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XTO Energy Inc.'s
Armenta Access Road Project

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TABLE OF CONTENTS

1. Purpose and Need for Action 1
    1.1. Background 1
    1.2. Purpose and Need for Action 1
    1.3. Decision to be Made 2
    1.4. Conformance with Applicable Land Use Plan 2
    1.5. Relationship to Statutes, Regulations or Other Plans 2
    1.6. Scoping, Public Involvement, and Issues 3
2. Proposed Action and Alternative(s) 5
    2.1. Proposed Action 5
    2.2. No Action 10
    2.3. Alternatives Considered but Eliminated from Detailed Study 10
3. Affected Environment and Environmental Consequences 11
    3.1. Air Resources 11
    3.2. Soil Resources 14
    3.3. Surface Water Resources 16
    3.4. Special Status Species 18
    3.5. Cultural Resources 19
4. Supporting Information 21
    4.1. List of Preparers 21
    4.2. References 21

Appendix A. Maps 25
Appendix B. Plat 31
Appendix C. Photographs 33
Appendix D. Surface Reclamation Plan 35

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1. PURPOSE AND NEED FOR ACTION

1.1. Background

XTO Energy Inc. (XTO) has provided a Sundry Notice Application (Sundry Notice) to the Bureau of Land Management – Farmington Field Office (BLM-FFO) for the proposed Armenta Road project. The proposed action is the approval of the Sundry by the BLM-FFO, located in Farmington, New Mexico.

The proposed project would involve the construction, usage, and reclamation of an engineer designed access road that would be located on BLM-FFO and Private (Fee) surface. The proposed access road would be approved under the original APDs for the XTO wells located at the end of the proposed access road.

The proposed access road would be 20 feet wide and total 1,100 feet in length (684.1 feet would be on BLM-FFO-managed surface [0.3 acre] and 415.9 feet in length on Fee surface [0.2 acre]).

Oil and natural gas, vital components of the nation's energy supply, account for approximately 36 and 25 percent of total energy consumed in the U.S., respectively. These energy sources are used in residential and commercial buildings, in transportation, and by industry (U.S. Energy Information Administration 2012). Common uses for natural gas include space heating, water heating, cooling, cooking, waste treatment and incineration, metals preheating, drying and humidification, glass melting, food processing, fueling industrial boilers, vehicle fueling, and electricity generation. Gases such as butane, ethane, and propane can be extracted from natural gas to be used for products such as fertilizers and pharmaceuticals. Natural gas can also be used to create methanol, which is utilized in the production of formaldehyde, acetic acid, fuel cell sources, and additives for cleaner burning gasoline (Natural Gas Supply Association 2010). Most oil goes into fuels, including gasoline, jet fuel, and home-heating oil. Additionally, non-fuel compounds extracted from oil are used to develop lubricants; asphalt for roads; tar for roofing; waxes for food wrapping; solvents for paints; cosmetics and dry-cleaning products; plastics; and foams (U.S. Energy Information Administration 2012).

Approximately 84 percent of natural gas and 55 percent of oil consumed in the U.S. is produced in the U.S. Additionally, U.S.-produced natural gas and oil is also exported to other countries (U.S. Department of Energy 2011). Within the U.S., oil and natural gas reserves are concentrated within distinct fields. The BLM-FFO management area is within the San Juan Basin, one of the most prolific gas-producing basins in the country. Currently, the San Juan Basin produces small amounts of oil.

Taxes and royalties on oil, natural gas, and carbon dioxide production contribute approximately 25 percent of New Mexico's general fund, and the oil and gas industry is one of the largest private sector employers in the state (New Mexico Bureau of Geology and Mineral Resources 2012). Additionally, the Federal government receives royalties, or a share of the production income, for extracted Federal minerals. In 2011, Federal natural gas royalties totaled over 2 billion dollars (Office of Natural Resources Revenue 2012).

The proposed project area is under the jurisdiction of the BLM-FFO and is located within the San Juan Basin in San Juan County, New Mexico. It is approximately 6.3 miles southeast of the town of Bloomfield, New Mexico, 0.7 miles south of U.S. Highway 64, and directly adjacent to the San Juan River (See Figure A.1, Appendix A).

1.2. Purpose and Need for Action

The purpose of the proposed action is to allow XTO reasonable access to BLM-managed lands to improve an access road that services several of XTOs existing oil and natural gas wells.

The need for the proposed action is established by the BLM's responsibility under the Federal land Policy and Management Act of 1976 (FLPMA, 43 USC 1701 et seq.). The FLPMA authorizes the BLM to grant, issue, or renew actions over public lands for multiple uses. It is the policy of the BLM, as derived from

several laws, including FLPMA, to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs.

1.3. Decision to be Made

The BLM-FFO will decide whether or not to approve the Sundry Notice submitted by XTO, and if so, under what terms and conditions. Under the National Environmental Policy Act (NEPA; Public Law 91-90, 42 USC 4321 et seq.), the BLM-FFO must determine if there are any significant environmental impacts associated with the proposed action warranting further analysis in an Environmental Impact Statement (EIS). The BLM-FFO Field Manager is the responsible officer who will decide one of the following:

- To approve the Sundry Notice submitted by XTO with design features as submitted
- To approve the Sundry Notice submitted by XTO with additional mitigation added
- To analyze the effects of the proposed action in an EIS
- To deny the Sundry Notice submitted by XTO

1.4. Conformance with Applicable Land Use Plan

The proposed action is in conformance with the 2003 BLM-FFO Resource Management Plan (RMP). Pursuant to 40 CFR 1508.28 and 1502.21, this site-specific EA tiers into and incorporates by reference the information and analysis contained in the BLM-FFO Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS; BLM 2003a). The RMP was approved by the September 29, 2003 Record of Decision (ROD; BLM 2003b), and updated in December 2003.

Specifically, the proposed action supports the following BLM policy:

> It is the policy of the BLM to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs, consistent with national objectives of an adequate supply of minerals at reasonable market prices. At the same time, the BLM strives to ensure that mineral development is carried out in a manner that minimizes environmental damage and provides for the rehabilitation of affected lands. (BLM 2003b, 2-2 – 2-3)

As required by NEPA, this EA addresses site-specific resources and effects of the proposed action that were not specifically covered within the PRMP/FEIS.

1.5. Relationship to Statutes, Regulations or Other Plans

XTO would comply with applicable Federal, State, and local laws and regulations. Necessary permits and approvals for the proposed project would be obtained prior to project implementation.

Many requirements regulating specific environmental elements are found in the appropriate elements sections of this EA (Chapter 3). Several permits, licenses, consultations, or other requirements are discussed below.

1.5.1. Clean Water Act

The proposed action is in conformance with the Clean Water Act, as amended (CWA; 33 USC 1251 et seq.).

Section 401

Under Section 401 of the CWA, an applicant for a Federal license or permit to conduct an activity that may result in a discharge into a water of the U.S. must provide the Federal agency with a Section 401

certification declaring that the discharge would comply with the CWA. The certification would be granted by the New Mexico Environment Department (NMED).

Section 402

Under Section 402 of the CWA, the U.S. Environmental Protection Agency (EPA) regulates storm water discharges from industrial and construction activities under the National Pollution Discharge Elimination System program. Permits are required if discharge results in a reportable quantity for which notification is required (pursuant to 40 CFR 117.21, 40 CFR 302.6, or 40 CFR 110.6) or if the discharge contributes to a violation of a water quality standard.

Section 404

Under Section 404 of the CWA, the EPA regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. The Section 404 program is administered by the EPA and U.S. Army Corps of Engineers (USACE). Under the CWA, the USACE has jurisdiction over waters of the U.S. Waters of the U.S. are considered jurisdictional because they have a “significant nexus” to traditional navigable waters. The BLM-FFO and USACE - Durango Regulatory Office have determined that jurisdictional waters (i.e., waters of the U.S.) may include U.S. Geological Survey (USGS) watercourses (i.e., “blue lines” on USGS 1:24,000 topographic maps) and potentially tributaries to these USGS watercourses.

No USGS Watercourses occur within the proposed project area and all erosional and diversional equipment for water is permitted by an existing Nationwide Pre-Construction Permit.

1.5.2. National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966 (NHPA; 16 USC 470) requires Federal agencies to take into account the effects of their actions on historic properties, and allow the Advisory Council on Historic Preservation a reasonable opportunity to comment. Compliance with the requirements of the NHPA is met by following the Protocol Agreement between the New Mexico BLM and New Mexico State Historic Preservation Officer, which is authorized by the Programmatic Agreement among the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (1997).

1.5.3. Clean Air Act

The Clean Air Act of 1972, as amended (CAA; 42 USC 7401 et seq.), establishes national ambient air quality standards (NAAQS) to control air pollution. In New Mexico, the NMED has adopted most of the CAA into the New Mexico Administrative Code (NMAC). The NMED issues construction and operating permits for air quality and enforces air quality regulations and permit conditions.

