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DCP Midstream's Lea County Lateral Pipeline Project in Lea County, New Mexico, and Gaines and Andrews Counties, Texas

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List of Acronyms and Abbreviations

°F	degrees Fahrenheit
$\mu g/m^3$	micrograms per cubic meter
APE	area of potential effect
API	American Petroleum Institute
AQB	Air Quality Bureau
AQRV	air quality related value
ASME	American Society of Mechanical Engineers
BA	Biological Assessment
BLM	Bureau of Land Management
BISON-M	Biota Information System of New Mexico
BMPs	Best management practices
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFO	Carlsbad Field Office
CFR	Code of Federal Regulations
CH_4	methane
CIAA	cumulative impact analysis areas
CMA	Core Management Area
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COA	Condition of Approval
CR	County Road
DCP	DCP Midstream, LP
DSL	dunes sagebrush lizard
EA	environmental assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
GHG	greenhouse gas
H_2S	hydrogen sulfide
HAP	hazardous air pollutant
HDD	horizontal directional drilling
HEA	Habitat Evaluation Area
HUC	Hydrologic Unit Code
IMP	Integrity Management Plan
IPA	Isolated Population Area
IPCC	Intergovernmental Panel on Climate Change
LPC	lesser prairie-chicken
MAOP	maximum allowable operating pressure
MBTA	Migratory Bird Treaty Act
MSDS	Material Safety Data Sheet
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NATA	National Scale Air Toxics Assessment
NEPA	National Environmental Policy
NGL	natural gas liquid
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NMAAQS	New Mexico Ambient Air Quality Standards
NMDA	New Mexico Department of Agriculture

NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environment Department
NMOCD	New Mexico Oil Conservation Division
NMOSE	New Mexico Office of the State Engineer
NO_2	nitrogen dioxide
NRHP	National Register of Historic Places
NWP 12	Nationwide Permit 12
NWS	National Weather Service
O_3	ozone
OSHA	U.S. Department of Labor, Occupational Health and Safety Administration
Pb	lead
PCBs	polychlorinated biphenyls
PL	Public Law
$PM_{2.5}$	particulate matter equal to or less than 2.5 microns in diameter
PM_{10}	particulate matter equal to or less than 10 microns in diameter
POD	Plan of Development
PPA	Primary Population Area
ppb	parts per billion
ppm	parts per million
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
RCRA	Resource Conservation and Recovery Act
RFFA	reasonably foreseeable future action
RMP	Resource Management Plan
RMPA	Resource Management Plan Amendment
ROD	Record of Decision
ROW	right-of-way
SCAQMD	South Coast Air Quality Management District’
SIP	State Implementation Plan
SLO	New Mexico State Land Office
SO_2	sulfur dioxide
SPRP	Spill Prevention and Response Plan
SSPA	Sparse and Scattered Population Area
SWCA	SWCA Environmental Consultants
TCEQ	Texas Commission on Environmental Quality
TCP	Traditional cultural properties
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound
VRM	visual resource management

1 PURPOSE AND NEED FOR ACTION

1.1 Background

DCP Midstream, LP (DCP) has submitted a Standard Form 299 Right-of-Way (ROW) application to the Bureau of Land Management (BLM) Carlsbad Field Office (CFO) requesting the long-term use of public lands for the purpose of constructing and operating a 66-mile natural gas liquid (NGL) 12-inch-diameter pipeline in southeast New Mexico and west Texas, herein referred to as the "project." The BLM would serve as lead federal agency for the undertaking.

The BLM has assigned this project the ROW case file number: NM-132534. The proposed pipeline segment would transport NGLs from the proposed Zia II Gas Plant in Lea County, New Mexico, to the existing Sand Hills Pipeline at DCP's Fullerton Gas Plant in Andrews County, Texas. (Figure 1.1; Appendix A: Maps). The legal description for the proposed pipeline is listed in Table 1.1.

Table 1.1. Legal Description of Proposed Pipeline

Name	State	Legal Description	
12-inch-diamter Lea County Lateral Pipeline	New Mexico	T19S, R32E, Sections 19,20,27,28,29,34,35,36	Lea County
		T19S, R33E, Sections 31	Lea County
		T20S, R33E, Sections 1,2,3,4,5,6	Lea County
		T20S, R34E, Sections 1,2,3,4,5,6	Lea County
		T20S, R35E, Sections 1,2,3,4,5,6	Lea County
		T19S, R35E, Sections 36	Lea County
		T19S, R36E, Sections 31,32,33,34,35,36	Lea County
		T19S, R37E, Sections 31,32,33,34,35,36	Lea County
		T19S, R38E, Sections 31	Lea County
		T20S, R38E, Sections 1,2,3,4,5,6	Lea County
		T20S, R29E, Sections 6	Lea County
		T19S, R39E, Sections 31,32	Lea County
	Texas	Abstract 12, Sections 16,17,18,23	Gaines County
		Abstract 28, Sections 2,3,9,11,12,20	Gaines County
		Abstract 30, Sections 5, 51/2, 6,7,11	Gaines County
		Abstract 30, Sections 5	Andrews County
		Abstract 31, Sections 15,16,17,23,24	Andrews County
		Abstract 37, Sections 2,3,9,10,11	Andrews County
		Abstract 32, Sections 15,16,17	Andrews County

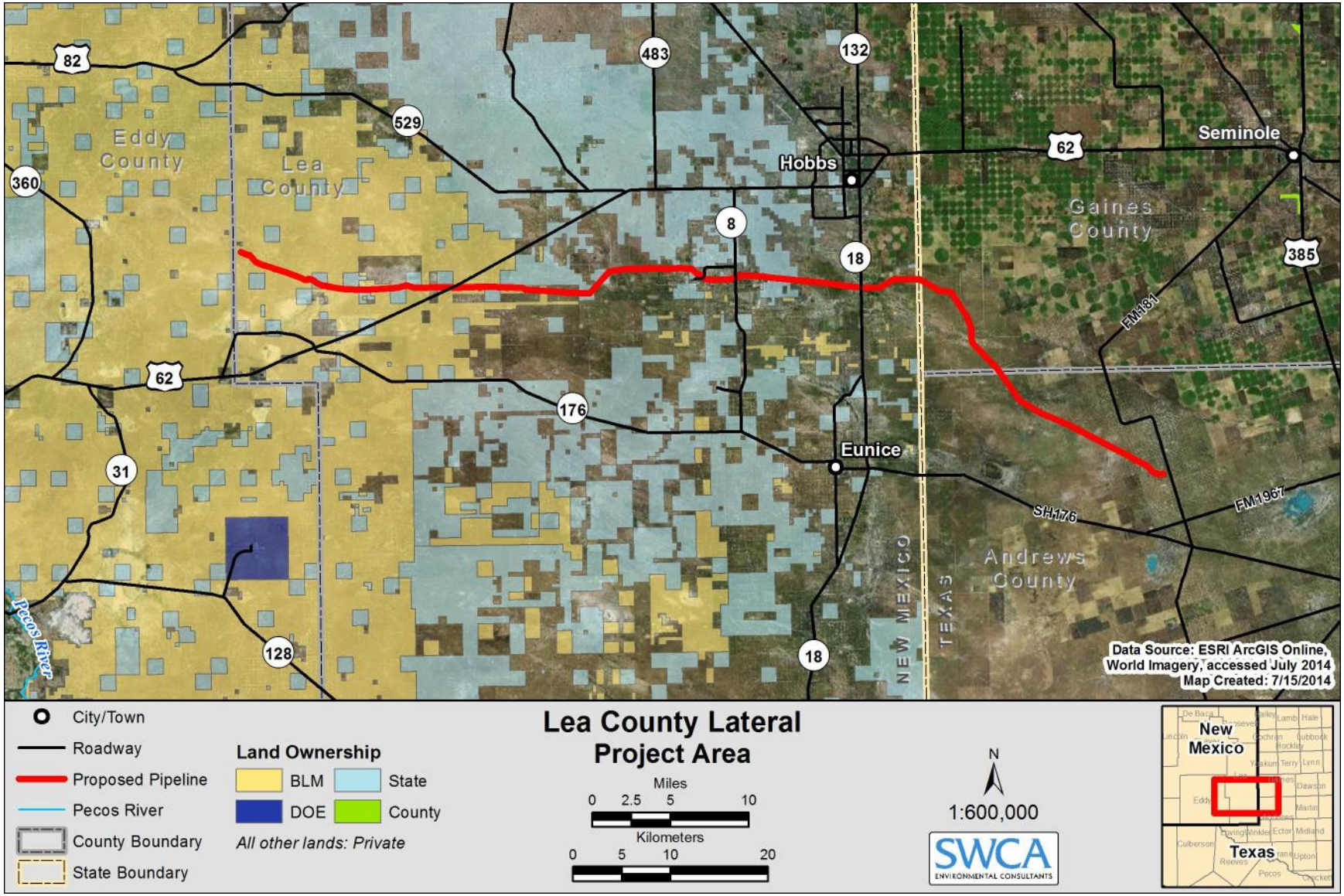

Figure 1.1. Project location map.

DCP is requesting a 75-foot-wide ROW grant from the BLM CFO—to include 30 feet of permanent ROW and 45 feet of temporary workspace. The pipeline would primarily be below ground but would have some associated aboveground appurtenant facilities. The appurtenant facilities would include pig launcher/receiver facilities, metering facilities, and several block valves. The legal descriptions for the appurtenant facilities are shown in Table 1.2.

Table 1.2. Legal Description of Aboveground Appurtenant Facilities

Name	Size (feet)	Legal Description	County
Zia II Custody Meter Station, 12-inch Launcher and Valve #1	Within the Zia II Gas Plant	T19S, R32E, SW¼, Section 19	Lea County, NM
Valve #2	30 × 100 feet	T19S, R33E, Section 31	Lea County, NM
Valve #3	30 × 100 feet	T20S, R34E, Section 4	Lea County, NM
Valve #4	30 × 100 feet	T19S, R36E, Section 31	
Valve #5	30 × 100 feet	T19S, R37E, Section 35	Lea County, NM
Valve #6	30 × 100 feet	T20S, R38E, Section 1	Lea County, NM
Valve #7	30 × 100 feet	Abstract 28, Section 7	Andrews County, TX
Zia II Segmentation Meter Station and 16-inch Receiver	Within Fullerton Gas Plant	Abstract 32, Section 17	Andrews County, TX

As part of the application process, a Plan of Development (POD) is required and has been prepared. The appropriate information from the POD has been incorporated into the Proposed Action of this environmental assessment (EA).

