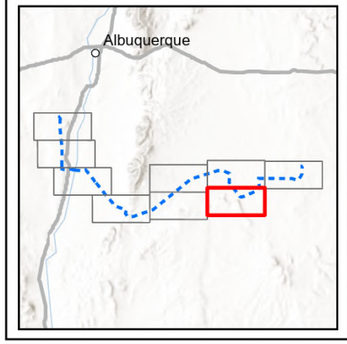
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MID-STATE TRANSMISSION PROJECT

Exhibit 11
National Wetland
Inventory Map
Page 7 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission ROW (200 ft)
- Transmission Study Corridor (1 Mile)

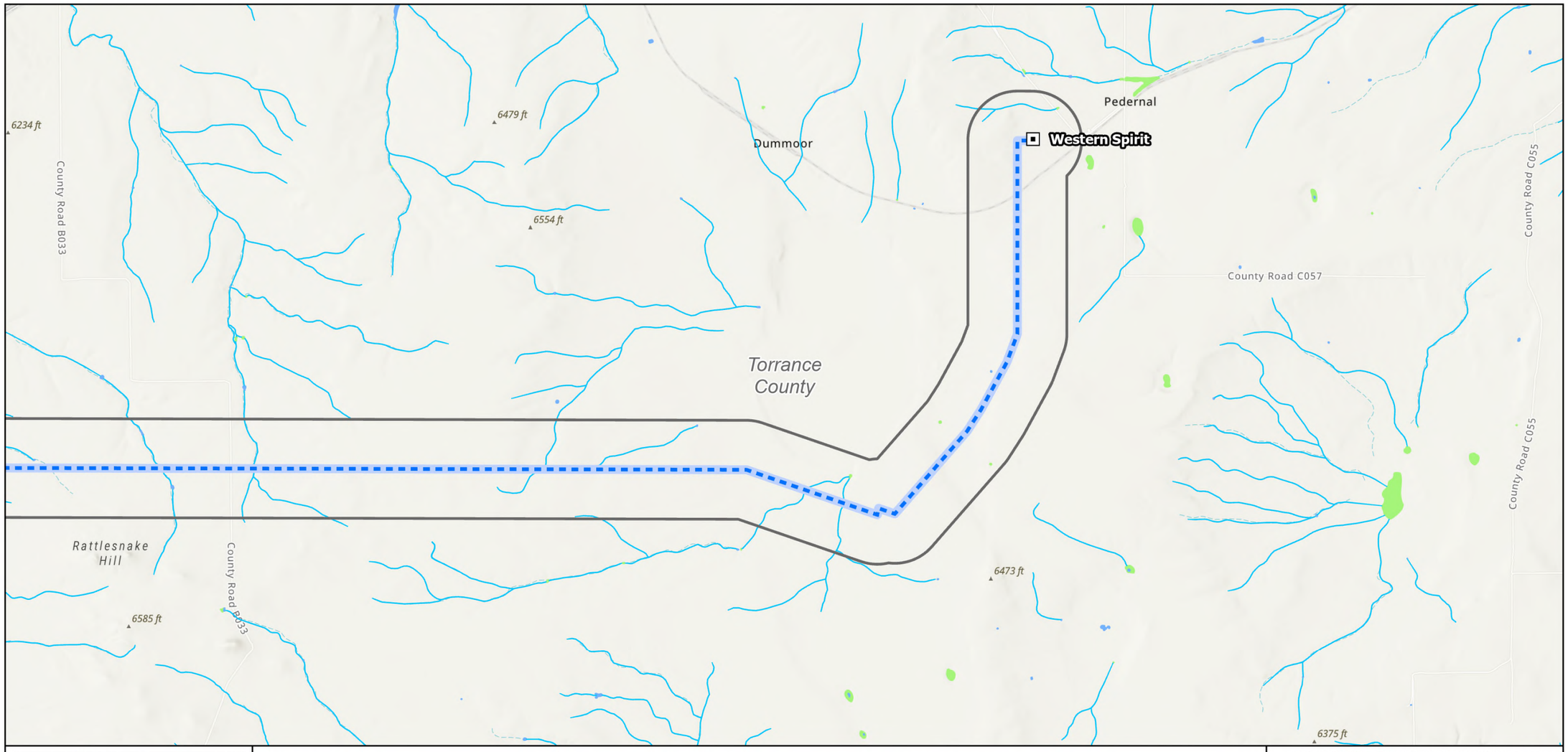
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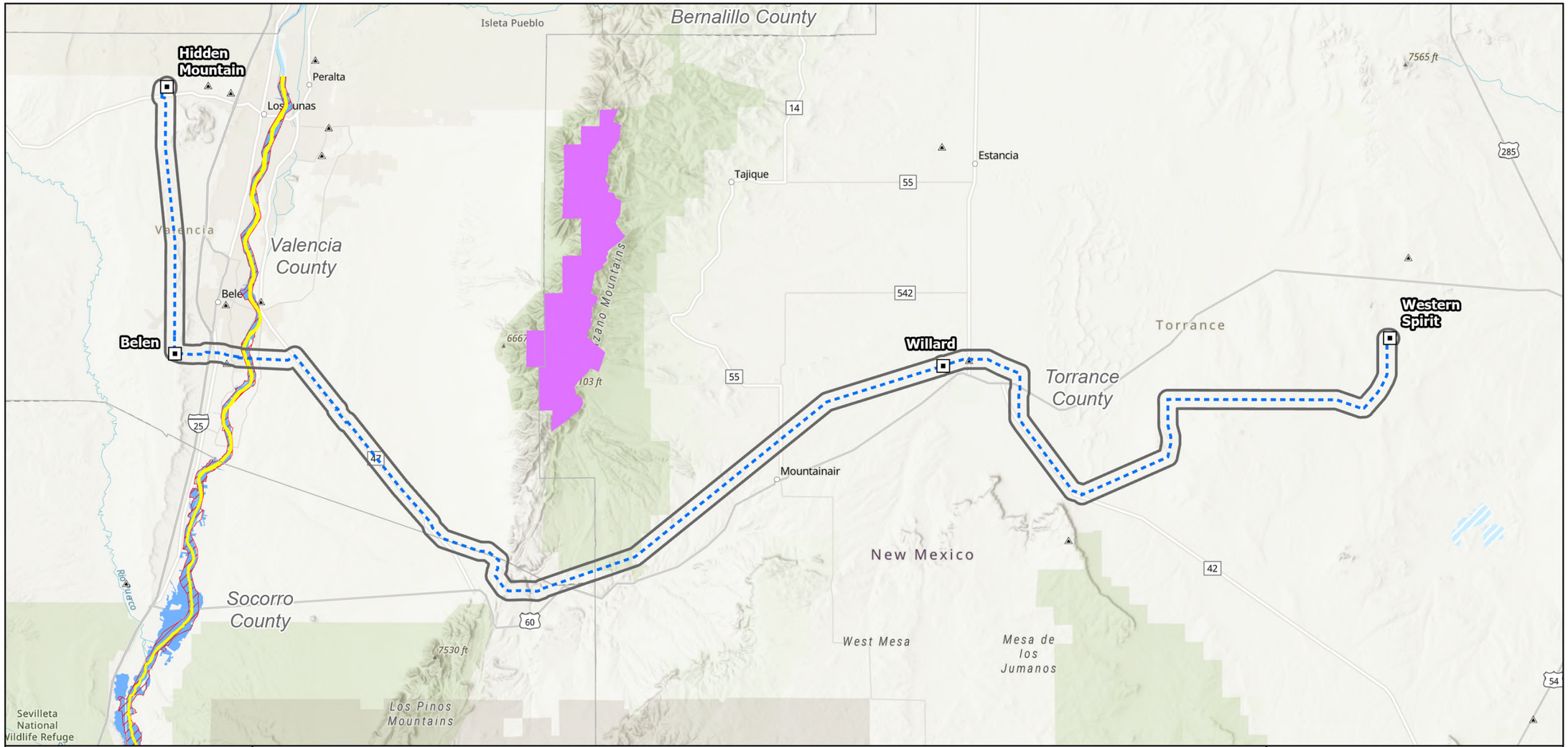
Reference Features
- Existing Substation
- County Boundary