1.6. Scoping, Public Involvement, and Issues

1.6.1. Scoping and Public Involvement

The BLM-FFO publishes a NEPA log for public inspection. This log contains a list of proposed and approved actions within the BLM-FFO. The log is located on the BLM’s New Mexico website (http://www.blm.gov/nm/st/en/prog/planning/nepa_logs.html).

An on-site meeting was held at the proposed project area on November 25, 2014. XTO and BLM-FFO representatives attended the meeting. Public invitations to the on-site meeting were posted online (http://www.blm.gov/nm/st/en/fo/Farmington_Field_Office/ffo_oil_and_gas/ffo_onsites.html); no private citizens or groups attended the meetings. A BLM-FFO Interdisciplinary Team meeting was held on December 1, 2014, to discuss the proposed action. XTO and an environmental consultant (Nelson Consulting Inc. [NCI]) met at the proposed area on December 8, 2014 to conduct a biological survey. At the aforementioned meetings, potential issues of concern were identified by the BLM-FFO and NCI.

Based on the size and scale, routine nature, and potential impacts associated with the proposed action, no additional external scoping was conducted. No public comments were received for the proposed action.

1.6.2. Issues

Issues Analyzed

The following issues were identified during internal scoping as potential issues of concern for the proposed action. These issues will be addressed in this EA.

- How would dust and equipment emissions associated with the proposed project impact air resources?
- How would vegetation-clearing, proposed project activities, and final reclamation impact soils?
- Would the proposed project impact groundwater?
- How would vegetation-clearing, proposed project activities, and final reclamation impact the following BLM Special Status Species (SSS): Bendire's thrasher (*Toxostoma bendirei*), bald eagle (*Haliaeetus leucocephalus*), and prairie falcon (*Falco mexicanus*)?
- How would surface-disturbing activities associated with construction of the proposed project impact cultural resources?

Issues Considered but not Analyzed

The following issues were identified during scoping as issues of concern that would not be impacted by the proposed action or that have been covered by prior environmental review. These issues will not be analyzed in this EA.

U.S. Fish and Wildlife Service (USFWS)-Listed Species

Under Section 7 of the Endangered Species Act of 1973 (ESA; 16 USC 1531-1544), all Federal agencies are required to consult with the USFWS or National Marine Fisheries Service if they are proposing an action that may affect listed species or designated habitat. Consultation with the USFWS was conducted as part of the PRMP/FEIS to address the cumulative effects of RMP implementation (Consultation No. 2-22-01-1-389, Appendix M of the PRMP/FEIS; BLM 2003a). Based on a review of species currently listed by the USFWS as occurring in San Juan County (USFWS 2014a), as well as the location of the proposed project area and habitat within the proposed project area, the potential does not exist for USFWS-listed species to occur within the proposed project area. Additionally, no depletions of waters within waterbodies that provide habitat for USFWS-listed species would occur as a result of the proposed project. Therefore, there is no need for additional Section 7 consultation.

Native American Religious Concerns

For the proposed action, identification efforts for Native American Religious Concerns were limited to a review of existing published and unpublished literature (e.g., Van Valkenburgh 1941, 1974; Brugge 1993; Kelly, et al. 2006), development of the site-specific Class III survey report prepared for the proposed action was conducted by the BLM (BLM Report No. 01012015-4) and a review by the BLM's cultural resources program regarding the presence of Traditional Cultural Properties (TCPs) identified through ongoing BLM tribal consultation efforts. There are currently no known remains that fall within the purview of the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA; 25 USC 3001) or the Archaeological Resources Protection Act (ARPA; 16 USC 470) within the proposed project area. The proposed action would not impact any known TCPs, prevent access to sacred sites, prevent the possession of sacred objects, or interfere with or hinder the performance of traditional ceremonies and rituals pursuant to the American Indian Religious Freedom Act of 1978 (AIRFA; 42 USC 1996) or Executive Order (EO) 13007.

FEMA Floodplains

Throughout the U.S., the Federal Emergency Management Agency (FEMA) has designated geographic areas according to varying levels of flood risk. For example, 100-year floodplains are areas that have a one-percent chance of being inundated by a flood event in any given year. FEMA flood zones are depicted on Flood Insurance Rate Maps or Flood Hazard Boundary Maps (FEMA 2010). The proposed project area does not cross any 100-year floodplains.

Riparian Areas

Riparian areas generally occur as natural buffers between uplands and adjacent waterbodies (EPA 2005). According to the USFWS National Wetland Inventory Wetland Mapper (2014b), riparian areas are not mapped within the proposed project area. During the biological survey of the proposed project area, an NCI biologist experienced in the identification of riparian areas determined that a riparian area is present along the San Juan River; however, no riparian areas would be disturbed by the proposed project. Therefore, there would be no impacts to riparian areas by the proposed project. See Description of Proposed Project – Design Features and Best Management Practices (Section 2.1.2) for more detail on the riparian area.

Areas of Critical Concern

Section 202 (Land Use Planning) of FLPMA requires the BLM to give priority to the designation and protection of ACECs during the land use planning process. According to Section 103 (Definitions) of FLPMA, ACECs are areas within public lands where special management attention is required to protect and prevent irreparable damage to important historic values, cultural values, scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards. ACECs differ from other special management designations (such as wilderness areas) in that the ACEC designation, by itself, does not automatically prohibit other uses in the area. The ACEC designation is an administrative designation and is accomplished through the land use planning process.

A portion of the proposed project area travels through the edge of the Blanco River Tract of the River Tracts ACEC (see Figure A.4, Appendix A). The River Tracts ACECs include riparian areas that provide potential habitat for endangered and sensitive species (BLM 2003a, C-133 – C-135). The River Tracts ACEC is managed to protect and rehabilitate riparian and wetland habitats consistent with the Riparian and Aquatic Habitat Management Plan (BLM 2003a, C-133 – C-135; BLM 2000). Management prescriptions associated with the ACEC are listed in the RMP (BLM 2003a C-133 – C-135).

An approximately 749-foot long, 20-foot-wide stretch, or 0.3-acre portion, of the proposed project would travel through this ACEC. Where the proposed project area passes through the edge of the ACEC, no riparian areas or wetlands are present. The vegetation community within this portion of the proposed project area is an alfalfa field. Therefore, there would be no impact to the ACEC as a result of the proposed project.

2. PROPOSED ACTION AND ALTERNATIVE(S)

2.1. Proposed Action

The proposed action is the BLM-FFO approval of a Sundry Notice for an access road associated with several XTO oil and gas wells. The proposed project would include the construction, use, and reclamation of one access road.

The primary objective of the proposed access road would be to continue to provide access to several oil and natural gas well located on Fee surface. Erosional factors associated with the San Juan River are affecting the current access road.

Commencement of the proposed project is scheduled for 2015, following issuance of the approved Sundry Notice.

Construction plats associated with the proposed project are provided in Appendix B. Photographs of the proposed project area are provided in Appendix C.

2.1.1. Location of Proposed Project Area

Maps of the proposed project area are provided in Appendix A. The proposed project area is plotted on the Blanco, New Mexico, 7.5-minute USGS quadrangle map (Figure A.2, Appendix A) and the 2011 San Juan County, National Agriculture Imagery Program aerial photograph (Figure A.3, Appendix A).

The proposed project area is under the jurisdiction of the BLM-FFO and is located within the San Juan Basin in San Juan County, New Mexico. It is approximately 6.3 miles southeast of the town of Bloomfield, New Mexico, 0.7 miles south of U.S. Highway 64, and is directly adjacent to the San Juan River near the mouth of Armenta Canyon.

The general region surrounding the proposed project area is characterized by agricultural operations and floodplains associated with the San Juan River. A band of low cliffs running north to south is located far to the east of the proposed project area. Terrain within the proposed project area is flat to even with a 25 to 30 foot cut bank along the San Juan River. The elevation of the proposed project area ranges from approximately 5,508 to 5,513 feet above mean sea level.

Oil and gas development (existing well pads, access roads, and well-connect corridors), agricultural areas, and private residences are present throughout the general region. The proposed access road is located on and near an existing road that that is to be engineer designed.

The proposed project area is located at the following latitude & longitude (Universal Transverse Mercator, North American Datum of 1983 [NAD83]):

- Southwestern Terminus: 36.69732° North and 107.86946° West
- Northeastern Terminus: 36.65897° North and 107.86638° West

The legal location of the proposed project area is the southern half of the northeastern quarter of Section 27, Township 29N, Range 10W.

2.1.2. Description of Proposed Project

For a detailed description of design features and construction practices associated with the proposed project, refer to the Sundry Notice and original APDs on file at the BLM-FFO. The plat (Appendix B) provides additional details.