SWCA Environmental Consultants (SWCA) conducted a biological survey of the proposed disturbance areas and the results of that survey are included in the biological assessment (BA), which is included as Appendix B to this EA (SWCA 2014). Additionally, SWCA prepared cultural resources inventory reports for the proposed project (Sisneros et al. 2014a, 2014b). SWCA conducted an archaeological survey of the project area to aid in complying with Section 106 of the National Historic Preservation Act (NHPA). The majority of the land is managed by the BLM CFO within the Permian Basin Programmatic Agreement area. Biological and cultural resources surveys were conducted in May and June 2014.

This EA complies with the requirements of the National Environmental Policy Act of 1969 (NEPA) and federal regulations found in 40 Code of Federal Regulations (CFR) Chapter V. The project record contains an interdisciplinary analysis to support the findings in this document. This EA analyzes the site-specific impacts associated with the Proposed Action and its alternatives, identifies mitigation measures to potentially reduce or eliminate those impacts, and provides agency decision makers with detailed information with which to approve or deny the Proposed Action or an alternative.

1.2 Purpose and Need for Action

The BLM's purpose is to provide DCP with the legal use of, and access across, public lands managed by the BLM by granting a ROW. The BLM's mandate for multiple uses of public lands includes development of energy resources in a manner that conserves the multitude of other resources found on public lands. The need for the action is established by the BLM's responsibility under the Federal Land Policy and Management Act (FLPMA) to respond to an application for an ROW grant for use of federal land.

The applicant's purpose is to safely and efficiently transport NGLs from the Zia II Gas Plant to market. As exploration and production companies continue to drill for natural gas in the region, there is a need for the infrastructure to gather, process, and distribute the gas. DCP is in the process of constructing a new gas plant in Lea County, New Mexico, known as the Zia II Gas Plant. The Zia II Gas Plant and associated gathering pipeline was issued a BLM Grant on December 31, 2013 (NM-130191/NM-130191A). The

plant is scheduled to be in service June 2015. In addition to the 200 million cubic foot per day of natural gas that would be processed by the Zia II Gas Plant, an additional approximate 18,000 barrels per day of NGLs would be produced by the Proposed Action. NGLs comprising butane, pentane, propane, etc., are an important component of the refining and chemical manufacturing process.

1.3 Conformance with Applicable Land Use Plan(s)

The Proposed Action is in conformance with the 1988 Carlsbad Resource Management Plan (RMP) (BLM 1988). The 1988 RMP has been amended twice—once in 1997 and again in 2008. The 1997 Carlsbad Approved Resource Management Plan Amendment (RMPA) and Record of Decision (ROD) (BLM 1997) was developed to address management of oil and gas resources. The 2008 Special-Status Species Approved RMPA and ROD (BLM 2008a) was developed to address management of the lesser prairie-chicken (*Tympanuchus pallidicinctus*; LPC) and the dunes sagebrush lizard (*Sceloporus arenicolus*; DSL). The 1988 RMP, as amended, provides for the integrated multiple use and sustained yield of resources for the planning area.

The 1988 RMP complies with the multiple use mandates established by FLPMA and the 43 CFR 1600 regulations governing multiple use planning. It allows the oil and gas industries reasonable opportunities to lease and explore, while protecting sensitive areas and other resources. Continuing management guidance states, “Public lands would remain open and available for mineral exploration and development unless withdrawal or other administrative action is necessary to protect other resource values” (BLM 1988:13).

The Pecos District Office, which includes the CFO and the Roswell Field Office, uses the “BLM General Requirements for Oil and Gas Operations on Federal Lands” as a Condition of Approval (COA) that describes general requirements and standard plan operations for oil and gas operations and ROWs as outlined in Appendix 2 of the Carlsbad Approved RMPA and ROD (BLM 1997:Appendix 2:1-21) and the 2008 RMPA and ROD (BLM 2008a:2-3).

Utility corridors are recognized as an appropriate use of public lands by the BLM CFO 1988 RMP (BLM 1988:10-11), which provides management direction for designation of ROW corridors. The BLM encourages applicants to locate new facilities within designated ROW corridors. Deviations from designated corridors may be permitted based on the type and need of the proposed facility and lack of conflicts with other resource values and uses. In order to comply with Section 368 of the Energy Policy Act of 2005, the Pecos District would designate utility corridors for major projects such as interstate electric transmission lines, pipelines, and communications lines for interstate use (BLM 2008a:2-12).

The 2008 RMPA states:

> New projects of the type described above [utility corridors for major projects such as interstate electric transmission lines; pipelines; and communications lines for interstate use] that propose to cross the Planning Area would be evaluated based on the impacts to lesser prairie-chicken and sand dune lizard habitats and other resources to meet the overall objectives of this plan. These projects would not be located in ROW avoidance areas if other routes can meet the purposes of the project. (BLM 2008a:2-13)

Impacts from the Proposed Action on the LPC and DSL are discussed in Section 3.5 and in the BA (see Appendix B). In addition, the Proposed Action is not located in a ROW avoidance area. Therefore, the Proposed Action is in conformance with the RMP, as amended.

1.4 Relationship to Statutes, Regulations, or Other Plans

Various federal and state agencies regulate different aspects of oil and gas infrastructure development. Table 1.3 lists the environmental permits and approvals that could be required for the proposed project.

Table 1.3. Potential Permits, Approvals, and Clearances Needed for Construction, Operation, and Maintenance of Facilities

Permit/Notification	Issuing Agency	Status
Federal Permit, Approval, or Clearance		
ROW grant	BLM	Subject of this application.
Clearance under Section 7 of the Endangered Species Act	U.S. Fish and Wildlife Service	Surveys were conducted. Findings are described in Section 3.5 and 3.6 and in the BA (see Appendix B).
Clean Water Act Section 404 Permit	U.S. Army Corps of Engineers	Surveys indicate that the route does not cross any wetlands, but does cross multiple potentially jurisdictional water bodies. These water bodies would either be open cut or bored per Nationwide Permit 12. No pre-construction notification would be required.
State Permit, Approval, or Clearance		
ROW grant	New Mexico State Land Office	Subject of this application.
Clearance under Section 106 of the NHPA	New Mexico State Historic Preservation District, and Texas Historical Commission	Cultural resources surveys were conducted. Findings are described in Section 3.7 and the associated cultural resources reports.
Tribal communications: consultation to determine if the proposed project would have any impact on receptors of cultural importance	Native American tribes	Findings are described in Section 3.7 and the associated cultural resources reports.
Section 401 Permit	New Mexico Environment Department, Texas Commission on Environmental Quality	The Section 401 permit is issued as part of U.S. Corps of Engineers Nationwide Permit 12.
Clean Water Act Section 402 General Construction (Stormwater) Permit	New Mexico Environmental Department, Texas Commission on Environmental Quality	Exempt Final Rule: Amendments to the Storm Water Regulations for Discharges Associated with Oil and Gas Construction, effective June 12, 2006.
Hydrostatic test permit	New Mexico Environmental Department, Texas Railroad Commission	Permit application to be submitted and approved prior to any discharge of hydrostatic test water.

1.4.1 Council on Environmental Quality Regulations

Parts 1500 through 1508 of the Council on Environmental Quality (CEQ) regulations (40 CFR 1500.3) provide stipulations applicable to and binding for all federal agencies for implementing the procedural provisions of NEPA, “except where compliance would be inconsistent with other statutory requirements.”

Additionally, the ROW grant holder is required to:

- comply with all applicable federal, state, and local laws and regulations;
- implement the Proposed Action in a way that is as consistent as possible with local, county, or state plans.

1.4.2 Endangered Species Act of 1973

The Endangered Species Act of 1973 (ESA) requires all federal departments and agencies to conserve threatened, endangered, and critical and sensitive species and the habitats on which they depend and to consult with the U.S. Fish and Wildlife Service (USFWS) on all actions authorized, funded, or carried out by the agency to ensure that the action would not likely jeopardize the continued existence of any threatened and endangered species or adversely modify critical habitat. Consultation with the USFWS, as required by Section 7 of the ESA, was conducted as part of the 2008 Special-Status Species RMPA and ROD (Consultation No. 22420-2007TA-0033) to address cumulative effects of RMP implementation (BLM 2008a). The consultation is summarized in Appendix 10 of the RMPA. The BLM has conducted consultation with the USFWS for this Proposed Action.

1.4.3 Clean Air Act

The Clean Air Act of 1970, as amended, establishes National Ambient Air Quality Standards (NAAQS) to control air pollution. The New Mexico Environment Department (NMED) Air Quality Bureau (AQB) and the Texas Commission on Environmental Quality (TCEQ) oversees air quality regulations and standards for stationary sources of air pollution. Impacts to air quality from oil and gas exploration and development are controlled by mitigation measures developed on a case-by-case basis. As part of the planning and decision-making process, the BLM must consider and analyze the potential effects of its activities on air resources. The Proposed Action would be in compliance with the NAAQS for potential air pollution from the proposed project activities. This EA discusses the impacts to air quality in Section 3.1.

1.4.4 National Historic Preservation Act

Heritage resources are protected by the NHPA (Public Law [PL] 89-665), as amended, and its implementing regulations (36 CFR 800) and other legislation, including NEPA (PL 91-852) and its implementing regulations (40 CFR 1500–1508). Other relevant laws include the Antiquities Act of 1906 (PL 52-209), the Archaeological and Historical Conservation Act of 1974 (PL 93-291), the Archaeological Resources Protection Act of 1979 (PL 96-95) and its regulations (36 CFR 296), the American Indian Religious Freedom Act (42 United States Code [USC] 1996), and the Native American Graves Protection and Repatriation Act of 1990 (PL 101-601). Executive Order (EO) 11593 of 1971 also requires that cultural resources be protected. Compliance with Section 106 responsibilities of the NHPA is achieved by following the BLM–New Mexico State Historic Preservation Office protocol agreement, which is authorized by the National Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. The BLM has conducted consultation with the NM State Historic Preservation Office and the Texas Historical Commission regarding this Proposed Action.

1.4.5 Clean Water Act

The Federal Water Pollution Control Act, commonly known as the Clean Water Act (codified at 40 CFR 112), protects surface water resources from pollution. The U.S Army Corps of Engineers (USACE) has jurisdiction of navigable waters of the U.S.

Section 401 of the federal Clean Water Act, which through state certification by the NMED requires the USACE to meet state water quality regulations prior to granting a Section 404 permit for discharges of dredge or fill material in waters of the U.S. All federal consultations, including the ESA, must be completed prior to USACE issuance of Section 404 authorizations.

The Proposed Action does not cross any wetlands, but does cross three water bodies that may be considered waters of the U.S.; therefore, a Section 404 permit and Section 401 certification would be required. Construction across the water bodies would be in accordance with the USACE's Nationwide Permit 12 (NWP 12) for Utility Line Activities.

Due to the Amendments to the Storm Water Regulations for Discharges Associated with Oil and Gas Construction, effective June 12, 2006, DCP is exempt from needing a National Pollution Discharge Elimination System Permit; however, they must use best management practices to prevent erosion and sedimentation into waters of the U.S. under Section 402 of the Clean Water Act.