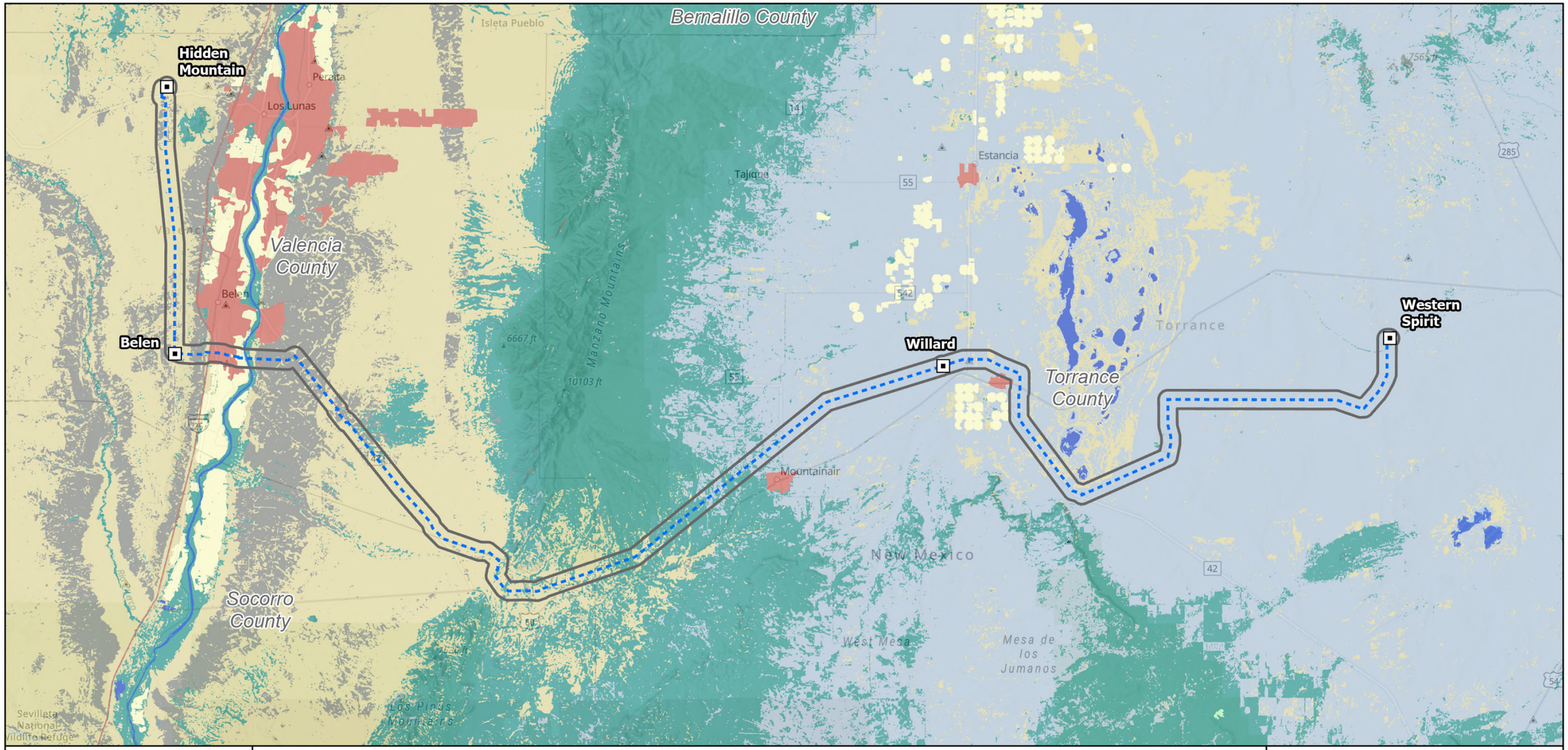
MID-STATE TRANSMISSION PROJECT

Exhibit 11
National Wetland Inventory Map
Page 8 of 9

0 1 2 Miles


6234 ft
County Road B033
6479 ft
6554 ft
Dummoor
Pedernal
Western Spirit
County Road C055
County Road C057
Torrance
County
Rattlesnake
Hill
County Road B033
6585 ft
6473 ft
6375 ft
Albuquerque
Project Components
Project Substation
Transmission Centerline
Transmission ROW (200 ft)
Transmission Study Corridor (1 Mile)
National Wetland Inventory
Freshwater Emergent Wetland
Freshwater Pond
Riverine
Reference Features
Existing Substation
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 11
National Wetland
Inventory Map
Page 9 of 9
0
1
2
Miles


Hidden Mountain
Peralta
Los Lunas
Isleta Pueblo
Bernalillo County
7565 ft
14
Estancia
Tajique
55
285
Valencia
Valencia County
Belen
542
Western Spirit
Torrance
Willard
Torrance County
Mountainair
New Mexico