Design Features and Best Management Practices

XTO would comply with 43 CFR 3160, Onshore Oil and Gas Orders, and BLM guidance and standards established in The Gold Book: Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development (The Gold Book; BLM and U.S. Forest Service [USFS] 2007).

XTO would adhere to the Conditions of Approval (COAs) attached to the Sundry Notice associated with the original APDs.

Vehicles would be restricted to proposed disturbance areas and existing areas of surface disturbance, such as existing roads and well pads. Construction and maintenance activities would cease when soil or road surfaces become saturated to the extent that construction equipment is unable to stay within the proposed project area and/or when activities would cause irreparable harm to roads, soils, or streams. If equipment creates ruts deeper than 6 inches, the soil would be deemed too wet for construction or maintenance. No frozen soils would be used for construction purposes or trench backfilling.

The following general design features and best management practices (BMPs) would occur.

Control of Waste

Liquid and solid wastes would be disposed of at an appropriate waste-disposal site. The proposed project area would be maintained in a sanitary condition. Hazardous substances would be handled and disposed of according to Federal law. Waste resulting from construction activities would be removed from the proposed project area and disposed of in an authorized area, such as an approved landfill.

Protection of Paleontological Resources

If a paleontological site is discovered, the BLM-FFO would be notified and the site would be avoided by personnel, personal vehicles, and company equipment. Workers would be informed that it is illegal to collect, damage, or disturb some such resources, and that such activities are punishable by criminal and/or administrative penalties.

Protection of Cultural Resources

All cultural resource stipulations would be followed as indicated in the Cultural Resource Records of Review, Sundry Notice, and original APDs. These COAs could include, but would not be limited to, temporary or permanent fencing or other physical barriers, monitoring of earth-disturbing construction, reduction of the proposed project area and/or establishment of specific construction avoidance zones, and employee education.

Employees, contractors, and sub-contractors associated with the proposed project would be informed by XTO that cultural sites are to be avoided by personnel, personal vehicles, and company equipment. These individuals would be informed that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and/or administrative penalties under the provisions of ARPA.

In the event of a cultural discovery during construction, XTO would immediately stop all construction activities in the immediate vicinity of the discovery and immediately notify the archaeological monitor, if present, or the BLM-FFO. The BLM-FFO would then evaluate or cause the site to be evaluated. Should a discovery be evaluated as significant (e.g., eligible for the National Register of Historic Places [NRHP] or protected under NAGPRA or ARPA), it would be protected in place until mitigating measures could be developed and implemented according to guidelines set by the BLM-FFO.

Protection of Flora and Fauna, including SSS and Livestock

To protect any potential nesting activities of two federally-listed species, the southwestern willow flycatcher and yellow-billed cuckoo, no construction activities will be permitted between May 1 - August 15 without written approval by a BLM/FFO biologist. Any project activity between May 1 – August 15 will either require nest surveys or XTO will need to demonstrate that noise level will not exceed 48.6 dBh at habitat boundary.

Should any active raptor nests be observed within one-third mile of the proposed project area or should any SSS (listed by the USFWS or BLM) be observed within the proposed project area prior to or during project implementation, construction would cease and the BLM-FFO would be immediately contacted. The BLM-FFO would then ensure evaluation of the resource. Should a discovery be evaluated as significant (protected under the Endangered Species Act [ESA], etc.), it would be protected in place until mitigation could be developed and implemented according to guidelines set by the BLM-FFO.

Wildlife and livestock hazards associated with the proposed project would be fenced, covered, and/or contained in storage tanks, as necessary.

XTO would notify the grazing operator at least 10 business days prior to beginning the construction phase of the proposed project in order to ensure that there would be no conflicts between construction activities and livestock grazing operations. XTO would not cease or delay construction unless directed by the authorized BLM-FFO office. If any range improvements are disturbed by proposed project activities, they

would be repaired to the condition they were in prior to disturbance. Repairs, if needed, would take place immediately following construction.

Protection of Topsoil

Topsoil, which would be stripped from the surface of the proposed project area during the construction phase, would be stored and protected until it is redistributed during reclamation. Topsoil would be free of brush, tree limbs, trunks, and roots. Vehicle/equipment traffic would not be allowed to cross topsoil stockpiles.

The topsoil would be protected using wattles or other BMPs so that erosion is minimized. If topsoil is stored for a length of time such that nutrients are depleted from the topsoil, amendments would be added to the topsoil as advised by the XTO environmental scientist or appropriate agent/contractor.

Protection of the Public

The hauling of equipment and materials on public roads would comply with Department of Transportation regulations. Any accidents involving persons or property would immediately be reported to the BLM-FFO. The operator would notify the public of potential hazards by posting signage, as necessary.

Worker safety incidents would be reported to the BLM-FFO as required under Notice to Lessees (NTL) - 3A (USGS 1979). The operator would adhere to company safety policies and Occupational Safety and Health Administration regulations. The operator would comply with pipeline safety regulations (49 CFR 190 and 192).

Inspectors would be present during construction.

Prevention and Control of Weeds

It would be the XTO's responsibility to monitor, control, and eradicate all invasive, non-native plant species within the proposed project area throughout the life of the proposed project. XTO's weed-control contractor would contact the BLM-FFO regarding acceptable weed-control methods. If the contractor does not hold a current Pesticide Use Permit, a Pesticide Use Permit would be submitted prior to pesticide application. Only pesticides authorized for use on BLM lands would be used. The use of pesticides would comply with Federal and State laws. Pesticides would be used only in accordance with their registered use and limitations. XTO's weed-control contractor would contact the BLM-FFO prior to using these chemicals.

Protection of Air Resources

The BLM's regulatory jurisdiction over field production operations has resulted in the development of BMPs designed to reduce impacts to air quality by reducing all emissions from field production and operations. Typical measures could include reclamation to reduce the amount of dust and watering dirt roads during periods of high use in order to reduce fugitive dust emissions. Magnesium chloride, organic-based compounds, or polymer compounds could be also be applied to roads or other surfaces to reduce fugitive dust. Neither petroleum-based products nor produced water would be used.

BMPs for dust suppression would be utilized to reduce fugitive dust during the construction phase of the proposed project. Water application, using a rear-spraying truck or other suitable means, would be the primary method of dust suppression. Any additional dust-suppression practices would include the BLM-standard BMPs found in The Gold Book (BLM and USFS 2007) and the BMPs outlined in the COAs attached to the approved APDs.

Erosion Control

A single 18 inch culvert would be installed at stationing 14+50. This culvert would act as a tailwater outlet pipe from the tailwater ditch that would be built adjacent to the proposed road. The culvert would be permitted under an existing Nationwide Pre-Construction Permit.

The placement of any other water-and erosion-control features would be used as needed and installed upon post-construction reclamation.

Proposed Project Phases

During all proposed project phases, vehicles would use the proposed access road, as well as developed roads and highways in the region. Traffic would include light vehicles (such as cars and pick-up trucks) and heavy vehicles (such as water trucks and large tractor-trailers hauling equipment).

Refer to the section above (Design Features and Best Management Practices) for resource-protection details associated with all proposed project phases.

Construction of Access Road

The BLM-FFO would be notified at least 48 hours prior to the start of construction. Construction of the proposed access road would take less than two weeks. During construction of the proposed access road the following equipment could be utilized onsite: chainsaws, a brush hog, a scraper, a maintainer, an excavator, and a dozer.

The proposed access road would be cleared of vegetation and leveled. Vegetation removed during construction, including trees that measure less than 3 inches in diameter (at ground level) and slash/brush, would be chipped, shredded, or mulched and incorporated into the topsoil. When chipping slash and brush, the “chips” would be distributed in a manner that would not impede seeding with machinery or the establishment of successful revegetation.

The top 6 inches of topsoil would be salvaged and stockpiled along the proposed access road. The protection of topsoil is discussed in “Design Features and Best Management Practices – Protection of Topsoil,” above.

The proposed access road would be leveled to provide space and a level surface for vehicles and equipment. Excavated materials from cuts would be used on fill portions of the location. Construction would utilize native soil and materials available onsite. If sandstone is needed for surfacing, the sandstone would be retrieved from a permitted location.

The proposed access road would be constructed to meet the standards for anticipated traffic flow and all-weather requirements. The proposed access road would be designed (in terms of drainage design, culvert sizing, culvert installation, etc.) and constructed as a resource road in accordance with *The Gold Book* (BLM and USFS 2007) and BLM Manual 9113, Sections 1 and 2 (BLM 2011d and BLM 2011e).

The proposed access road workspace would be 20 feet wide. This width would include a 14-foot-wide running surface with adequate crowning. The proposed access road would be built up 18 to 24 inches. The maximum road grade would be 0.6 percent.

Post-Construction Reclamation

Portions of the proposed project area would be reclaimed following road construction. This phase, referred to as “post-construction reclamation” would be initiated within 120 days of construction. The BLM-FFO would be notified at least 48 hours prior to the start of post-construction reclamation.