1.5 Scoping, Public Involvement, and Issues

Appropriate scoping helps identify issues, resources, and resource uses that could be impacted, reducing the chances of overlooking a potentially significant issue or reasonable alternative. Scoping takes place both internally within the BLM via meetings with resource specialists, as well as externally where the public is invited to comment.

The BLM's interdisciplinary team of resource specialists conducted internal scoping on the Proposed Action in June 2014, and identified several resource issues regarding the Proposed Action. In addition, the project description and location was posted to the BLM"s website, as well as the Carlsbad and Hobbs newspapers, beginning on July 2, 2014, for a 30-day public scoping comment period. Internal and external resource issues identified for the project are listed in Table 1.4.

In addition, the BLM CFO published a NEPA log for public inspection. This log contained a list of proposed and approved actions in the CFO planning area. The log is located on the BLM New Mexico website (http://www.blm.gov/nm/st/en/prog/planning/nepa_logs.html).

Table 1.4. Internal and External Resource Issues

Resource	Issue
Air Resources	How would fugitive dust and combustion emissions generated by project construction and operations affect air resources and climate?
Soils	How would the surface disturbance associated with the proposed project affect soils and erosion? Would the proposed project impact any gypsum soils or open dunes?
Water Resources	How would the proposed project affect mapped U.S. Geological Survey drainages?
Upland Vegetation	What type of vegetative cover types would be impacted by the Proposed Action? Would the project contribute to the spread of noxious weeds and invasive species?
Wildlife and Special-Status Species	How would the proposed project and associated noise impacts affect habitat for wildlife and migratory birds? How would the proposed project and associated noise impacts affect special status species with the potential to occur in the project area, including habitat for the LPC and DSL?
Cultural Resources	How would surface-disturbing activities affect cultural resources? Is there potential for cumulative or indirect impacts to known archaeological sites?
Visual Resources	How would project construction impact visual resources?
Livestock Grazing	How would the proposed project impact livestock grazing in the vicinity of the proposed pipeline, specifically fence crossings and water line crossings?
Public Health and Safety	How would proposed project construction and ongoing activities impact public health and safety? How would the project contribute to traffic levels on county roads in the vicinity of the proposed project?

1.5.1 Issues Considered but Not Analyzed

The following issues were considered but not analyzed in detail in this EA.

Native American Religious Concerns

For the Proposed Action, identification efforts for Native American religious concerns were limited to reviewing existing published and unpublished literature, the site-specific cultural resources Class III survey report prepared for the Proposed Action (Sisneros et al. 2014a, 2014b), and the BLM's cultural resources program regarding the presence of traditional cultural properties (TCPs) identified through ongoing BLM tribal consultation efforts. 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 (42 USC 1996) or EO 13007.

Socioeconomics

As a belowground pipeline transport system with existing origination and destination points, few new long-term jobs would be created by the proposed project following the initial construction phase. The State of New Mexico would realize some revenues from product shipped in the proposed pipeline. Impacts to the local economy would be positive, though few in comparison to the overall economy. The project as proposed would enable DCP to support development of the oil and gas industry and specifically the growth of NGL extraction development for New Mexico.

2 PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

DCP has submitted an application for ROW to install approximately 66 miles of 12-inch pipeline and associated aboveground appurtenant facilities. The proposed pipeline would originate at the Zia II Gas Plant in Lea County, New Mexico, and proceed east-southeast to the Sand Hills Pipeline at DCP's Fullerton Gas Plant in Andrews County, Texas. The proposed ROW would be 75 feet wide and would include 30 feet of permanent ROW and 45 feet of temporary ROW workspace. The width of the ROW is dependent on several factors including the diameter of the pipe, the nature of the soil in the area, depth and presence of foreign line crossings, safety of project personnel, and locations of nearby sensitive areas. A 75-foot width makes it possible to excavate for a 12-inch pipe in sandy soils AND keep the subsoil and topsoil from mixing. The 75-foot ROW also allows for the equipment to operate safely without impacting soil stockpiles or creating unnecessary congestion. DCP would make every effort to minimize use of the ROW where possible.

The pipeline would cross BLM-managed land, New Mexico State Land Office (SLO) land, and privately owned land in both New Mexico and Texas (see Appendix A). Table 2.1 shows the mileage and acreages of surface disturbance by landownership type.

Table 2.1. Acreages and miles of Proposed ROW and Surface Disturbance by Landownership

Project Element	Land Ownership (Miles)	Acreage Included in the Proposed ROW (75-foot width)
66-mile proposed pipeline	BLM (16)	141
	SLO (10)	93
	Private (40)	364
Total	***66***	***598***

Disturbance associated with the Proposed Action (598 acres) would be primarily short term, as the entire pipeline length would be reclaimed following construction. Approximately 0.42 acre would be disturbed in the long term for associated aboveground valve stations (see Table 1.2 above for a list of aboveground valve stations). The Proposed Action would consist of three phases: construction, stabilization and rehabilitation, and operations and maintenance. These phases are described in detail below.

2.1.1 Construction Phase

Construction of the project would begin in January 2015 (or earlier if granted) and be completed by May 2015. The projected in-service date for the Proposed Action is June 2015.

Standard pipeline construction techniques would be employed along the pipeline route, which includes the following:

- **Survey and Staking**: Before the start of construction, DCP would complete land or easement acquisition. DCP would then mark the limits of the approved work area (i.e., the construction ROW boundaries and temporary extra workspaces, and the pipeline centerline), and flag the location of approved access roads. Affected landowners would be notified prior to surveying and staking activities. Environmentally sensitive areas would be marked or fenced for protection. Prior to construction, DCP contractors would contact the "811-Call before Dig" system to verify and mark all underground utilities (i.e., cables, conduits, and pipelines) to prevent accidental damage during construction.
- **Clearing and Grading:** The construction work area would be cleared and graded where necessary to provide a smooth and even work area to facilitate the safe movement of equipment and personnel. The construction ROW would be bladed for to a maximum of 60 feet of the total 75-foot ROW width. The remaining 15 feet would have vegetation removal but no topsoil

disturbance. Stumps, brush, and tree limbs would be removed from the ROW to approved disposal locations or made available to landowners upon request. Approximately 6 inches of topsoil would be stripped from either the full work area or from the trench and subsoil storage area. Topsoil would be stockpiled separately from the trench spoil along the edge of the construction ROW for respreading during restoration.

- **Trenching:** The trench would be excavated with a backhoe or ditching machine to a depth sufficient to provide the minimum cover required by DCP specifications. Typically, the trench would be approximately 5 to 6 feet deep to allow for at least 3 feet of cover. In areas with consolidated rock, the minimum cover would be at least 18 inches. In certain areas, deeper burial would be required resulting in an increased trench depth.
- **Pipe Stringing, Bending, and Welding:** Steel pipe would be procured in 40-foot lengths (referred to as joints), protected with an epoxy coating applied at the factory, and shipped to the project area. The individual joints would be transported to the ROW by stringing truck and placed on temporary supports along the excavated trench in a single, continuous line or "string." Some bending of the pipe would be required to enable the pipeline to follow natural grade changes and direction changes of the ROW. Following stringing and bending, the joints of pipe would be aligned and welded according to applicable industry standards and DCP specifications.
- **Lowering-in and Backfilling:** Before the pipeline is lowered in, the trench would be inspected to be sure it is free of rocks and other debris that could damage the pipe or protective coating. If water is present in the trench, dewatering may be necessary to allow for inspection of the trench. Any trench dewatering would be accomplished in a manner designed to prevent heavily silt-laden water from flowing off the ROW. After the pipe is lowered into the trench, final tie-in welds would be made and inspected, and the trench would be backfilled. In rocky soils, padding or other protective coating would be used to prevent damage to the pipe coating. Previously excavated materials would be pushed back into the trench maintaining a similar soil profile. Segregated topsoil would be replaced last and the area graded to pre-disturbance contours.
- **Road Crossings:** Several roads would be crossed to install the pipeline (Table 2.2). Construction of the pipeline across major paved highways, paved roads, and unpaved roads where traffic cannot be interrupted would be accomplished by horizontal directional drilling (HDD) under the roadbed. The HDD method would involve drilling a hole under the canal or roadway and installing a pre-fabricated pipe segment through the hole. The first step in an HDD is to drill a small-diameter pilot hole from one side of the crossing to the other using a drill rig. As the pilot hole progresses, segments of drill pipe are inserted into the hole to extend the length of the drill. The drill bit would be steered and monitored throughout the process until the desired pilot hole has been completed. The pilot hole then would be enlarged using several passes of successively larger reaming tools. Once reamed to a sufficient size, a pre-fabricated segment of pipe would be attached to the drill string on the exit side of the hole and pulled back through the drill hole toward the drill rig. DCP anticipates all road HDDs to be drilled to a depth of minimum of 6 feet below the lowest point of the road or as required by the permitting entity. In the event of a frac-out (inadvertent return of drilling lubricant), efforts to prevent the spread of the mud would be used. The mud would be cleaned up and properly managed.

The open-cut method would only be used on smaller, unpaved roads and would require temporary closure of the road to traffic and establishment of detours. If no reasonable detour is feasible, at least one lane of the road being crossed would be kept open to traffic, except during brief periods when it is essential to close the road to install the pipeline. The trench would be excavated and the pipe installed using the standard cross-country construction methods described above. The pipeline would be buried to the depth required by applicable road crossing permit/approvals and would be designed to withstand anticipated external loadings.