42
25
60
Socorro County
7530 ft
West Mesa
Mesa de los Jumanos
54
Los Pinos Mountains
Sevilleta National Wildlife Refuge
Project Area
NEW MEXICO
Albuquerque
Las Cruces
El Paso
Project Components
Project Substation
Transmission Centerline
Transmission Study Corridor (1 Mile)
Sensitive Species Habitat
Mexican spotted owl
Rio Grande Silvery Minnow
Yellow-billed Cuckoo
Southwestern willow flycatcher
Reference Features
Existing Substation
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 12
Sensitive Habitat Map
0
5
10
Miles







Project Components
- Project Substation
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

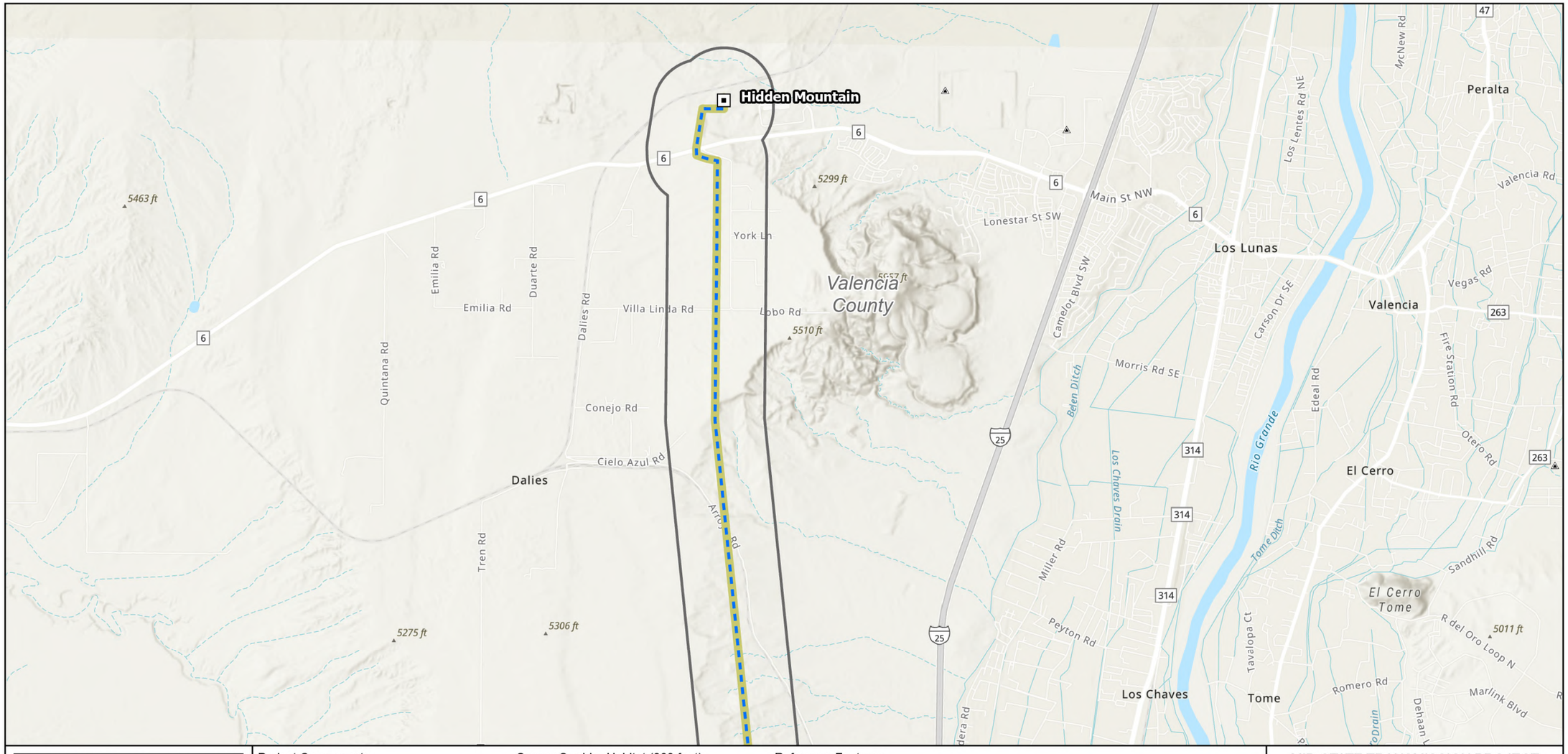
GAP Vegetation
- Agricultural Vegetation
- Developed & Other Human Use
- Forest & Woodland
- Nonvascular & Sparse Vascular Rock Vegetation
- Open Water
- Recently Disturbed or Modified
- Semi-Desert
- Shrubland & Grassland