Post-construction reclamation would include the Interim reclamation (reseeding or full reclamation) of portions of the proposed access road.

Areas that would be fully reclaimed or just reseeded during this phase are described in Section 2.1.3 (Proposed Surface Disturbance). Post-construction reclamation and subsequent monitoring and reporting are described in detail in the Surface Reclamation Plan (Appendix D).

Final Abandonment

If the BLM-FFO does not consider the retention of the proposed well pads the proposed access road services and/or the proposed access road, necessary for the management and multiple uses of natural resources; therefore, these features would be reclaimed.

Post-production reclamation would include the following:

- Post-production reclamation of all portions of the proposed project area that weren't fully reclaimed during post-construction reclamation
- Post-production reclamation of any other areas that are disturbed to bare soil during the final abandonment process

A bulldozer and a tractor with seeding capabilities would be used. Approximately four personnel would be required.

Post-production reclamation and subsequent monitoring and reporting are described in detail in the Surface Reclamation Plan (Appendix D).

2.1.3. Proposed Surface Disturbance

There would be 0.5 acres of new surface disturbance. Of this, (0.1 acre total; 0.1 on BLM–FFO managed surface and less than 0.1 acre on Fee surface) would be reseeded (but not recontoured) during post-construction reclamation, and (approximately 0.4 acre total; 0.2 on BLM-FFO Managed surface and 0.2 acre on Fee surface) acres would remain disturbed throughout the life of the proposed project.

The proposed access road corridor would be 20 feet wide and 1,100 feet long, totaling 0.5 acre (684.1 feet would be on BLM-FFO-managed surface [0.3 acre] and 415.9 feet in length on Fee surface [0.2 acre]).

The 14-foot-wide running surface of the proposed access road and the bottoms of the bar ditches alongside the proposed access road (approximately 0.4 acre total; 0.2 on BLM-FFO Managed surface and 0.2 acre on Fee surface) would remain disturbed for the lifetime of the proposed project. The remainder of the proposed access road corridor (0.1 acre total; 0.1 on BLM–FFO managed surface and less than 0.1 acre on Fee surface) would be reseeded during post-construction reclamation.

2.2. No Action

Under the No Action Alternative, the Sundry Notice would not be approved. The proposed access road would not be constructed. Current land and resource uses would continue to occur in the proposed project area.

2.3. Alternatives Considered but Eliminated from Detailed Study

The route of the proposed access road was chosen based on the location of the existing access road, other existing disturbance in the area, vegetation, and topography. No alternative route was identified for the proposed project features that would result in less surface disturbance than the proposed route while fulfilling the purpose and need of the proposed action.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Under the No Action alternative, current land and resource issues within the proposed project area would continue; there would be no new impacts from road development. The No Action alternative would serve as the baseline for comparing the environmental impacts of the analyzed alternatives, and would not be further evaluated in this EA (BLM 2008b).

3.1. Air Resources

3.1.1. Affected Environment

The proposed project is located in [insert the appropriate county name] County, New Mexico. Additional general information on air quality in the area is contained in Chapter 3 of the Farmington PRMP/FEIS. In addition, new information about greenhouse gases (GHGs) and their effects on national and global climate conditions has emerged since this document was prepared. On-going scientific research has identified the potential impacts of GHG emissions such as carbon dioxide (CO_2) methane (CH_4); nitrous oxide (N_2O); water vapor; and several trace gases on global climate. Through complex interactions on a global scale, GHG emissions may cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia (along with corresponding variations in climatic conditions), industrialization and burning of fossil carbon sources have caused GHG concentrations to increase measurably, and may contribute to overall climatic changes, typically referred to as global warming.

Much of the information referenced in this section is incorporated from the Air Resources Technical Report for BLM Oil and Gas Development in New Mexico, Kansas, Oklahoma, and Texas (herein referred to as Air Resources Technical Report) (BLM 2014a). This document summarizes the technical information related to air resources and climate change associated with oil and gas development and the methodology and assumptions used for analysis.

The EPA has the primary responsibility for regulating air quality, including six nationally regulated ambient air pollutants (criteria pollutants). These criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2) and lead (Pb). EPA has established National Ambient Air Quality Standards (NAAQS) for criteria air pollutants. The NAAQS are protective of human health and the environment. EPA has approved New Mexico's State Implementation Plan and the state enforces state and federal air quality regulations on all public and private lands within the state, except for tribal lands and within Bernalillo County. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility. Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. EPA has proposed or completed actions recently to implement Clean Air Act requirements for greenhouse gas emissions. Climate has the potential to influence renewable and non-renewable resource management.

Air Quality

The Air Resources Technical Report describes the types of data used for description of the existing conditions of criteria pollutants, how the criteria pollutants are related to the activities involved in oil and gas development, and provides a table of current National and state standards. EPA's Green Book web page (EPA 2013b) reports that all counties in the Farmington Field Office area are in attainment of all National Ambient Air Quality Standards (NAAQS) as defined by the Clean Air Act. The area is also in attainment of all state air quality standards (NMAAQS). The current status of criteria pollutant levels in the Farmington Field Office are described below.

“Design Values” are the concentrations of air pollution at a specific monitoring site that can be compared to the NAAQS. The 2012 design values for criteria pollutants are listed below in **Error! Reference source ot found.**. There is no monitoring for CO and lead in San Juan County, but because the county is relatively rural, it is likely that these pollutants are not elevated. PM10 design concentrations are not available for San Juan County.

Table 1. Criteria Pollutant Monitored Design Values in San Juan County

Pollutant	2012 Design Concentration	Averaging Time	NAAQS	NMAAQS
O_3	0.071 ppm	8-hour	0.075 ppm[1]	
NO_2	13 ppb	Annual	53 ppb[2]	50 ppb
NO_2	38 ppb	1-hour	100 ppb[3]	
$PM_{2.5}$	4.7 µg/m^3	Annual	12 µg/m^3[3,4]	60 µg/m^3[3,6]
$PM_{2.5}$	14 µg/m^3	24 hour	35 µg/m^3[3,3]	150 µg/m^3[3,6]
SO_2	19 ppb	1-hour	75 ppb[5]	

Source: U.S. Environmental Protection Agency, 2014
[1] Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
[2] Not to be exceeded during the year
[3] 98th percentile, averaged over 3 years
[4] Annual mean, averaged over 3 years
[5] 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
[6] The NMAAQS is for Total Suspended Particulate (TSP)

In 2005, the EPA estimates that there was less than 0.01 ton per square mile of lead emitted in FFO counties, which is less than 2 tons total (U.S. Environmental Protection Agency, 2012). Lead emissions are not an issue in this area, and will not be discussed further.

Air quality in a given region can be measured by its Air Quality Index value. The air quality index (AQI) is reported according to a 500-point scale for each of the major criteria air pollutants, with the worst denominator determining the ranking. For example, if an area has a CO value of 132 on a given day and all other pollutants are below 50, the AQI for that day would be 132. The AQI scale breaks down into six categories: good (AQI<50), moderate (50-100), unhealthy for sensitive groups (100-150), unhealthy (>150), very unhealthy and hazardous. The AQI is a national index, the air quality rating and the associated level of health concern is the same everywhere in the country. The AQI is an important indicator for populations sensitive to air quality changes.

Mean AQI values for San Juan County were generally in the good range (AQI<50) in 2013 with 80% of the days in that range. The median AQI in 2013 was 42, which indicates “good” air quality. The maximum AQI in 2013 was 156, which is “unhealthy.”

Although the AQI in the region has reached the level considered unhealthy for sensitive groups on several days almost every year in the last decade, there are no patterns or trends to the occurrences (Table 2) On 8 days in the past decade, air quality has reached the level of “unhealthy” and on two days, air quality reached the level of “very unhealthy”. In 2009 and 2012, there were no days that were “unhealthy for sensitive groups” or worse in air quality. In 2005 and 2013, there was one day that was “unhealthy” during each year. In 2010, there were five “unhealthy” days and two “very unhealthy days.”

Table 2. Number of Days Classified as "Unhealthy for Sensitive Groups" (AQI 101-150) or Worse

ear	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Days	3	6	9	18	1	0	12	9	0	1

Source: EPA 2013a

Hazardous Air Pollutants

The Air Resources Technical Report discusses the relevance of hazardous air pollutants (HAPs) to oil and gas development and the particular HAPs that are regulated in relation to these activities (BLM 2014a). The EPA conducts a periodic National Air Toxics Assessment (NATA) that quantifies HAP emissions by county in the U.S. The purpose of the NATA is to identify areas where HAP emissions result

in high health risks and further emissions reduction strategies are necessary. A review of the results of the 2005 NATA shows that cancer, neurological and respiratory risks in San Juan County are generally lower than statewide and national levels as well as those for Bernalillo County where urban sources are concentrated in the Albuquerque area (EPA 2012).