Table 2.2. Locations of Proposed Federal, State, and County Road Crossings

Road Name	Crossing Method	Legal Description
County Road (CR) 126A	Bore	T19S, R32E, Section 20, Lea County, NM
CR 55 Laguna Rd	Bore	T20S, R33E, Section 5 Lea County, NM
Smith Ranch Road	OC	T20S, R33E, Section 4 Lea County, NM
CR 55 Smith Ranch Road	Bore	T20S, R33E, Section 1 Lea County, NM
U.S. 62/180 Carlsbad Hwy	Drill	T20S, R34E, Section 5, Lea County, NM
CR 27-A	Bore	T20S, R34E, Section 1, Lea County, NM
Willow Tree Road	OC	T20S, R35E, Section 4, Lea County, NM
Unnamed Road	OC	T19S, R36E, Section 31, Lea County, NM
CR 46	Bore	T19S, R36E, Section 32, Lea County, NM
Hess Lane	OC	T19S, R36E, Section 35, Lea County, NM
SH 322 Monument Hwy	Bore	T19S, R36E, Section 36, Lea County, NM
CR 41 Maddox Road	Bore	T19S, R37E, Section 31, Lea County, NM
SR 8 Cooper Street	Bore	T19S, R37E, Section 33, Lea County, NM
Cemetery Road	Bore	T19S, R37E, Section 34, Lea County, NM
SR 18/45	Drill	T20S, R38E, Section 2, Lea County, NM
St. Line Road	Bore	T19S, R39E, Section 32, Lea County, NM
CR NW 9500	Bore	Abstract 31, Section 17, Andrews County, TX
CR NW 7001	Bore	Abstract 32, Section 15, Andrews County, TX
CR NW 8000	Bore	Abstract 32, Section 16, Andrews County, TX

- The construction for the pipeline would include a 75-foot-wide construction ROW during the installation of the proposed pipeline, consisting of 30 feet of permanent ROW and 45 feet of temporary construction workspace. Additional temporary workspace may also be required either for staging areas or other construction-related needs. The pipeline would be constructed with X-60, 0281-inch WT pipe and would have a maximum allowable operating pressure (MAOP) of 1440. Road crossings and bores would use 0.375-inch WT pipe. Main line valves would be located along the pipeline route approximately every 10 miles or near High Consequent Areas, such as populated areas. All of the valves are automated and controlled by DCP's control center in Houston. Power supply would be required for the valves and the origination of the power is still to be determined. To access the pipeline construction corridor and staging areas, DCP would use existing public roads and numerous private roads. All access roads would be clearly identified on the pipeline aerial alignment sheets and would be posted at the access point. If road crossing permits are required, they would be obtained prior to construction.
- The equipment required for construction of the pipeline and aboveground facilities would include trenchers, trackhoes, sidebooms, and other tractors. In addition, personal trucks, welding trucks, cranes, and flatbed trailers would be required. The majority of heavy equipment that would be necessary would remain on the construction ROW, minimizing activity on public roads. Prior to construction if any loads are oversized or overweight the appropriate permits would be obtained by the contractor.

2.1.2 Stabilization and Rehabilitation Phase

DCP would incorporate measures to minimize areas that are disturbed during construction and would return any disturbed acreage to its pre-disturbed state as quickly as feasible upon conclusion of the construction of the project and aboveground facilities.

Pipeline Rights-of-Way

DCP would conduct stabilization and rehabilitation activities in accordance with the BLM and landowner agreements, permit requirements, and written recommendations from the local soil conservation authority or other duly authorized agency.

Final stabilization and rehabilitation measures for pipeline ROWs, in general, involve regrading the disturbed area to near pre-disturbance contour, respreading topsoil, applying soil amendments if necessary, applying a prescribed seed mixture per BLM and/or landowner recommendation, mulching, and placing runoff and erosion control structures such as water bars, erosion control mats, and wattles (slope interruption devices). The goal of final reclamation is to 1) restore primary productivity of the site and establish vegetation that would provide for natural plant and community succession, and 2) establish a vigorous stand of desirable plant species that would limit or preclude invasion of undesirable species, including invasive, non-native species. To assist with the stabilization and rehabilitation of the pipeline ROWs during construction, topsoil would be handled separately from subsoil materials. At all construction sites, topsoil would be stripped to provide sufficient quantities to be respread to a depth of at least 4 to 6 inches over the disturbed areas to be reclaimed. Where soils are shallow or where subsoil is stony, as much topsoil would be salvaged as possible. Topsoil would be stockpiled separately from subsoil materials and marked with signs or identified on alignments sheets. Runoff would be diverted around topsoil stockpiles to minimize erosion of topsoil materials.

As soon as practicable after backfilling the trench, all work areas would be graded and restored to pre-construction contours and natural drainage patterns as closely as possible. Non-cultivated lands would be reseeded as soon as possible to minimize erosion following BLM and/or landowner recommendations for seed mixture, fertilizer, and other amendments. Per communication with the BLM CFO and comparison with similar projects in the region, it is reasonable to expect vegetation to be re-established along the pipeline corridor 2 years after construction. This assumes the project area would receive sufficient rainfall, proper seed bed preparation, appropriate seeding techniques, and a BLM prescribed seed mix.

If seasonal or weather conditions are not favorable, temporary erosion controls would be maintained until the area is revegetated. Surplus construction material and debris would be removed from the ROW unless otherwise approved. Fences and other existing infrastructure would also be returned to their pre-construction condition as approved by landowners and/or land management agencies.

Aboveground Facilities

Once construction is completed, the boundaries for the aboveground valve stations would be permanently identified with a 6-foot-high chain-link fence with three-strand barb-wire on top. Inside the fence line the area would be covered with 2 to 3 inches of ¾-inch road base and with a slope 1% to 3%. All vegetation within the fence line would be managed through the use of herbicides. Areas outside the fence line, which are cleared due to construction or other activities associated with the project, would be seeded with a native grass mixture or with some other suitable reclamation mixture approved of by the BLM or the landowner.

2.1.3 Operations and Maintenance Phase

The project would operate 24 hours a day, 7 days a week, 365 days a year. In the event of an emergency, staff from nearby plants can be called upon to provide support and direct safety operations as necessary. Operations personnel receive training in the proper operation of all equipment. All operators participate in the training for normal operating procedures, emergency procedures, and emergency response. DCP also maintains a drug and alcohol testing program. Operators receive extensive U.S. Department of Labor, Occupational Health and Safety Administration (OSHA) training in a

number of subjects, such as lockout/tagout, confined space, emergency response, and hazardous material handling.

DCP maintains environmental specialists on staff to ensure routine operations and maintenance activities are in compliance with all federal, state, and local regulations. DCP also has an extensive environmental training program, including training in spill prevention, waste management, and stormwater management. Operators are required to understand each of these subjects, how their activities may impact the environment, and how and when to install pollution control devices.

The project would be operated in a manner designed to protect the public and to prevent natural gas pipeline accidents and failures. The MAOP of the gathering pipelines would be above 1,000 pounds per square inch gauge (psig). The pipe wall thickness would range from 0.375 to 0.500 inch, with the thicker-walled pipe being used at road crossings. If a subsequent increase in population density adjacent to the ROW indicates a change in class location for the pipeline, DCP would reduce the MAOP or replace the segment with pipe of sufficient grade and wall thickness.

DCP has minimum standards for operating and maintaining pipeline facilities, including the requirement to establish a written plan governing these activities. DCP must establish an emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency. Key elements of the plan would include procedures for:

- Receiving, identifying, and classifying emergency events, such as gas leakage, fires, explosions, and natural disorders.
- Establishing and maintaining communication with local fire, police, and public officials and coordinating emergency response.
- Implementing emergency shutdown of system and safe restoration of services.
- Making personnel, equipment, tools, and materials available at the scene of an emergency.
- Protecting lives first and then property, making them safe from any actual or potential hazards.

DCP establishes and maintains liaisons with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a natural gas pipeline emergency and to coordinate mutual assistance. DCP participates in a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials. DCP would provide the appropriate training to local emergency service personnel before the pipeline is placed in service. No additional specialized local fire protection equipment would be required to handle pipeline emergencies.

To further reduce the likelihood of pipeline accident, DCP has developed a companywide comprehensive operations and maintenance program for pipelines. The purpose of this program is to prevent operational incidents and to effectively respond to any incident that may occur. Part of the program includes a written Integrity Management Plan (IMP) to maintain the integrity of the company's pipelines and to protect the public. The IMP has been reviewed by the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration and several state pipeline safety regulators in states where DCP operates. All changes recommended by the agencies have been incorporated into the IMP.

Pipeline facilities would be clearly marked at line-of-sight intervals and at crossings of roads, railroads, and other key points. The markers would clearly indicate the presence of the pipeline and provide a telephone number and address where a company representative could be reached in the event of an emergency or prior to any excavation in the area of the pipeline by a third party.

DCP participates in all existing "811-Call before Dig" systems. DCP uses "Irth" electronic excavation notice tracking software to manage one-call notifications. The Irth system logs all one-calls received by the company and assigns notifications to field personnel. The Irth system provides a positive feedback to the excavator as to the status of the locate request and the need to mark the pipeline.

DCP's pipeline systems are equipped with block valves. In the event of an emergency, usually evidenced by a sudden loss of pressure, the block valves allow for a section of pipeline to be isolated from the rest of the system. Data acquisition systems are also present at all of DCP's meter stations; if system pressures fall outside a predetermined range, an alarm is activated.

Routine inspections are conducted by pipeline personnel to identify soil erosion that may expose the pipe, dead vegetation that may indicate a leak in the line, conditions of the vegetative cover and erosion control measures, unauthorized encroachment on the ROW such as buildings and other substantial structures, and other conditions that could present a safety hazard or require preventive maintenance or repairs. The pipeline would be operated in a manner designed to protect the public and prevent accidents and failures.

Other applicable federal and state regulations, including OSHA requirements and U.S. Environmental Protection Agency (EPA) regulations, would also be followed during the operation and maintenance of the project. These regulations are intended to ensure adequate protection to the public and the environment.

2.1.4 Project Design Features

The following applicant-committed environmental protection measures have been incorporated into the project design of the Proposed Action to lessen or avoid impacts to resources. These design features are organized below under the resource they are designed to protect, although some of these measures are designed to protect or mitigate impacts to multiple resources. The design features refer to applicable best management practices (BMPs), which are industry- or agency-recommended construction methods that are routinely implemented to minimize impacts to resources.

General

The project would be designed and built in accordance with all applicable state and federal codes and regulations, many of which have been developed over the years by numerous organizations, such as:

- American National Standards Institute
- American Society of Mechanical Engineers (ASME)
- American Society for Testing Materials
- American Petroleum Institute (API)

Many of the design codes are developed by consensus through technical committees and have been adopted worldwide. DCP incorporates the design codes along with the appropriate regulations into the following:

- DCP Engineering Standards. These documents primarily reference laws and regulations but also contain specific prohibitions against certain piping items such as all thread nipples, one-size reduction bushings, street elbows, and also against the use of polychlorinated biphenyls (PCBs) in transformers and the use of asbestos insulation.
- DCP Required Practice Specifications. The required practices incorporate by reference various industry codes and standards (e.g., ASME B31.3, API 521, etc.) and incorporate by reference certain other company specifications, such as the Preferred Manufacturers List and Welding Procedures.
- The project would be designed and constructed to meet 49 CFR 195 or 49 CFR 192, whichever is applicable, as a minimum standard. These design standards specify pipeline material and qualification, minimum design requirements, and protection from internal and external atmospheric corrosion. Other applicable federal and state regulations, including OSHA requirements and EPA regulations, would be followed during the construction of the project.
- The guidelines set forth in the aforementioned regulations, standards, and practices have been issued to all DCP's employees engaged in the planning, construction, operation, and maintenance of the project and would be issued to all of DCP's construction contractors. Employees and contractors have been or would be instructed to follow these guidelines. DCP maintains a rigorous inspection program that monitors all aspects of construction, including welding, environmental, safety, etc.