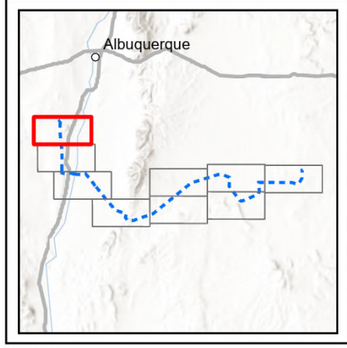
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 13
GAP Analysis Map

0 5 10 Miles




Project Components
- Project Substation
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

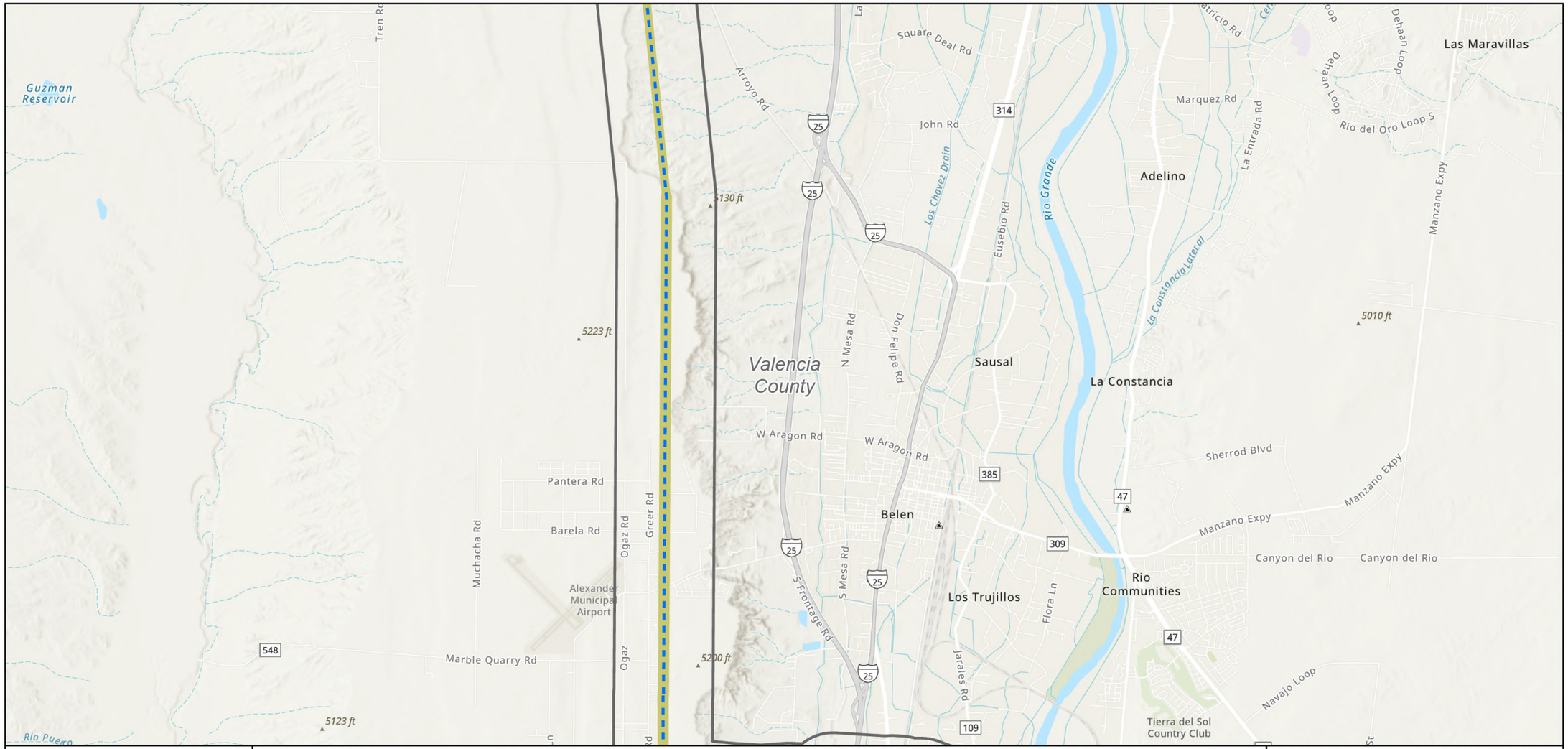
Survey Corridor Habitat (300 feet)
- Agriculture/Developed
- Desert Scrub
- Grassland
- Riparian
- Woodland

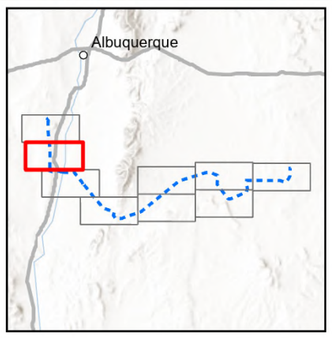
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 14
Field Verified Vegetation Map
Page 1 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