Climate

The analysis area is located in a semiarid climate regime typified by dry windy conditions and limited rainfall. Summer maximum temperatures are generally in the range of 80 or 90 degrees Fahrenheit (°F), and winter minimum temperatures are generally in the teens to 20s. Temperatures occasionally reach above 100°F in June and July and have dipped below zero in December and January. Precipitation is divided between summer thunderstorms associated with the southwest monsoon and winter snowfall as Pacific weather systems drop south into New Mexico. Table 3 shows climate normals for the 30-year period from 1981 to 2010 for the Farmington, New Mexico, area.

Table 3. Climate Normals for the Farmington Area, 1981-2010

Month	Average Temperature (^{O}F)	Average Maximum Temperature (^{O}F)	Average Minimum Temperature (^{O}F)	Average Precipitation (inches)
January	30.5	40.8	20.3	0.53
February	35.8	46.8	24.8	0.59
March	43.2	56.1	30.3	0.78
April	50.4	64.7	36.2	0.65
May	60.4	74.8	46.1	0.54
June	69.8	85.1	54.5	0.21
July	75.4	89.6	61.2	0.90
August	73.2	86.5	59.8	1.26
September	65.4	79.1	51.7	1.04
October	53.3	66.4	40.1	0.91
November	40.5	52.2	28.8	0.68
December	31.0	41.2	20.7	0.50
Source: data collected at New Mexico State Agricultural Science Center - Farmington				

Very recently, pioneering research using space-borne (satellite and aircraft) determination of methane concentrations have indicated anomalously large methane concentrations may occur in the Four Corners region (Kort, et al. 2014). A subsequent study (Schneising, et al. 2014) indicated larger anomalies over other oil and gas basins in the U.S. Methane is 34 times more potent at trapping greenhouse gas emissions than CO_2 when considering a time horizon of 100 years (Intergovernmental Panel on Climate Change, 2013). While space-borne studies can determine the pollutant concentration in a column of air, these studies cannot pinpoint the specific sources of air pollution. Further study is required to determine the sources responsible for methane concentrations in the Four Corners region; however, it is known that a significant amount of methane is emitted during oil and gas well completion (Howarth, et al.2011). Methane is also emitted from process equipment, such as pneumatic controllers and liquids unloading, at oil and gas production sites. Ground-based, direct source monitoring of pneumatic controllers conducted by the Center for Energy and Environmental Resources (Allen, et al., 2014) show that methane emissions from controllers exhibit a wide range of emissions and a small subset of pneumatic controllers emitted more methane than most. Emissions measured in the study varied significantly by region of the U.S., the application of the controller and whether the controller was continuous or intermittently venting. The Center for Energy and Environmental Resources had similar findings of variability of methane emissions from liquid unloading (Allen, et al. 2014a). In October 2012, USEPA promulgated air quality regulations controlling VOC emissions at gas wells. These rules require air pollution mitigation measures that reduce the emissions of volatile organic compounds. These same mitigation measures have a co-benefit of reducing methane emissions. Future ground-based and space-borne studies planned in the Four Corners region with emerging pollutant measurement technology may help to pinpoint significant, specific sources of methane emissions in the region.

The Air Resources Technical Report summarizes information about greenhouse gas emissions from oil and gas development and their effects on national and global climate conditions. While it is difficult to determine the spatial and temporal variability and change of climatic conditions; what is known is that increasing concentrations of GHGs are likely to accelerate the rate of climate change.

3.1.2. Direct and Indirect Impacts

Air quality would temporarily be directly impacted with pollution from exhaust emissions and dust. Air pollution from the motorized equipment and dust dissemination would discontinue at the completion of the project. Other factors that currently affect air quality in the area include dust from livestock herding activities, dust from recreational use, dust from use of roads for vehicular traffic, and emissions from oil and gas production activities. Impacts to air quality attributable to this project would be temporary and minor.

Cumulative Impacts

The primary activities that contribute to levels of air pollutant and GHG emissions in the Four Corners area are electricity generation stations, fossil fuel industries, and vehicle travel. The Air Quality Technical Report includes a description of the varied sources of national and regional emissions that are incorporated here to represent the past, present, and reasonably foreseeable impacts to air resources (BLM, 2014a). It includes a summary of emissions on the national and regional scale by industry source. Sources that are considered to have notable contributions to air quality impacts and GHG emissions include electrical generating units, fossil fuel production (nationally and regionally), and transportation.

The proposed project could result in a very small direct and indirect increase in several criteria pollutants, HAPs, and GHGs as a result the short term construction activity. The very small increase in emissions from short term construction activity would not be expected to result in exceeding the NAAQS for any criteria pollutants in the analysis area.

The very small increase in GHG emissions that could result from implementing the proposed alternative would not produce climate change impacts that differ from the No Action Alternative. This is because climate change is a global process that is impacted by the sum total of GHGs in the Earth's atmosphere. The incremental contribution to global GHGs from the action alternatives cannot be translated into effects on climate change globally or in the area of this site-specific action. It is currently not feasible to predict with certainty the net impacts from the action alternatives on global or regional climate.

The Air Resources Technical Report (U.S. Department of Interior Bureau of Land Management, 2014) discusses the relationship of past, present, and future predicted emissions to climate change and the limitations in predicting local and regional impacts related to emissions. It is currently not feasible to know with certainty the net impacts from particular emissions associated with activities on public lands.

3.2. Soil Resources

3.2.1. Affected Environment

Soils in the San Juan Basin were formed primarily from two kinds of parent material: alluvial sediment and sedimentary rock. The alluvial sediment is material that was deposited in river valleys and on mesas, plateaus, and ancient river terraces. This material has been mixed and sorted in transport and has a wide range of mineralogy and particle size. The parent material of sedimentary rock consists mainly of sandstone and shale bedrock. These shale and resistant sandstone beds form prominent structural benches, buttes, and mesas bounded by cliffs.

The Natural Resources Conservation Service (NRCS) has mapped the soils in the proposed project area. Complete soil information for the proposed project area is available in the NRCS's *Soil Survey of San Juan County, New Mexico: Eastern Part* (NRCS 2009) and the NRCS Web Soil Survey (NRCS 2014). Within the proposed project area, three soil map units are present: Beebe loamy sand, Fruitland loam (1- to 3-percent slopes), and Turley clay loam (0- to 1-percent slopes).

Table 4. Soil Map Units within the Proposed Project Area

Map Unit Name (Composition %) [3]	Slope (%)	Potential for Erosion		Depth to Water Table	Available Water Capacity (inches)	Location within Proposed Project Area
		Water	Wind			
Beebe loamy sand[1]	0-1	Low	Very High	Very Deep	3.6	Majority of access road (85%)
Fruitland loam[1]	1-3	Low	Moderate	Very Deep	7.5	Small central section of access road (6%)
Turley clay loam[1]	0-1	Moderate	High	Very Deep	11.4	Small central section of access road (9%)
[1] Source: NRCS 2009						

Beebe loamy sand

The parent material of Beebe loamy sand soils is stream alluvium derived from igneous and sedimentary rock. These soils are typically found on flood plains and low river terraces. The potential plant community for these soils is usually comprised of alkali sacaton (*Sporobolus airoides*), creeping muhly (*Muhlenbergia repens*), inland saltgrass (*Distichlis spicata*), sand dropseeed (*Sporobolus cryptandrus*), squirreltail (*Elymus elymoides*), western wheatgrass (*Pascopyrum smithii*), clover (*Trifolium* sp.), rubber rabbitbrush (*Ericameria nauseosa*), fourwing saltbush (*Atriplex canescens*), and sedge (*Carex* sp.;NRCS 2014).

Fruitland loam (1- to 3-percent slopes)

The parent material of Fruitland loam soils (1- to 3-percent slopes) is alluvium derived from sandstone and shale. These soils are typically found on fans and in valleys. The potential plant community for this map unit is usually comprised of blue grama (*Bouteloua gracilis*), indian ricegrass (*Oryzopsis hymenoides*), James's galleta (*Pleuraphis jamesii*), sand dropseeed, squirreltail, western wheatgrass, and big sagebrush (*Artimisia tridentata*; NRCS 2014).

Turley clay loam (0- to 1-percent slopes)

The parent material of Turley clay loam primarily consists of fan alluvium derived from sandstone and shale. This soil is typically found along alluvial fan landforms and within clayey ecological sites. The potential plant community for this soil type is usually comprised of alkali sacaton, blue grama, Indian ricegrass, James's galleta, needleandthread (*Hesperostipa comata*), New Mexico feathergrass (*Heterostipa neomexicana*), spike dropseed (*Sporobolus contractus*), squirreltail, western wheatgrass, and threeawn (*Aristida* spp.; NRCS 2009).