Air Quality

- Air quality impacts associated with construction projects primarily arise from fugitive dust generation by construction vehicles and equipment. Reasonable precautions would be used to prevent fugitive dust from becoming airborne, including 1) using water or chemicals to control dust where possible, 2) covering open-bodied trucks at all times while transporting materials likely

to produce airborne dusts, 3) promptly removing earth or material from paved streets, and 4) re-establishing vegetation in temporary work areas as quickly as possible.

Soils and Vegetation

- DCP would restrict construction activities and the storage of construction materials and equipment to the areas described in Table 2.1.
- To minimize sedimentation and erosion during construction of the project, DCP is committed to following BMPs, including installing erosion and sediment control devices, using proper grading techniques, conducting periodic inspections, and stabilizing disturbed areas in a timely manner. Following construction, permanent BMPs would be used to prevent sedimentation and erosion.
- DCP would follow the BLM's "Gold Book" standards and guidelines (BLM 2007) or DCP's internal standards, depending on whichever is more stringent.
- DCP would use public and existing roads as much as possible to lessen new surface disturbance and habitat fragmentation. No temporary access roads would be built.
  The construction ROW would be delineated and clearly marked to prevent accidental disturbance of any unnecessary acreage. A revegetation plan approved by the BLM would be implemented.
- Any grading or earth disturbance in the project area would be done in a manner to minimize the spread of weed seeds or propagative parts to uninfested locations.
- DCP would conduct pre-construction noxious weed control by herbicide spraying to kill and weaken weeds, and prevent seed formation. All herbicide spraying would be completed by a state-approved and licensed applicator.
- At the start of construction when the site is being prepped for earthmoving activities, vehicles including personal vehicles and equipment entering the work site would be inspected to ensure that they are free of loose soil and debris capable of transporting invasive species seeds, roots, or rhizomes. As the site is cleared of vegetation and soil is graded, care would be taken to segregate the vegetation and soil from areas where invasive species infestations have been identified from non-infested vegetation and soil. The infested material would be stockpiled away from the buffer zones to minimize the potential for transporting soil-borne invasive species seeds, roots, or rhizomes to the undisturbed areas. BMPs used for stormwater management would be weed free and used as additional protection to prevent the spread of invasive species to the undisturbed buffer areas.
- Post-construction areas of the site that would be graveled, paved, or built on and would remain vegetation free through the use of herbicides. In those areas where vegetation would be allowed, revegetation efforts using weed free seed mixes would begin at the earliest practical planting season to re-establish a ground cover on exposed soils that would help prevent the encroachment, establishment, and/or spread of invasive species.
- Noxious weed-free straw or hay bales would be required to be used on the site for erosion control, including any mulch obtained off-site. Seed applied in reclamation would be required to be weed free. Only clean fill materials would be imported onto the site for use during construction.

Water Resources

- In accordance with USACE NWP 12 for Utility Line Activities, DCP would either open cut identified water bodies or use HDD methods to bore under the water bodies. In particular, construction across two intermittent water body crossings would use HDD methods to avoid impacting these water bodies. Care would be taken to minimize disturbance to the area and to restore the area to pre-construction conditions as quickly as possible. Erosion and sediment controls would be used and all temporary fill, including sediment, mats, etc., would be removed once construction is complete. There would be no change in pre-construction contours in water bodies.
- The entire pipeline would be hydrostatically tested to ensure that the system is capable of withstanding the operating pressure for which it was designed. Water would be purchased from a nearby municipal water source and hauled to the project area. The pipeline would be tested in multiple sections with water being shuttled from section to section. Each section would be tested

at a maximum pressure 2,200 psig for a continuous 8 hours, in accordance with industry standards and DCP specifications

Once all sections are tested, the water would be discharged to an approved upland area in compliance with required permits from the NMED or the Texas Railroad Commission, using appropriate discharge and erosion control measures. Energy dissipation and filtration devices (e.g., certified weed-free hay/straw bales and silt fence) would be used to reduce the velocity of the discharged water and thereby reducing potential for erosion. The exact location of the discharge has yet to be determined.

- DCP would prepare and implement stormwater BMPs in accordance with internal policies or the BLM Gold Book standards and guidelines, whichever is more stringent.

Wildlife and Special Status Species

- If feasible, vegetation removal would occur outside the migratory bird breeding season (March 1–August 31). Any vegetation removal during the breeding bird season would be preceded by pre-removal nesting surveys to identify any occupied nests and establish avoidance buffers until the young have fledged.
- DCP would instruct personnel working on the construction of the project to avoid intentionally harassing all animals.

The project area lies within the Special-Status Species RMPA zoning area established by the BLM (BLM 2008). The RMPA zoning area was designated to provide greater protection for LPC and DSL habitat. Conservation measures and other protective criteria have been established by the BLM for installation of new pipelines within the RMPA area. Moreover, strict regulations apply for LPC and DSL and trenching during construction (BLM 2013; see BA, Appendix B). Regulations for trenching include not allowing trenches to remain uncovered for more than 8 hours without an agency approved monitor (where project is within DSL habitat), restricting construction work to certain hours of the day during the avian breeding season, and covering evaporation ponds to keep birds out (see BA, Appendix B).

Dunes Sagebrush Lizard Protective Design Features

In consideration of conservation measures and other protective criteria outlined in the RMPA for projects within DSL habitat, DCP coordinated with the BLM to ensure that dune habitat would be avoided to the extent feasible. The project area crosses approximately 113 acres of the known distribution for the DSL (see Appendix B). BMPs would be followed, as required by the BLM in the RMPA (BLM 2008a), the BLM Open Trench Wildlife Removal Workshop materials (BLM 2013), and the New Mexico Department of Game and Fish (NMDGF) Habitat Handbook trenching guidelines (NMDGF 2003). In addition, all personnel working on the construction of the proposed project would be instructed to avoid intentionally harassing all animals.

Impacts to the DSL would be mitigated by adhering to the following conservation measures:

1. Any trench left open for 8 hours or less is not required to have escape ramps; however, before the trench is backfilled, a BLM-approved monitor would walk the entire length of the open trench and remove all trapped wildlife and release them at least 300 feet from the trench.
2. For trenches left open for 8 hours or more, earthen escape ramps (built at no more than a 30 degree slope and placed no more than 500 feet apart) would be placed in the trench. The open trench would be monitored each day by a BLM-approved monitor during the following three time periods: 1) 5:00 to 10:00 a.m., 2) 11:00 a.m. to 2:00 p.m., and 3) 3:00 p.m. to sunset. All trapped wildlife would be released at least 300 feet from the trench.
3. One BLM-approved monitor would be required for up to every 3 miles of open trench in DSL habitat. A daily report (consolidate if there is more than one monitor) on the wildlife found and removed from the trench would be provided to the BLM (email is acceptable) the following morning.
4. This stipulation would apply to the entire length of the project in the DSL habitat regardless of land ownership.

Lesser Prairie-Chicken Protective Design Features

In consideration of conservation measures and other protective criteria outlined in the RMPA for projects within LPC management areas, DCP coordinated with the BLM to ensure minimum surface disturbance in LPC habitat by incorporating the following into the design consideration of the project: 1) confining the proposed facilities to existing alignments, 2) minimizing width of construction disturbance, 3) avoiding ROW exclusion areas and other sensitive areas, and 4) preparing a POD outlining DCP's strategies for minimizing impacts associated with new development.

The following mitigation measures would be applied to the Proposed Action for activities in overlapping project area/LPC management areas as outlined in the RMPA:

- Timing and noise restrictions would be applied to prevent disruption of mating and nesting activities. All energy exploration and development activities would be prohibited from 3:00 am to 9:00 a.m. during March 1 to June 15. Non-construction activities such as tailgate meetings and activites where machinery is not needed would be allowable outside of the timing limitations
- Exceptions to these timing requirements would be considered in emergency situations such as mechanical failures. Potential drill rig loss, drill rig scheduling, or the potential loss of a lease are not emergency situations. Exceptions would not be granted after March 15 or during the March 1 to 15 period if the BLM determines, on the basis of biological data or other relevant facts or circumstances, that the granting of an exception would disrupt LPC booming activity during the breeding season. Requests for exceptions on a non-emergency basis may also be considered, for the period of March 1 to June 15, but these exceptions would not be granted if the BLM determines that there is LPC habitat, LPC sightings, historic leks and or active leks within 1.5 miles of the proposed location, or any combination of the above-mentioned criteria.
- If new LPC leks are discovered in the future within the LPC planning area, a 1.5-mile radius around the lek would be considered occupied habitat and the prescriptions of this alternative would apply to proposed actions in and around that habitat.

Burrowing Owl Protective Design Features

- If feasible, DCP would construct portions of the project in advance of the 2015 nesting season (March 1–August 31) in order to avoid potential impacts to the occupied burrowing owl (*Athene cunicularia*) nest burrows detected during SWCA's 2014 field surveys.
- For portions of the project being constructed during the nesting season, DCP would conduct pre-construction nest surveys and establish a 200-meter avoidance zone around any active burrow complex. Active burrows would be avoided until the young have fledged.
- For portions of the project being constructed during the nesting season, DCP would also provide a biological monitor near occupied burrowing owl burrows identified during pre-construction surveys.

Cultural Resources

- Mitigation for cultural resources includes boring under archaeological sites, conducting limited archaeological testing, having an archaeologist present to monitor construction activities, conducting data recovery, or combining some/all of these measures (see site-specific mitigation measures in Section 3.7.3).
- In the event of an unanticipated discovery of cultural material during construction, all work at that location would be stopped immediately and the area fenced off. The appropriate agency would be notified. Work would not begin again in the area until clearance is obtained from the agency.

Visual Resources

- All disturbed areas not needed for ongoing operations and maintenance would be revegetated and the BLM's buried pipeline stipulations would be followed.
- The proposed permanent aboveground facilities would be encircled by chain-link fence enclosures and would appear similar in nature to the oil and gas infrastructure that already exists in the vicinity.

- All aboveground facilities would be painted according to BLM specifications to blend with the surrounding landscape and infrastructure.

Livestock Grazing

- All fences and other existing infrastructure would be returned to their pre-construction condition as approved by the BLM and allotment permit holders.
- Pipeline areas impacted during construction would be returned to their pre-disturbance state as soon as final construction is completed. Topsoil from the disturbed areas would not be stockpiled for more than 60 days and would be redistributed over the surface. Disturbed soil in construction areas along the pipeline route would be prepared and amended as necessary in preparation for seeding with a native grass seed mix approved by the BLM and allotment permit holders or private landowners. Weed-free straw or other suitable mulching material would be used during revegetation.
- The goal of the final reclamation is to 1) restore primary productivity of the site and establish vegetation that would provide for natural plant and community succession, and 2) establish a vigorous stand of desirable plant species that would limit or preclude the invasion of undesirable species including non-native and noxious weeds.
- All construction areas would be graded to original contours following the construction period, thereby mitigating potential injuries to livestock from holes, ditches, and trenches. Surplus materials and debris from construction would be removed from the ROW.