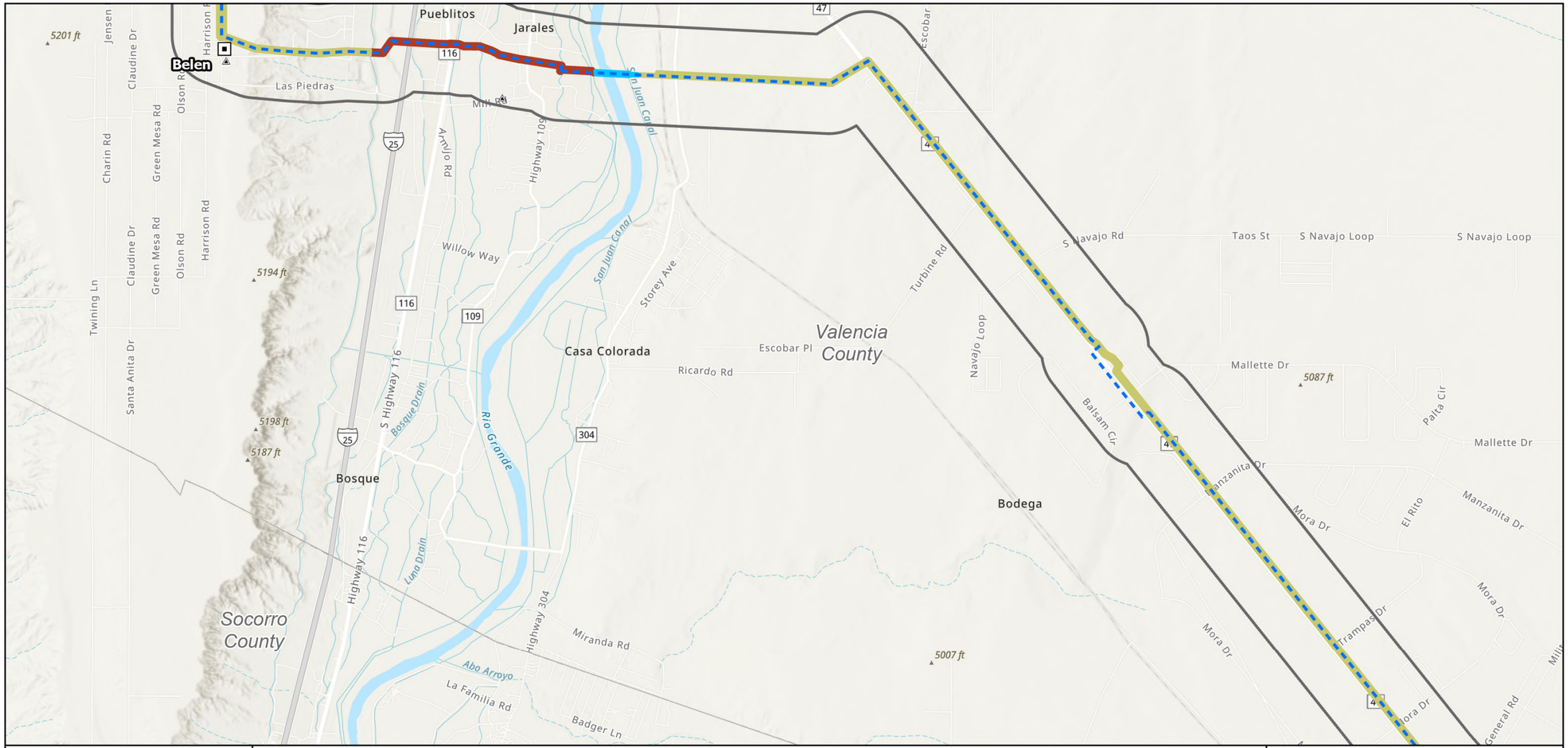
Survey Corridor Habitat (300 feet)
- Agriculture/Developed
- Desert Scrub
- Grassland
- Riparian
- Woodland

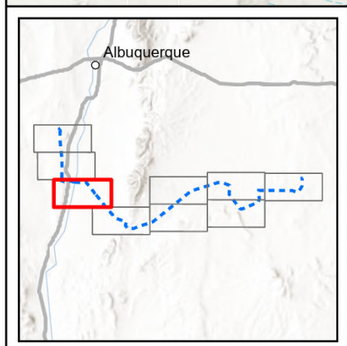
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 14
Field Verified Vegetation Map
Page 2 of 9

0 1 2 Miles




Project Components
- Project Substation
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

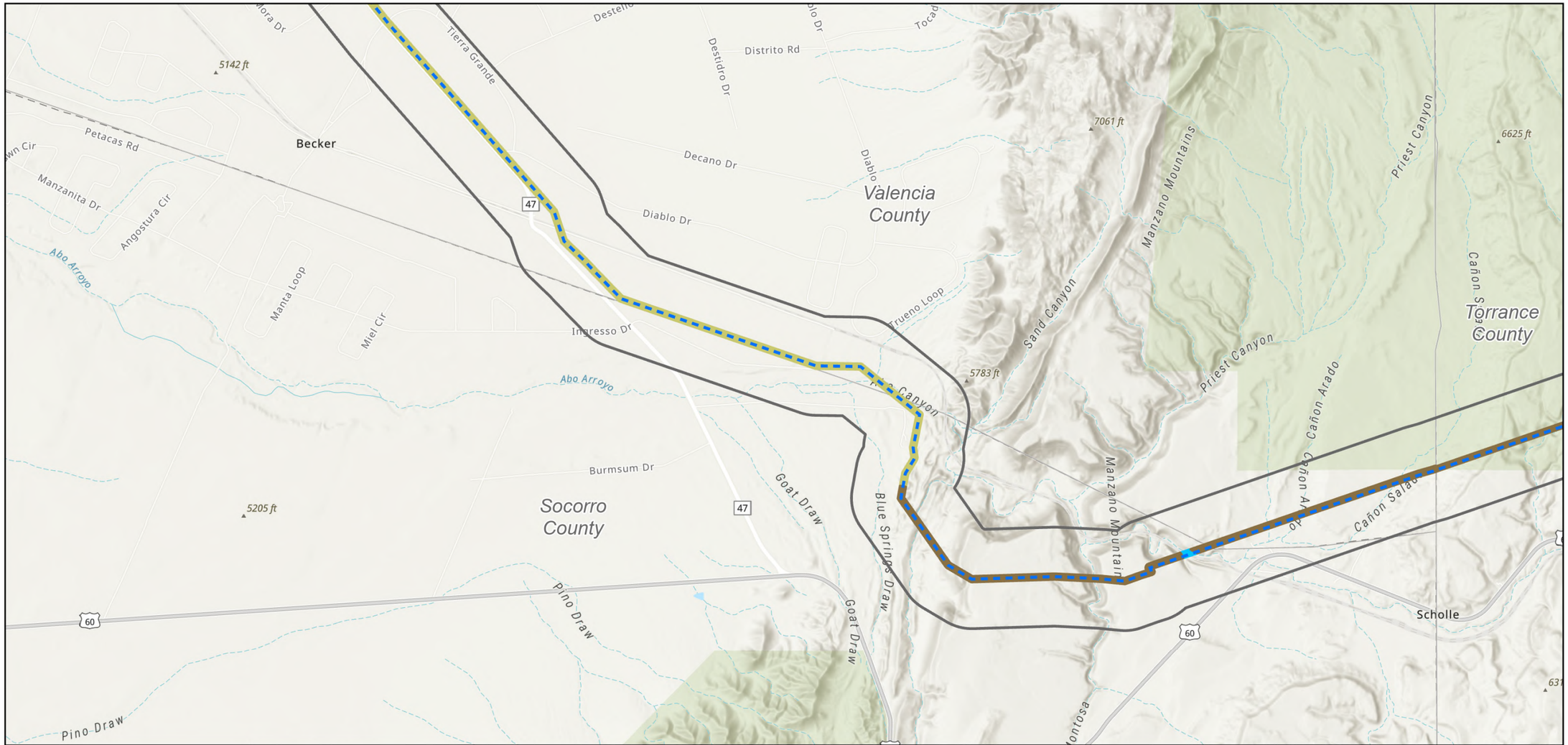
Survey Corridor Habitat (300 feet)
- Agriculture/Developed
- Desert Scrub
- Grassland
- Riparian
- Woodland