3.2.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Within the proposed project area (0.5 acres, total), vegetation would be cleared, topsoil would be stripped, and leveling would occur. Approximately 0.4 acre (0.2 on BLM-FFO Managed surface and 0.2 acre on Fee surface) would remain as bare, compacted surface for the life of the proposed project. Approximately 0.1 acres (0.1 acre total; 0.1 on BLM–FFO managed surface and less than 0.1 acre on Fee surface) would be reseeded (but not recontoured) during post-construction reclamation.

Soils in the proposed project area are classified as being moderately to very highly susceptible to wind erosion and have a low to moderate water erosion potential (NRCS 2009). The clearing of vegetation

within the proposed project area would result in the exposure of soils to water, wind, and direct human disturbances; erosion in these areas would potentially increase. Construction activities within the proposed project area would result in the mixing, displacement, and compaction of soils. The degree of erosion would be dependent upon precipitation and wind. Following construction, the compaction of soils, reclamation of portions of the proposed project area, and implementation of erosion-control measures would limit soil impacts due to erosion.

Cumulative Impacts

The spatial analysis area for cumulative soil impacts is the proposed project area, immediately surrounding lands, and points immediately downstream. Within the spatial analysis area, existing disturbance and signs of erosion include the following:

- An existing agricultural road is located at the southwestern terminus of the proposed access road.
- The Armenta No. 001 active well pad is located at the northeastern terminus of the proposed access road.
- Active wildlife and livestock grazing occurs in the area. The proposed project area crosses Fee surface where cattle were observed grazing

No other reasonably foreseeable future disturbance is anticipated within the spatial analysis area.

The proposed project would contribute to ongoing soil erosion (associated with the aforementioned features) within and immediately downstream of the spatial analysis area.

3.3. Surface Water Resources

3.3.1. Affected Environment

Under the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) has jurisdiction over “waters of the U.S.” These jurisdictional waters include those that have a “significant nexus” to traditional navigable waters. The BLM-FFO and USACE - Durango Regulatory Division have determined that jurisdictional waters may include U.S. Geological Survey (USGS) watercourses (i.e., “blue lines” on USGS 1:24,000 topographic maps). The proposed access road crosses no USGS watercourses.

3.3.2. Impacts from the Proposed Action

Direct and Indirect Impacts

The proposed access road crosses no USGS watercourses. The proposed access road would meet the requirements to be covered under the USACE Nationwide Permit No. 14 for Linear Transportation Projects.

The proposed access road runs parallel to the San Juan River. Potential impacts to surface water could occur from stormwater runoff, soil erosion and the accidental spill of chemicals, or produced water that is transported by using the access road. The potential for these impacts would be long term for the life of the proposed action. The potential for sediment transport into drainages would be minimized through implementation of best management practices and other preventive measures, such as re-establishment of vegetation and proper site hydrological diversions.

Minimal amounts of hazardous materials (e.g., gas, diesel) would be transported along the access road. The potential exists for accidental spills or releases of these materials that could impact local water quality. Any spills of non-freshwater fluids would be cleaned up immediately and removed to an approved disposal site in accordance with federal and state regulations.

Cumulative Impacts

The spatial analysis area for cumulative surface water impacts is the proposed project area, immediately surrounding lands, and points immediately downstream. Within the spatial analysis area, existing disturbance and signs of erosion include the following:

- An existing agricultural road is located at the southwestern terminus of the proposed access road.
- The Armenta No. 001 active well pad is located at the northeastern terminus of the proposed access road.
- Active wildlife and livestock grazing occurs in the area. The proposed project area crosses Fee surface where cattle were observed grazing
- Ongoing farming practices will continue to increase soil erosion and sedimentation.

No other reasonably foreseeable future disturbance is anticipated within the spatial analysis area.

The proposed project would contribute to ongoing soil erosion (associated with the aforementioned features) within and immediately downstream of the spatial analysis area.

3.4. Special Status Species

3.4.1. Affected Environment

The BLM manages certain species which are not Federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. BLM SSS include BLM Sensitive Species and BLM-FFO Special Management Species (SMS).

A portion of the proposed project area travels through the edge of the Blanco River Tract of the River Tracts ACEC (see Figure A.4, Appendix A). The River Tracts ACECs include riparian areas that provide potential habitat for the Southwestern willow flycatcher and Yellow-billed cuckoo (BLM 2003a, C-133 – C-135). The River Tracts ACEC is managed to protect and rehabilitate riparian and wetland habitats consistent with the Riparian and Aquatic Habitat Management Plan (BLM 2003a, C-133 – C-135; BLM 2000). Management prescriptions associated with the ACEC are listed in the RMP (BLM 2003a C-133 – C-135).New Mexico BLM State Directors have developed a list of BLM Sensitive Species for the State of New Mexico (BLM 2011a, BLM 2011b, BLM 2011c, BLM 2012a). In accordance with BLM Manual 6840, the BLM-FFO has prepared a list of BLM-FFO SMS to focus species management efforts toward maintaining habitats under a multiple-use mandate (BLM 2008a, BLM 2008c). BLM-FFO SMS include some BLM Sensitive Species and other species for which the BLM-FFO has determined special management is appropriate (BLM 2008c). The authority for this policy and guidance is established by the ESA; Title II of the Sikes Act, as amended (16 USC 670a-670o, 74 Stat. 1052); FLPMA; and Department of Interior Manual 235.1.1A.

Based on known range and habitat, three BLM SSS have the potential to occur within the proposed project area. These species with the potential to occur in the proposed project area and a brief description of their habitat are provided in the table below.

Table 5. BLM SSS with Potential to Occur within Proposed Action Area

Species	Status	Documented Occurrence Within BLM-FFO Region	Habitat
Bald eagle (*Haliaeetus leucocephalus*)	SMS	Winter range (Sibley 2000). Known to migrate through and winter in BLM-FFO (BLM 2003a).	Winter perch sites may exist in action area but not project area.
Southwester willow flycatcher (*Empidonax traillii extimus)*	Federal - Endangered	Migrate through area in Spring/summer. No nesting documented	Suitable nesting habitat exist in action area but no project area
Yellow-billed cuckoo (*Coccyzus americanus*)	Federal – Threatened, SMS	Known to nest in BLM-FFO (BLM 2012b).	Suitable nesting habitat exists in action area but no project area.

3.4.2. Impacts from the Proposed Action

Direct and Indirect Impacts

An approximately 749-foot long, 20-foot-wide stretch, or 0.3-acre portion, of the proposed project would travel through the ACEC. Where the proposed project area passes through the edge of the ACEC, no riparian areas or wetlands are present. Noise from proposed project will not exceed 48.6 dBh at riparian habitat boundary during the breeding season May 1 - July 31. The vegetation community within this portion of the proposed project area is an alfalfa field. Therefore, there would be no impact to any federally-listed species as a result of the proposed project. There is similar habitat available in the surrounding area that BLM SSS could utilize for foraging. However, the proposed project would result in the total disturbance of approximately 0.5 acres (0.3 acres on BLM-FFO-managed surface and 0.2 acres on Fee surface) of habitat for these species. Of this, 0.4 acres (0.2 acres would be on BLM-FFO

managed surface and 0.2 acre would be on Fee surface) would remain active and unvegetated throughout the lifetime of the proposed project. The remaining acreage would be reclaimed (reseeded only or recontoured and reseeded) during post-construction reclamation. If post-construction and post-production reclamation are successful, the alfalfa vegetation community would become re-established within the proposed project area. However, the re-establishment of a mature, native plant community could require decades, and it is possible that the plant community could never fully recover from disturbance (BLM 2003a, 4 – 18).

Construction equipment would cause increased noise levels in the vicinity of the proposed project areas. Occasional human and vehicle presence within the vicinity of the proposed project area would increase above present levels. Audial and visual disturbances associated with the proposed project could cause indirect habitat loss by deterring BLM SSS from using available habitat adjacent to the proposed project area.

Cumulative Impacts

The spatial analysis area for SSS includes the proposed project area and an approximately 2-mile radius around the proposed project area. Within the spatial analysis area, there is existing disturbance; reasonably foreseeable future disturbance is possible, although no future projects are currently known. Existing and reasonably foreseeable future disturbances within the spatial analysis area include the following:

- 210 active oil and/or gas wells and associated well pads
- 34 plugged oil and/or gas wells
- Approximately 3 miles of U.S. Highway 64
- Approximately 11 miles of County Roads
- Approximately 64 miles of other roads
- Numerous utility corridors
- Livestock wildlife grazing
- Few scattered rural residences

Habitat disturbance and fragmentation in the spatial analysis area is primarily the result of oil and gas development (including well pads, access roads, and well-connect corridors), agriculture, and residential development. The direct and indirect habitat disturbance, fragmentation, and human activities associated with these disturbances could deter wildlife from utilizing portions of the analysis area. The proposed action would contribute to direct and indirect habitat disturbance and fragmentation in the analysis area.