Public Health and Safety

- To avoid or minimize the potential for harmful spills and leaks during construction, DCP would ensure implementation of a Spill Prevention and Response Plan (SPRP). The SPRP describes spill and leak preparedness and prevention practices, procedures for emergency preparedness and incident response, and training requirements. Additional details of the SPRP can be found later in this section.
- All solid waste associated with the construction of the project would be managed in accordance with all federal, state, and local regulations. Construction debris would be containerized and disposed of at appropriate facilities in a timely manner. Temporary sewage disposal units would be provided by the contractor in areas of active construction and would be maintained regularly to prevent water or soil contamination. Spill kits would be available at all active construction areas. Any leaks from equipment or vehicles would be cleaned up in accordance with all applicable regulations and contaminated material disposed of at appropriate facilities.
- DCP would follow the requirements of 49 CFR 195, Transportation of Hazardous Liquids by Pipeline, for requirements on the following: annual accident and safety conditions reporting, design, construction, pressure testing, operations and maintenance, qualification of pipeline personnel, and corrosion control.

Spill Prevention and Response Plan

<u>Spill Prevention</u>

DCP and its contractors structure their operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to water or the ground. At a minimum, the following good housekeeping practices listed below would be followed on-site during construction and operation:

- All material delivered to the site would be inventoried and stored at least 100 feet from a wetland or water body and at least 200 feet from any livestock or domestic water well.
- All equipment would be maintained in good operating order and inspected on a regular basis.
- Fuel trucks transporting fuel to on-site equipment would only travel on approved access roads.
- All equipment would be parked overnight and/or fueled at least 100 feet from a water body or in an upland area at least 100 feet from a wetland boundary and at least 200 feet from any livestock or domestic water well.
- There would be no concrete work done within 100 feet of a wetland or water body and at least 200 feet from any livestock or domestic water well.

- Employees trained in emergency spill cleanup procedures should be present when dangerous materials or liquid chemicals are unloaded.
- Off-site storm water flows would be directed away from the loading/unloading area by grading, berming, or curbing the area.
- An effort would be made to store only enough product required for task completion.
- All materials stored on-site would be stored in a neat and orderly manner in appropriate containers and, where possible, under a roof or other enclosure, and/or within secondary containment areas to avoid contact with stormwater.
- Products would be kept in their original containers with the original manufacturer's label.
- Substances would not be mixed with one another unless recommended by the manufacturer.
- Storage containers would be regularly inspected for leaks and repaired or replaced as necessary. Workers would be trained in proper storage and handling of fuels and other hazardous materials.
- Whenever possible, all of the product would be used before disposing of the container.
- Manufacturer's recommendations for proper use and disposal would be followed.
- Employees and contractors would be made aware of these requirements and would receive proper training in spill prevention and response.

Spill Response

All spills would be cleaned up immediately after discovery and reported to the appropriate agencies, in accordance with applicable regulations. To reduce the likelihood of oil released by container or equipment failures from reaching navigable waters, a spill response procedure is in place. The following is a narrative with spill response and post-spill response procedures.

Upon discovery of a spill, the first on-site responder would contact the DCP Project Manager. The DCP Project Manager would initiate, support, or completely implement the spill response activities. To ensure spills are cleaned up promptly and effectively:

- Spill response materials, such as absorbent materials, shovels, booms, and a tractor are maintained in all areas of active construction to control and contain releases.
- Site personnel are trained in spill response procedures.
- Additional information on spill response procedures can be found at any DCP gas plant in its Spill Prevention Control and Countermeasure Plan.
- Off-site disposal would be in accordance with all applicable regulations.

The Project Manager with support from environmental would maintain records and make appropriate notifications within and outside DCP as outlined below.

If necessary, the DCP Project Manager would notify the public safety personnel. Emergency (fire and police) and medical (hospital and transportation) contacts are listed below. The assistance of these personnel can be used to minimize public exposure to the hazard, evacuate the public, control traffic, assist in fire control, and provide emergency medical care. The DCP Project Manager is also responsible for notifying the Environmental Support. The Environmental Support would be responsible for notifying the appropriate federal, state, and local government agencies of the release.

Once the release is contained, the situation would be evaluated to establish the personnel, materials, and equipment required for making repairs and cleaning the release area. The media impacted by the release and other related factors would be evaluated to determine the appropriate method of disposal of recovered materials from an oil release in accordance with applicable federal, state, and local regulations. The following disposal methods for recovered materials are typically used by DCP:

- Off-site recycling or disposal for recovered liquids;
- On-site bioremediation, off-site bioremediation, or off-site disposal for contaminated soils; and
- Off-site disposal for liquids and surface water recovered from impacted surface waters.

2.2 No Action

BLM NEPA Handbook H-1790-1 states that for EAs on externally generated applications, the No Action alternative generally means that the proposed activity would be denied (BLM 2008b:52). This option is

provided in 43 CFR 3162.3-1(h)(2). Under this alternative, the BLM would not grant the ROW to the applicant, the proposed pipeline would not be built, and the associated surface disturbance would not occur. The No Action alternative is presented for baseline analysis of resource impacts.

2.3 Alternatives Considered but Eliminated from Detailed Study

Alternatives to the Proposed Action are developed to explore different ways to accomplish the purpose and need while minimizing environmental impacts and resource conflicts and meeting other objectives of the RMP. Consistent with BLM NEPA Handbook H-1790-1, the agency "need only analyze alternatives that would have a lesser effect than the proposed action" (BLM 2008b:80). Those with greater adverse resource impacts or those that are not feasible because of existing physical constraints or infrastructure are not brought forward for detailed analysis in this EA.

Prior to siting the preliminary routes for the pipeline system, a desktop analysis was conducted by the BLM to identify sensitive areas to avoid. Once the preliminary route was identified, and cultural resource and biological resource surveys were conducted. The route was then adjusted or realigned in several segments in order to avoid impacts to cultural or biological resources where possible.

The proposed pipeline route and design would meet the BLM's purpose and need while minimizing environmental impacts to the greatest extent possible. The route was ultimately planned to minimize impacts to habitat for both the LPC and the DSL. Cultural and historic sites were also avoided where applicable (see Section 3.7.3 for details regarding avoidance of cultural sites).

Any other proposed pipeline route would likely result in greater surface impacts and environmental impacts. Public scoping did not identify an additional unforeseen alternative; therefore, only the No Action and Proposed Action alternatives were brought forward for detailed analysis in this EA.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter is organized by relevant major resources or issues/concerns as presented in Section 1.5. On the basis of CEQ guidance and the BLM NEPA Handbook H-1790-1, the following discussion is limited to those resources that could be impacted to a degree that warrants detailed analysis (40 CFR 1502.15) (BLM 2008b:96) as determined by the BLM CFO interdisciplinary team. Each resource section includes the following subsections:

Affected Environment:

This section succinctly describes the existing condition and trend of issue-related elements of the human environment that would be affected by implementing the Proposed Action or an alternative, as described in Chapter 2 and limits the description of the affected environment to be commensurate with the potential impacts: "1500.4 (c) impacts shall be discussed in proportion to their significance." For the purposes of providing baseline data for the affected environment, a project area for each resource was delineated, as appropriate.

Impacts from the No Action Alternative:

Direct and Indirect Impacts: The No Action alternative reflects the current situation within the project area and serves as the baseline for comparing the environmental impacts of the Proposed Action.

Cumulative Impacts: A discussion of any cumulative impacts resulting from the No Action alternative.

Impacts from the Proposed Action:

Direct and Indirect Impacts: This EA addresses the resources and impacts on a site-specific basis as required by NEPA. Pursuant to 40 CFR 1508.28 and 1502.21, this site-specific EA tiers to the information and analysis contained in the CFO's RMP, as amended (BLM 1988, 1997, 2008a). For each resource analyzed, the impacts discussion identifies:

- Direct impacts – impacts that are caused by the action and occur at the same time and in the same general location as the action.
- Indirect impacts – impacts that occur at a different time or in a different location than the action to which the impacts are related.
- Short- or long-term impacts – the duration of impacts are described as short or long term. For the purposes of this EA, short-term impacts occur during or immediately after the construction phase, approximately 1 year for construction and an additional year following construction for a total of 2 years. Long-term impacts occur beyond the first 2 years and apply to the production and the overall life of the project through eventual decommissioning.
- Impact indicators – for each resource the indicator to measure the impact is provided in Table 3.1 below.

Table 3.1. Impact Indicators by Resource or Resource Use.

Resource / Resource Use	Indicators
Air Resources	Fugitive dust emissions during construction and revegetation.
Soil Resources	Acres of disturbance per soil type.
Water Resources	Acres of disturbance in washes or erodible areas.
Upland Vegetation	Acres of disturbance per vegetation type.
Wildlife	Acres of disturbance to available habitat.
Special Status Species	Acres of disturbance to mapped habitat.
Cultural Resources	Number and type of cultural sites affected, acres of ground disturbance.
Visual Resources	Acres of ground disturbance.
Livestock Grazing	Acres of impacted grazing allotments.
Public Health and Safety	Qualitative discussion of risks inherent to construction projects.

Cumulative Impacts: A cumulative impact, as defined in 40 CFR 1508.7, is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other action. Cumulative effects per analyzed resource are presented in the resource sections below and are based on the following past, present, and reasonably foreseeable action calculations.

Analysis Areas: The geographic extent of cumulative impact area of analysis varies by the type of resource and impact. The timeframes, or temporal boundaries, for those impacts may also vary by resource. Six different spatial and temporal cumulative impact analysis areas (CIAAs) have been developed and are listed with their total acreage in Table 3.2.

Table 3.2. Cumulative Impact Analysis Areas by Resource

Resource	CIAA	Total CIAA Acreage	Temporal Boundary
Air Quality and Climate	31-mile buffer around the proposed ROW. This area was chosen to capture air quality data points across the Permian Basin.	4,472,392	3 years (1 year for construction and rehabilitation, plus 2 years for successful revegetation).
Soils, Water, Vegetation, General Wildlife, and Cultural Resources	The total area of the seven Hydrologic Unit Code (HUC) 10-digit subwatersheds intersected by the project area. This area was chosen because it is an area with clear natural topographical boundaries with which to measure impacts to air quality and visibility and has vegetative connectivity, similar soil types, and hydrological functionality. The subwatersheds are Williams Sink, Laguna Plata, Monument Springs, City of Eunice, Upper Monument Draw, Middle Monument Draw, and Shafter Lake (Figure 3.1).	1,355,517	3 years (1 year for construction and rehabilitation, plus 2 years for successful revegetation).
Special Status Species: LPC	Total area of Habitat Evaluation Areas and Isolated Population Areas as delineated in the RMPA, within the seven HUC 10-digit subwatersheds identified above.	322,982	3 years (1 year for construction and rehabilitation, plus 2 years for successful revegetation).
Special Status Species: DSL	Total area of DSL habitat within the seven HUC 10-digit subwatersheds identified above.	144,835	3 years (1 year for construction and rehabilitation, plus 2 years for successful revegetation).
Visual Resources	5-mile viewshed from the proposed ROW. This area encompasses the entire project area viewshed as seen by users of area roads.	211,200	3 years (1 year for construction and rehabilitation, plus 2 years for successful revegetation).
Livestock Grazing	Total acreage of affected allotments.	237,374	3 years (1 year for construction and rehabilitation, plus 2 years for successful revegetation).