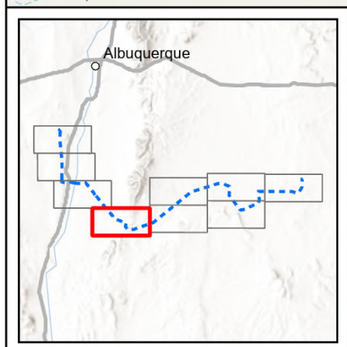
Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 14
Field Verified Vegetation Map
Page 3 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

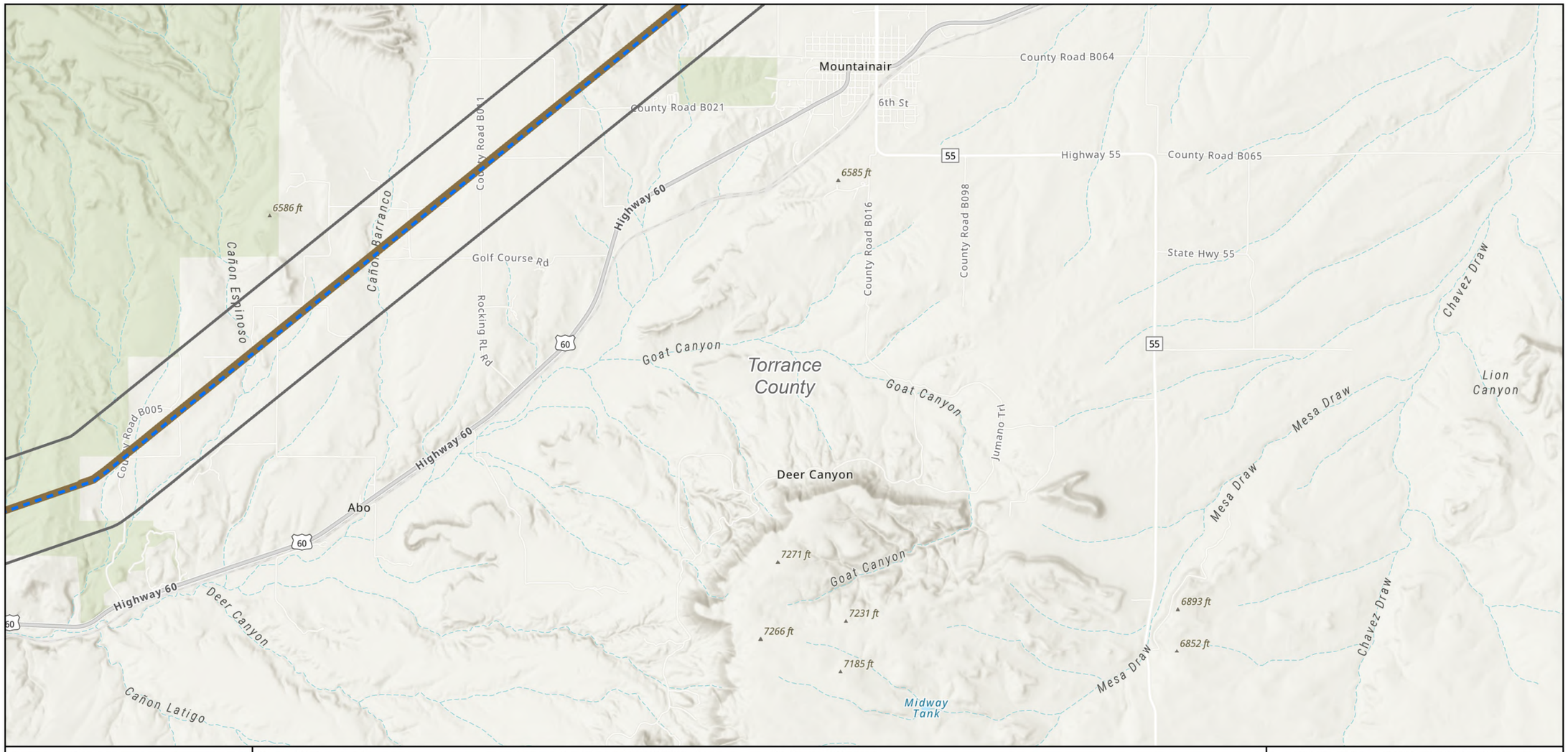
Survey Corridor Habitat (300 feet)
- Agriculture/Developed
- Desert Scrub
- Grassland
- Riparian
- Woodland