3.5. Cultural Resources

3.5.1. Affected Environment

The proposed project area is located within the archaeologically rich San Juan Basin of northwestern New Mexico. In general, the history of the San Juan Basin can be divided into five major periods: PaleoIndian (circa [ca.] 10,000 B.C. to 5,500 B.C.); Archaic (ca. 5,500 B.C. to A.D. 400); Basketmaker II-III and Pueblo I-IV (aka Anasazi; A.D. 1-1,540); and historic (A.D. 1,540 to present), which includes Native American as well as later Hispanic and Euro-American settlers. Detailed descriptions of these various periods are provided in the BLM-FFO PRMP/FEIS (BLM 2003a, 3-65 – 3-84) and will not be reiterated here. Additional information can also be found in an associated documented, the Cultural Resources Technical Report (Science Applications International Corporation 2002).

Cultural sites vary considerably, and can include, but are not limited to, simple artifact scatters, domiciles of various types with a myriad of associated features, rock art and inscriptions, ceremonial/religious features, and roads and trails.

The proposed action was reviewed by BLM-FFO cultural resources staff at a BLM Class I (literature/records review) level. The staff concluded that human activity within the last 50 years (farming and land leveling) had created a new land surface to such an extent as to eradicate traces of cultural properties (BLM In-House Archaeological Survey Determination NM-210-2015-4) No TCPs are known to exist in the APE.

3.5.2. Impacts from the Proposed Action

Direct and Indirect Impacts

There are no cultural sites within the APE. The proposed action is not known to physically threaten any TCP's, prevent access to sacred sites, prevent the possession of sacred objects, or interfere or otherwise hinder the performance of traditional ceremonies/rituals. The Proposed Action will have no direct or indirect impacts on cultural sites.

Cumulative Impacts

There will be no negative cumulative impact on cultural resources as no cultural sites are present.

4. SUPPORTING INFORMATION

4.1. List of Preparers

This EA was prepared by NCI in conformance with the standards of and under the direction of the BLM-FFO. The following individuals assisted in the preparation of this EA:

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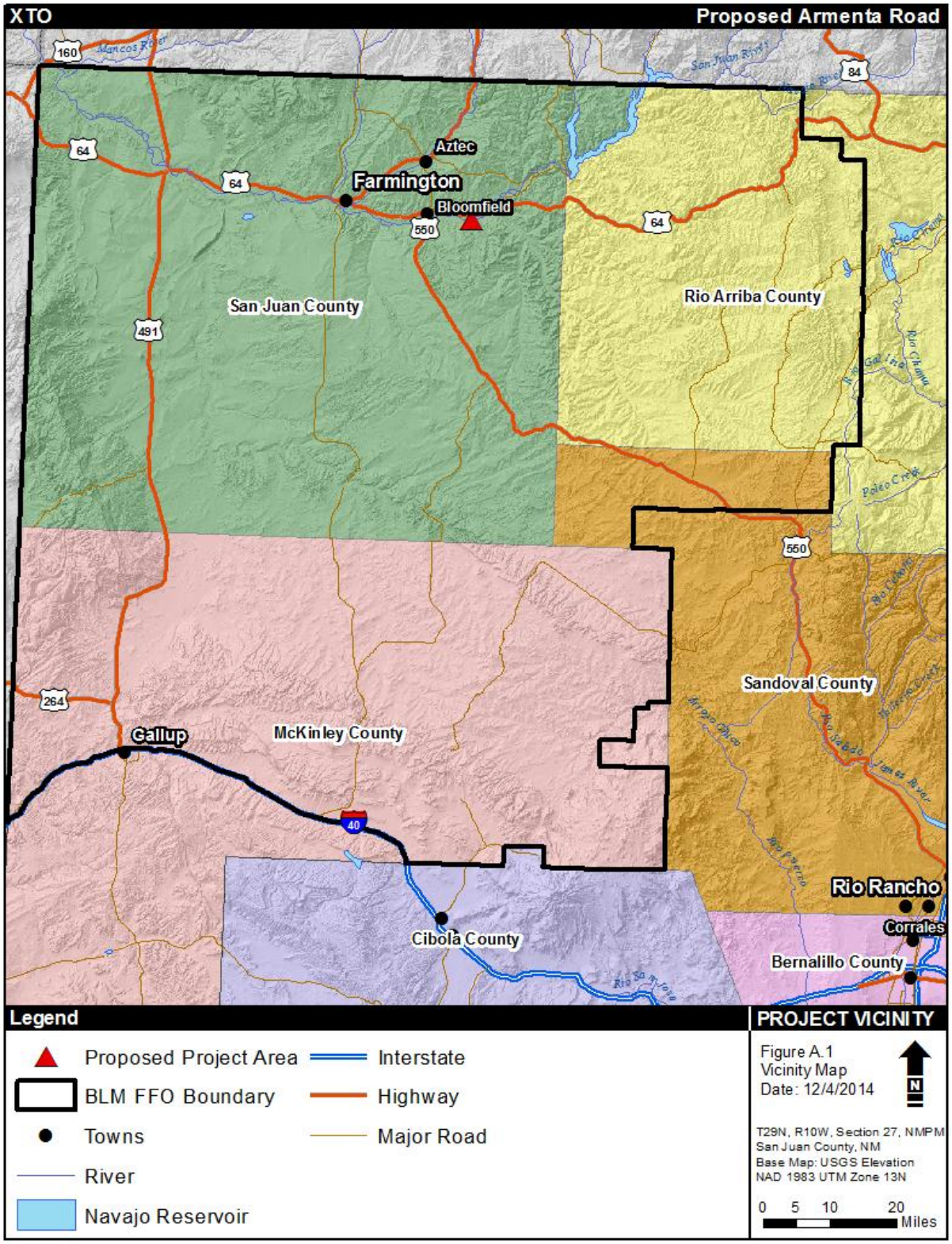
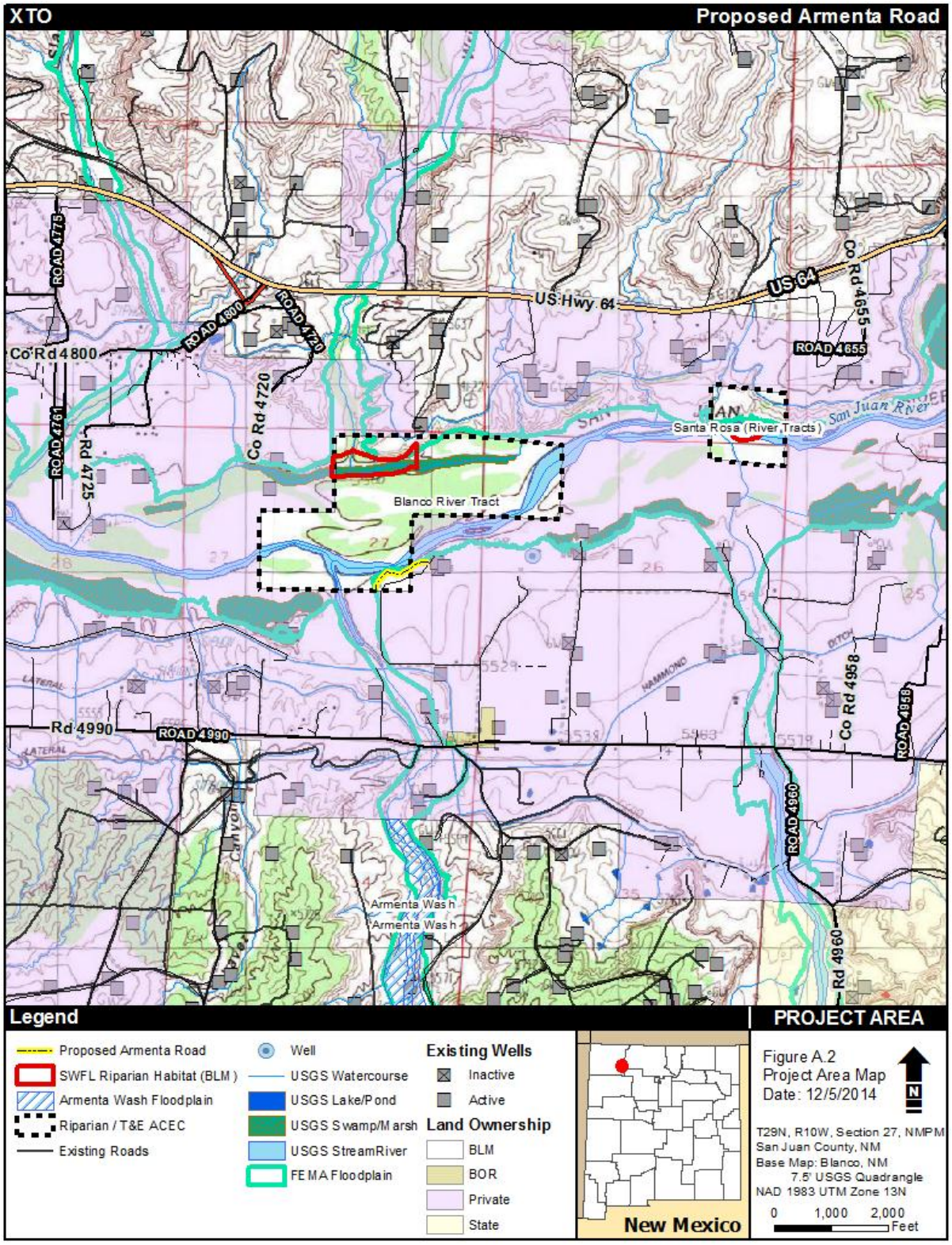
APPENDIX A. MAPS