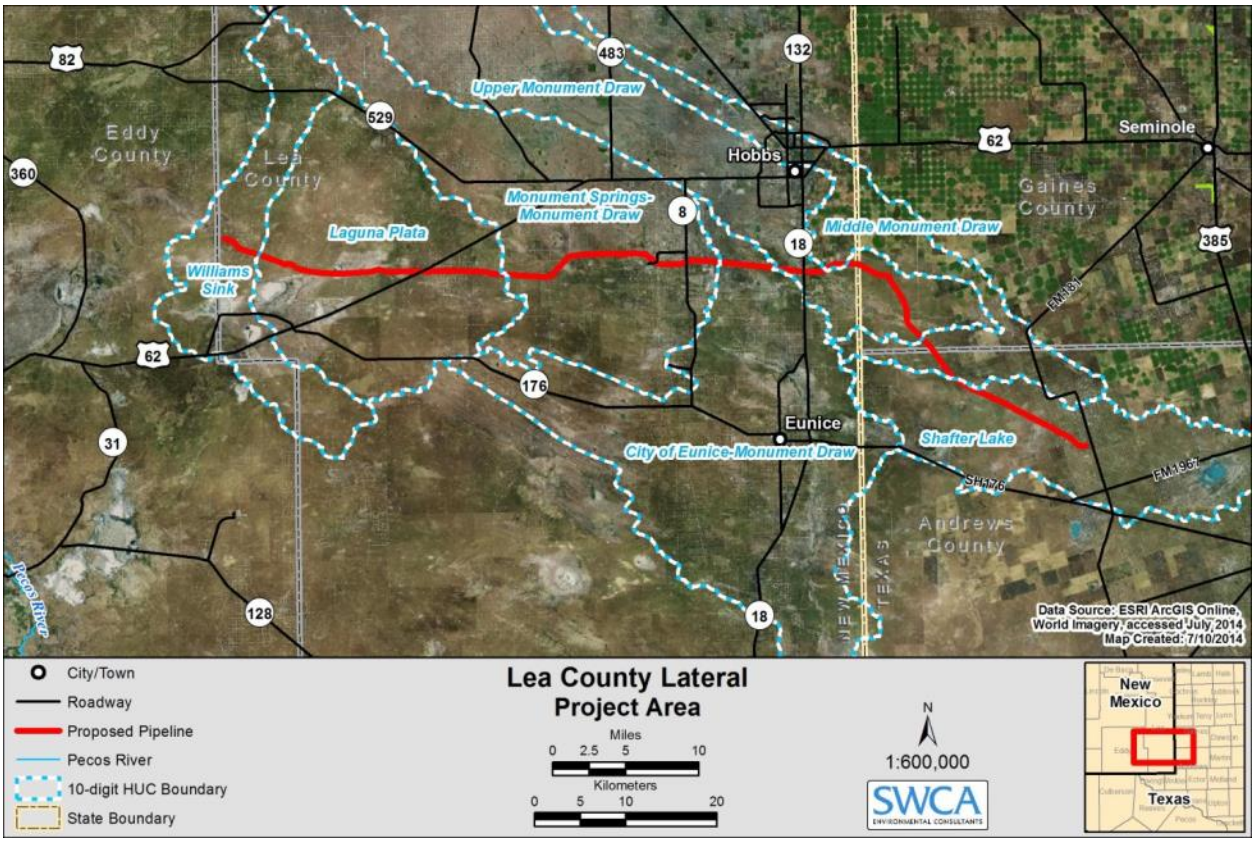

Figure 3.1. Hydrologic Unit Code 10-digit subwatershed cumulative impact area of analysis.

Past and Present Actions: The past and present actions can be defined as all actions contributing to the current condition of resources found in the project area, as described in the affected environment sections. The primary past and present actions that would affect the same resources analyzed in this EA are heavy past and present oil and gas infrastructure and development, livestock grazing, and dispersed recreational use of public lands. No data are available on the acreage of impacts of past and present livestock grazing and recreation.

To calculate acreage of impacts for past oil and gas development, aerial imagery was analyzed per CIAA by counting the number of well pads and linear features within the eight identified subwatersheds and multiplying these numbers both by 2 (1 mile linear feature = 2 acres existing disturbance; 1 well pad footprint = 2 acres existing disturbance). The analysis is based on averages and the resulting acreage is an approximation. Table 3.3 below summarizes past and present actions by CIAA.

The BLM has identified one present action occurring within the CIAAs identified above, which has been approved and is currently under construction:

- *DCP Midstream's Zia II Gas Plant and Associated Pipelines. Approximately 694 acres total disturbed. Table 3.2 presents the amount of disturbance per CIAA for the Zia II Gas Plant.*

Reasonably Foreseeable Future Actions (RFFAs): RFFAs are those for which there are existing decisions, formal proposals, or highly probably, based on known opportunities or trends. The BLM has identified two RFFAs occurring within the CIAAs identified above. It is likely several other oil and gas well and road activities would also occur within these areas.

- *Western Refining Logistics, LP 12-inch-diameter crude oil pipeline (Western).*
- *Enterprise Centurion Project, Gaucho to Thistle crude oil pipeline (Centurion).*
- *Other oil and gas proposed well pad and access road activity*. According to the CFO's NEPA log published on July 7, 2014, 65 total well pad and access road projects were located in Lea County and listed as pending or approved within the first 6 months of 2014. This analysis assumes each of these projects represents an average disturbance of approximately 3 acres. While exact location data for these pending actions was not available, this analysis also assumes that the projects would be located evenly across Lea County and as a result, approximately 12 of these projects would fall within the Lea County portion of the subwatersheds identified for analysis of soils, water, vegetation, general wildlife, and cultural resources.

Table 3.3 summarizes all known past, present, and reasonably foreseeable disturbance impacts by CIAA.

Table 3.3. Past, Present and Reasonably Foreseeable Disturbance Impacts by CIAA

CIAA	Past Actions (acres) (approximately 7.1% on average of CIAAs currently disturbed)	Present Actions (Zia II Gas Plant [acres])	RFFAs (acres within CIAA)	Incremental Impact of Proposed Action Combined with Past, Present and RFFAs*
Air Quality and Climate	Data not available	480	Data not available	Negligible
Soils, Water, Vegetation, General Wildlife, and Cultural Resources	96,768	368	23 (Western) 36 (Other) 59 Total	0.6%
LPC	22,982	368	2 (Western) 36 (Other) 38 Total	2.2%
DSL	10,283	22	18 (Other)	0.98%
Visual Resources	14,995	164	18 (Other)	3.9%
Livestock Grazing	16,853	309	163 (Centurion) 36 (Other) 199 Total	3.4%
*See resource specific sections below for full cumulative analysis.				

Mitigation Measures and Residual Impacts: As directed by 40 CFR 1508.20, mitigation measures are those measures that could reduce or avoid adverse impacts and have not already been incorporated into the Proposed Action (as listed in the project design features, Section 2.1.2). These measures may:

- Avoid the impact altogether by not taking a certain action or parts of an action;
- Minimize the impact by limiting the degree of magnitude of the action and its implementation;
- Rectify the impact by repairing, rehabilitating, or restoring the affected environment;
- Reduce or eliminate the impact over time by implementing preservation and maintenance operations during the life of the action; and/or
- Compensate for the impact by replacing or providing substitute resources or environments.

Residual impacts are those remaining after implementation of mitigation measures. These impacts may be to the subject resource or a different resource.

3.1 Air Resources

The Proposed Action has the potential to release regulated pollutants into the atmosphere and degrade air resources. The impact of the Proposed Action to air resources is divided into two components, air quality (which is primarily a local phenomenon) and global climate change. The existing, affected environment and the environmental consequences of the Proposed Action and its potential impacts to air quality and climate change are discussed in this section, as well as the effects to air resources of a No Action alternative. For the purposes of evaluating air quality resource impacts associated with the Proposed Action, the analysis area extends 1 mile from the ROW. Therefore, the analysis area passes through Lea and Eddy Counties in New Mexico and Gaines and Andrews Counties in Texas. The analysis area is presented in Figure 3.2.

3.1.1 Affected Environment

The affected environment, as it relates to the existing climate, terrain, laws and regulatory requirements, and background air quality of southeast New Mexico and west Texas, is discussed in this section. The primary factors that influence regional ambient air quality are the locations of air pollution sources, the quantity and chemical characteristics of pollutants emitted by those sources, the topography of the region, and local meteorological conditions.

Climate and Terrain

The climate is characterized as an arid steppe region or semiarid region. Semiarid regions generally receive little rain and have low humidity. During summer months, individual daytime temperatures often exceed 100 degrees Fahrenheit (°F); the warmest days often occur in June before monsoon season begins. The average monthly maximum temperature during July (the warmest month) after monsoon season sets in is only slightly above 90°F due to afternoon convective storms that decrease solar insolation, which lowers temperatures before they reach their potential daily high. A wide variation in annual precipitation totals is characteristic of arid and semiarid areas, as illustrated by annual extremes of less than 3 inches to over 33 inches at Carlsbad during a period of more than 71 years (Western Regional Climate Center 2014a).). Summer rains fall almost entirely during brief, but frequently intense, thunderstorms. The generally southeasterly circulation from the Gulf of Mexico brings moisture for these storms into southeastern New Mexico and west Texas. During the warmest 6 months of the year, May through October, total precipitation averages 80% of the annual total in and near the Proposed Action area. Winter is the driest season (Western Regional Climate Center 2014a). Minimum temperatures below freezing are common during the winter, but the area is freeze-free for more than 200 days per year (National Oceanic and Atmospheric Administration 1985).

The Permian Basin is located in southeast New Mexico and west Texas. The basin is low lying and flat. The lowest point in New Mexico is located within the basin on the Texas state line at Red Bluff Reservoir at 2,826 feet. The terrain surrounding the pipeline gently slopes from 3,580 feet at its western end and 3,360 feet at its eastern end.