Reference Features
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 14
Field Verified Vegetation Map
Page 4 of 9

0 1 2 Miles




Project Components
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

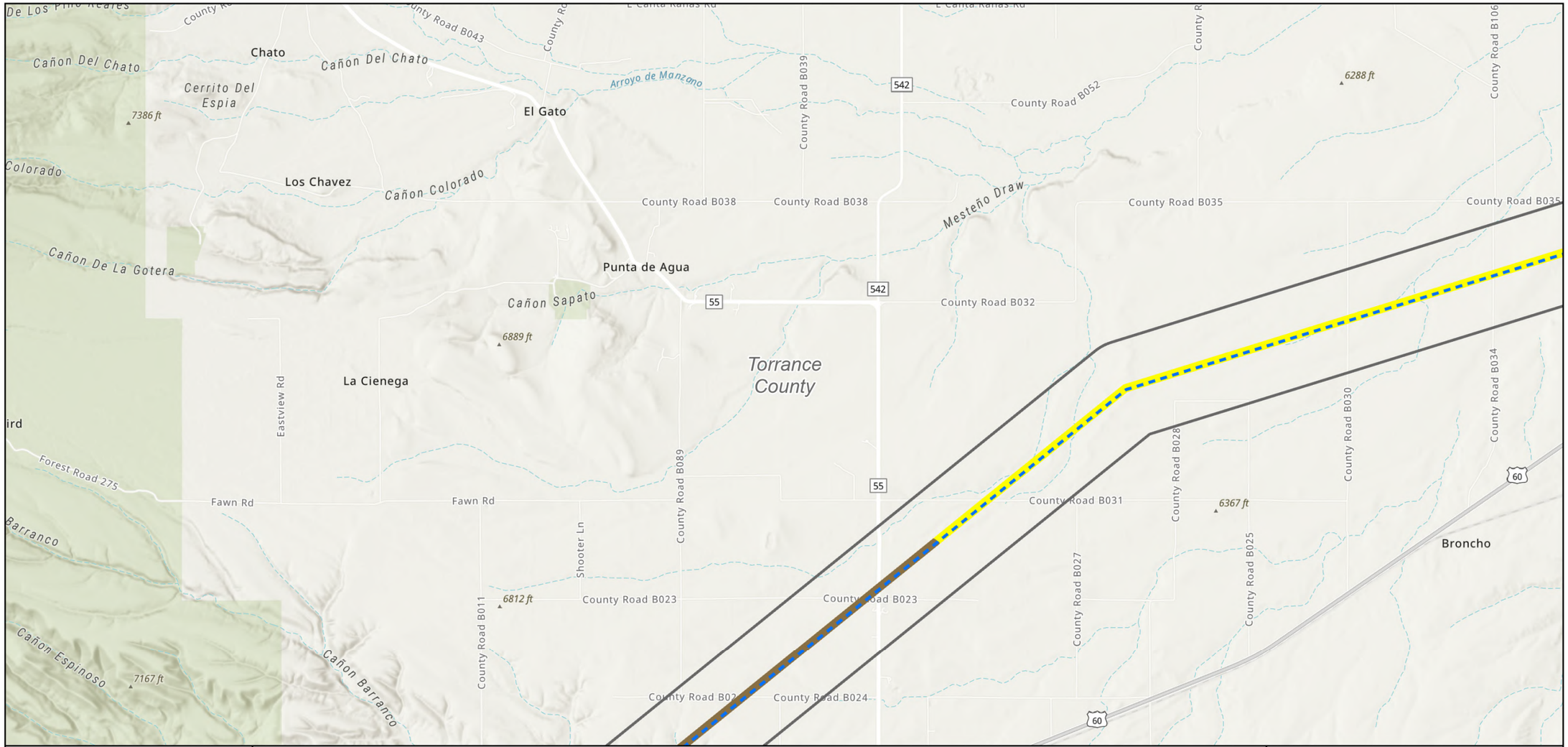
Survey Corridor Habitat (300 feet)
- Agriculture/Developed
- Desert Scrub
- Grassland
- Riparian
- Woodland