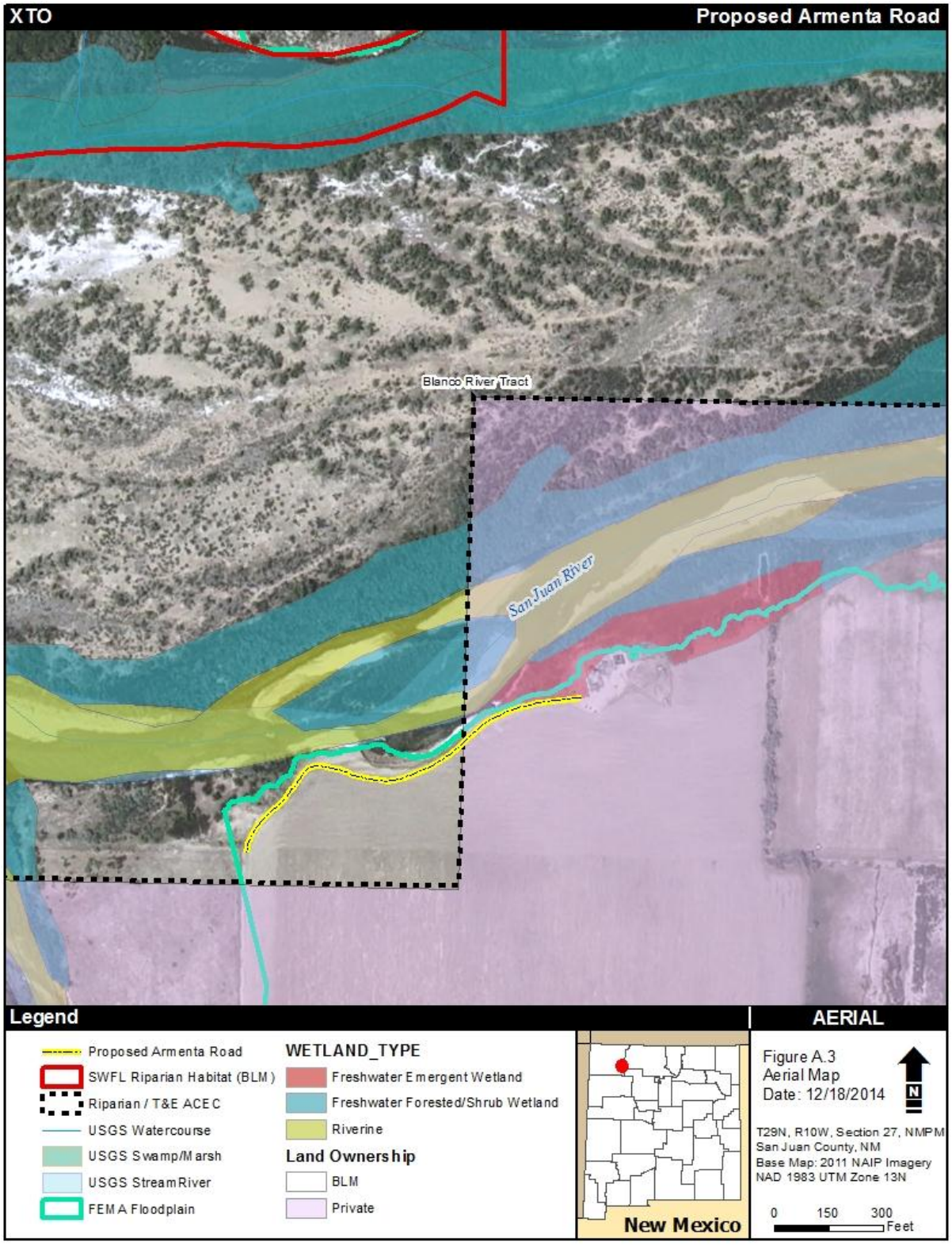
A.1. Vicinity Map



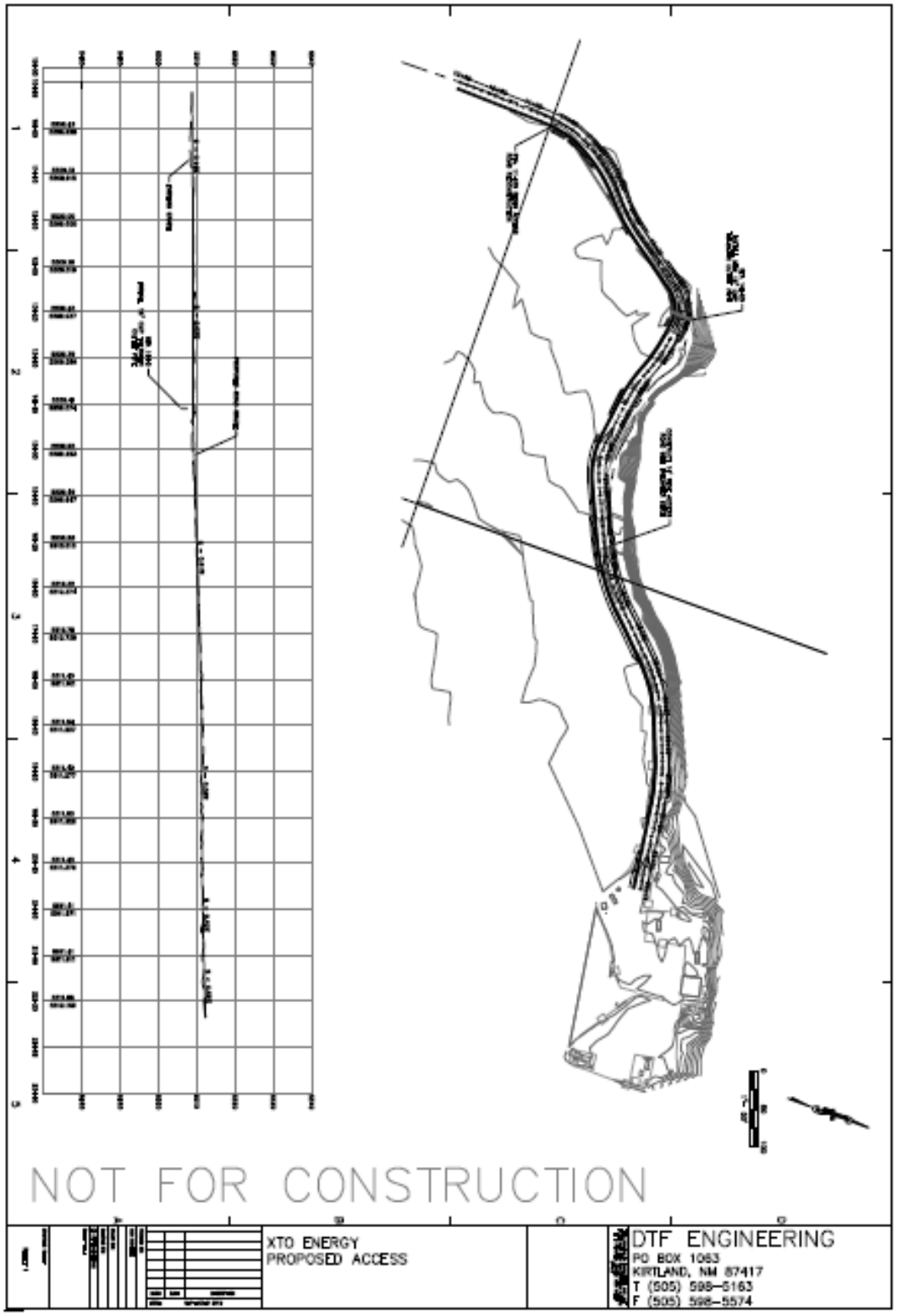
A.2. Project Area Map



A.3. Aerial Map



APPENDIX B. PLAT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APPENDIX C. PHOTOGRAPHS

Proposed Access Road: From end (northeastern terminus) of proposed access road, looking westward toward existing road.

Proposed Access Road: From start (southwestern terminus) of proposed access road, looking northeastward towards existing well pad.

APPENDIX D. SURFACE RECLAMATION PLAN