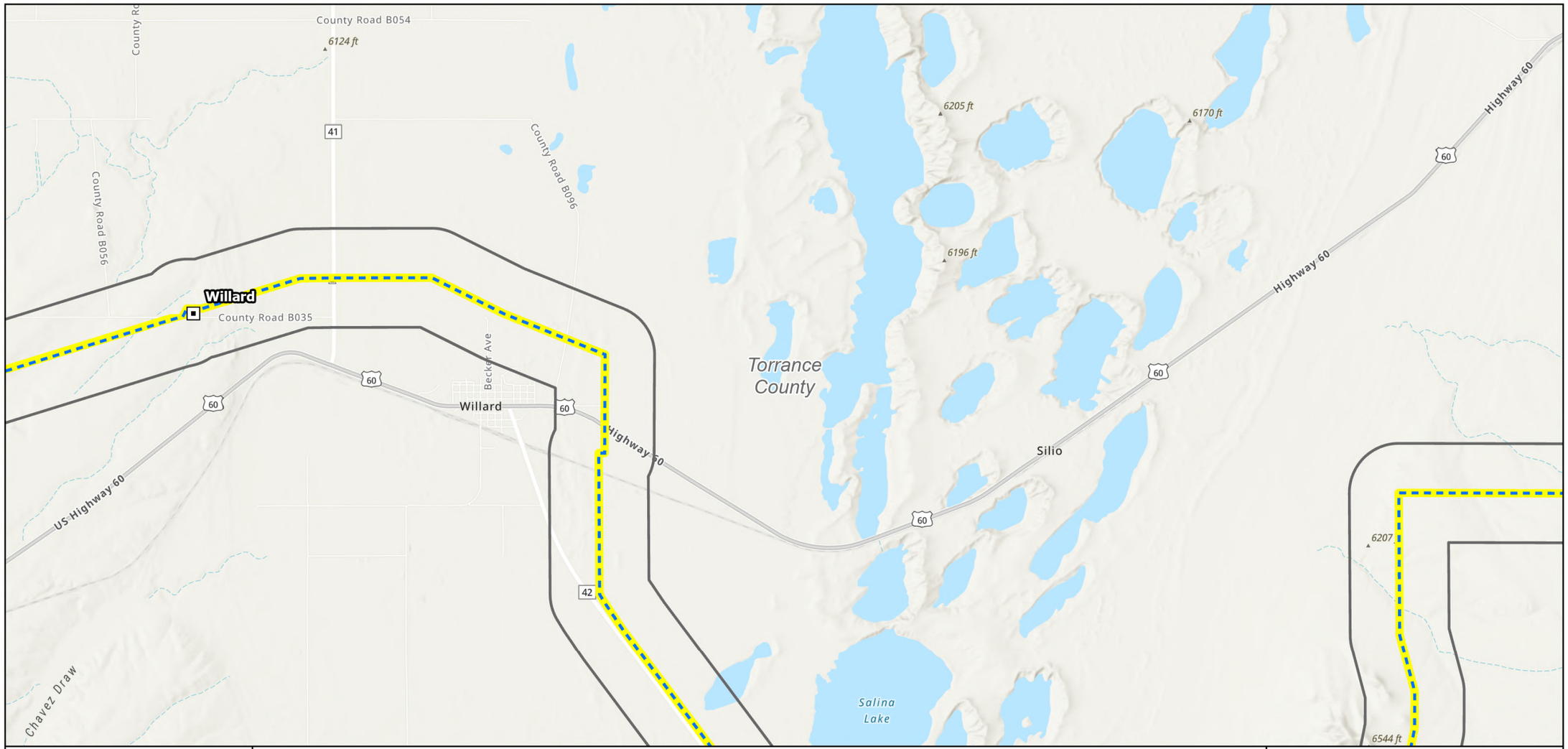
Reference Features
- County Boundary

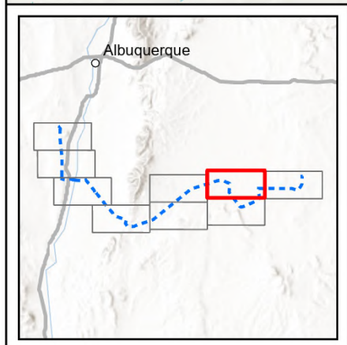
MID-STATE TRANSMISSION PROJECT

Exhibit 14
Field Verified Vegetation Map
Page 5 of 9

0 1 2 Miles


Chato
Cañon Del Chato
Cerrito Del Espia
7386 ft
El Gato
Arroyo de Manzano
County Road B039
542
County Road B052
6288 ft
County Road B106
Colorado
Los Chavez
Cañon Colorado
County Road B038
County Road B038
Mesteño Draw
County Road B035
County Road B035
Cañon De La Gotera
Punta de Agua
Cañon Sapato
55
542
County Road B032
6889 ft
Torrance County
La Cienega
Eastview Rd
ird
Forest Road 275
Fawn Rd
Fawn Rd
Shooter Ln
County Road B089
55
County Road B031
6367 ft
County Road B028
County Road B030
County Road B034
60
Broncho
Barranco
6812 ft
County Road B023
County Road B023
County Road B011
County Road B027
County Road B025
Cañon Espinoso
7167 ft
Cañon Barranco
County Road B024
60
Albuquerque
Project Components
Transmission Centerline
Transmission Study Corridor (1 Mile)
Survey Corridor Habitat (300 feet)
Agriculture/Developed
Desert Scrub
Grassland
Riparian
Woodland
Reference Features
County Boundary
MID-STATE TRANSMISSION PROJECT
Exhibit 14
Field Verified Vegetation Map
Page 6 of 9
0
1
2
Miles
wsp




Project Components
- Project Substation
- Transmission Centerline
- Transmission Study Corridor (1 Mile)

Survey Corridor Habitat (300 feet)
- Agriculture/Developed
- Desert Scrub
- Grassland
- Riparian
- Woodland

Reference Features
- Existing Substation
- County Boundary

MID-STATE TRANSMISSION PROJECT

Exhibit 14
Field Verified Vegetation Map
Page 7 of 9

0 1 2 Miles

| **Agencies Consulted to Date for the Mid-State Transmission Project** |
|---|
| **Federal** |
| United States Fish and Wildlife Service |
| United States Forest Service |
| Bureau of Land Management |
| **State** |
| New Mexico Department of Wildlife (formerly New Mexico Department of Game and Fish) |
| New Mexico Public Regulation Commission |
| New Mexico State Lands Office |
| **Local** |
| Middle Rio Grande Conservancy District |
| Valencia County |
| Torrance County |
| Socorro County |

**BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION**

| | | |
|---|---|---|
| **IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT, OWN, AND OPERATE, LOCATION APPROVAL, AND RIGHT-OF-WAY DETERMINATION FOR THE MID-STATE 345 KV TRANSMISSION PROJECT** | ) | **Docket No. 26-0000XXX** |
| **PUBLIC SERVICE COMPANY OF NEW MEXICO,** | ) | |
| **Applicant.** | ) | |

**AFFIDAVIT**

STATE OF NEW MEXICO )
) ss
COUNTY OF BERNALILLO )

**IAN EVANS, Environmental Senior Manager for Pattern Energy Group LP,** upon being duly sworn according to law, under oath, deposes and states: I have read the foregoing **Direct Testimony of Ian Evans,** and it is true and accurate based on my own personal knowledge and belief.

Dated this 30th day of October, 2026.

*/s/ Ian Evans*
IAN EVANS

*GCG # 535976*