The representative climate conditions in the Proposed Action area are presented in Table 3.4. The data in the table are from a meteorological station in Carlsbad (Station 291469), about 30 miles southwest of the proposed project, which has been operated for over a century. Measurements taken include daily high and low temperature, precipitation, and snowfall. This station is a National Weather Service (NWS) co-op station, and the averages were obtained from the Western Regional Climate Center. The data have been quality checked by the NWS and are fit for representing the meteorology of the area.

Hourly averages of wind speed and direction were collected from the NMED's 5ZR Carlsbad monitoring station, located approximately 8 miles north of the eastern end of the Proposed Action, for the period of May 2013 to May 2014. The prevailing winds most frequently blow from the south-southeast to the north-northwest (approximately 32% of the time). The average wind speed for the period was approximately 7.72 miles per hour.

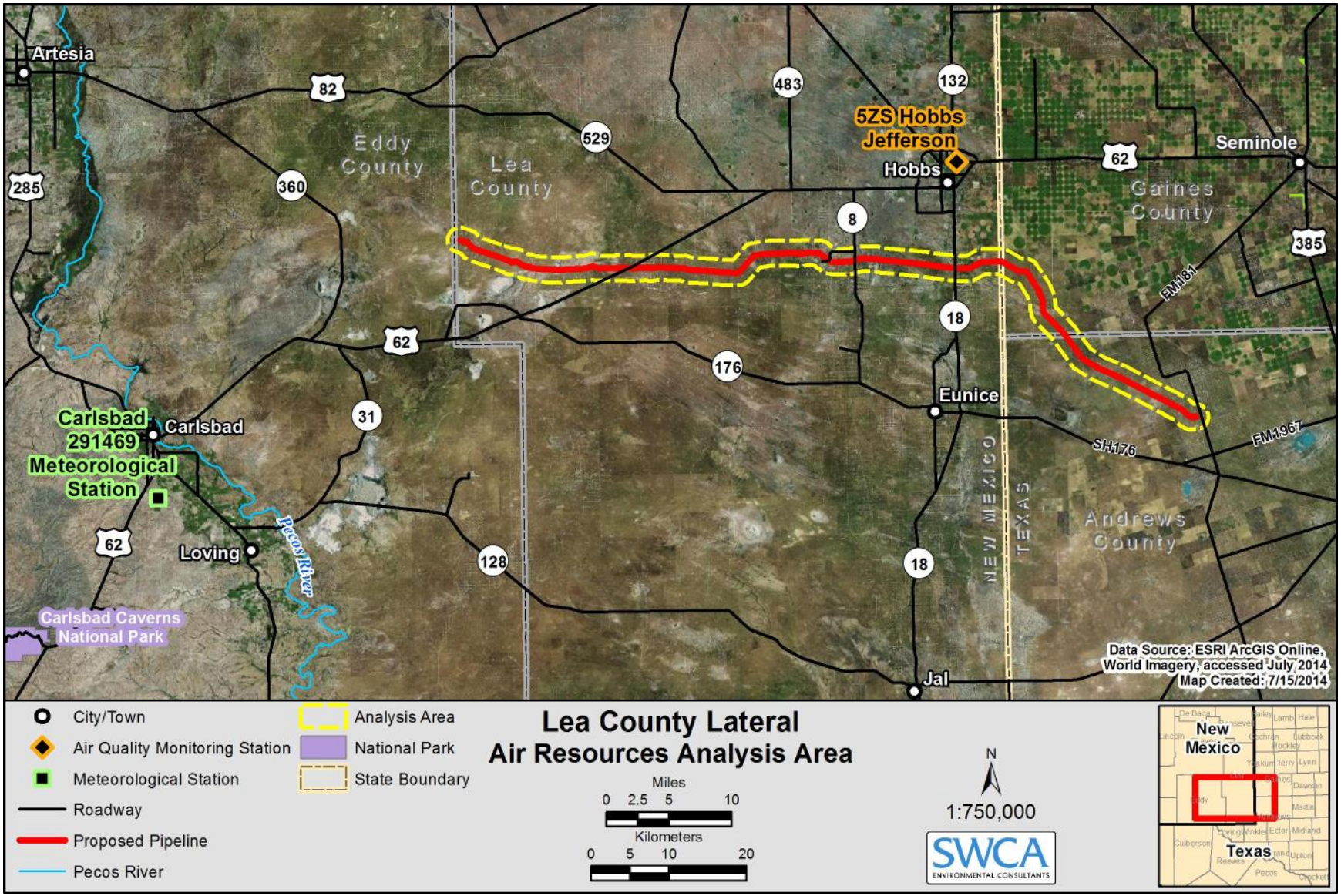

Figure 3.2. Direct and indirect impacts analysis area for air resources.

Table 3.4. Representative Climate Conditions in the Proposed Action Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average max. temperature (°F)	59.1	64.2	71.5	80.2	87.8	95.4	95.6	94.6	88.3	79.5	67.5	59.1	78.6
Average min. temperature (°F)	27.8	31.6	37.8	46.5	55.2	63.8	67.1	66	59.2	47.6	35.5	28.6	47.2
Average total precipitation (inches)	0.4	0.44	0.47	0.65	1.21	1.47	1.87	1.78	2.13	1.33	0.58	0.51	12.84
Average total snowfall (inches)	1.2	1	0.2	0.2	0	0	0	0	0	0	0.6	1.2	4.4

Note: Historical weather data for Carlsbad, New Mexico, Station 291469 from 2/1/1900 to 3/31/2013. Annual averages are presented for minimum and maximum temperatures and annual totals for precipitation and snowfall.
Source: Western Regional Climate Center 2014b.
Max. = maximum.
Min. = minimum.

Legal and Regulatory Requirements

This section summarizes the legal and regulatory framework governing air pollution and air quality in the analysis area, as well as the technical information related to determining air quality and climate change effects.

National Ambient Air Quality Standards

Title I of the Clean Air Act requires the EPA to establish NAAQS for pollutants considered harmful to public health and the environment. The EPA established NAAQS for six common, principal pollutants ("criteria" pollutants): Carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), lead (Pb), and particulate matter, including particulate matter equal to or less than 10 microns in diameter (PM_{10}) and 2.5 microns in diameter ($PM_{2.5}$). The EPA designates areas as meeting (attainment) or not meeting (non-attainment) the NAAQS.

The Clean Air Act identifies two types of NAAQS, primary and secondary. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. These standards are defined in terms of threshold concentration measured as an average for specified periods of time. Pollutants with acute health effects were given short-term standards, and pollutants with chronic health effects were given long-term standards. Since the NAAQS were first established, revisions have been made that modify which pollutants are regulated, the allowable ambient concentrations, and the time interval over which the pollutant is measured. The current NAAQS are presented in Table 3.5.

Table 3.5. National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Averaging Time	Level	Averaging Time	Level
CO	1 hour [a] 8 hour [a]	35 ppm 9 ppm	- -	- -
Pb	3 months (rolling) [b]	0.15 µg/m^3	3 months (rolling) [b]	Same as Primary
NO_2	1 hour [d] Annual [c]	100 ppb 53 ppb	Annual [c]	Same as Primary
O_3	8 hour [e]	0.075 ppm	8 hour [e]	Same as Primary
PM_{10}	24 hour [f]	150 µg/m^3	24 hour [f]	Same as Primary
$PM_{2.5}$	24 hour [g] Annual [h]	35 µg/m^3 12 µg/m^3	24 hour [g] Annual [h]	Same as Primary 15 µg/m^3
SO_2	1 hour [i]	0.075 ppm	3 hour [j]	0.5 ppm

[a] Not to be exceeded more than once per year.
[b] Not to be exceeded.
[c] Annual mean.
[d] The 3-year average of the 98th percentile of the daily maximum 1-hour average must not exceed this standard.
[e] The 3-year average of the 4th highest daily maximum 8-hour average O_3 concentration measured at each monitor within an area over each year must not exceed this standard.
[f] Not to be exceeded more than once per year on average over 3 years.
[g] The 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed this standard.
[h] The 3-year average of the annual arithmetic mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed this standard.
[i] The 3-year average of the annual 99th percentile of the 1-hour daily maximum must not exceed this standard.
[j] Not to be exceeded more than once per year.
µg/m^3: micrograms per cubic meter.
ppm: parts per million.
Source: EPA 2014b.

The Clean Air Act requires each state to produce and regularly update a State Implementation Plan (SIP). A SIP is a plan developed by the state to meet federal air quality standards. The EPA has approved SIPs for both New Mexico and Texas. The New Mexico Air Quality Control Act is codified at New Mexico Statutes Annotated, Chapter 74, Article 2. Rules pertaining to air quality in New Mexico are found at Title 20, Chapter 2, of the New Mexico Administrative Code, administered by the NMED AQB. In Texas, the Health and Safety Code, Chapter 382, is known as the Texas Clean Air Act and establishes the Texas Commission on Environmental Quality (TCEQ), formerly the Texas Natural Resource Conservation Commission. Title 30 of the Texas Administrative Code contains rules pertaining to air quality in Texas.

New Mexico Ambient Air Quality Standards

Under the provisions of the Clean Air Act, any state can have requirements that are more stringent than those of the national program. New Mexico has additional ambient air quality standards in addition to the NAAQS, which are not categorized by primary and secondary standards. The New Mexico Ambient Air Quality Standards (NMAAQS) are shown in Table 3.6.

Table 3.6. New Mexico Ambient Air Quality Standards

Pollutant	Averaging Time	Level
CO	1 hour 8 hour	13.1 ppm 8.7 ppm
NO_2	1 hour Annual	0.10 ppm 0.05 ppm
Total suspended particulates	24 hour 7 day 30 day Annual [a]	150 µg/m^3 110 µg/m^3 90 µg/m^3 60 µg/m^3
SO_2	24 hour Annual	0.10 ppm 0.02 ppm
Hydrogen sulfide (H_2S)	½ hour [b]	0.100 ppm
Total reduced sulfur	½ hour	0.003 ppm

[a] Annual geometric mean.
[b] For the Pecos-Permian Basin Intrastate Air Quality Control Region. Not to be exceeded more than once per year.
Source: New Mexico Administrative Code 2014.
µg/m^3: micrograms per cubic meter.
ppm: parts per million.

Hazardous Air Pollutants

Hazardous air pollutants, also known as HAPs, are those pollutants that have been shown to cause or possibly cause cancer in humans or may cause adverse environmental and ecological effects. The EPA has identified 187 toxic air pollutants as HAPs, and in 2001 the agency developed a national network for monitoring ambient levels of air toxics. The 2005 National Scale Air Toxics Assessment (NATA) analysis estimated tract level total cancer risk for the analysis area as 25 to 50 per one million, and the estimated tract level total respiratory hazard index was zero to 1. For comparison, the NATA analysis estimates the average national cancer risk for 2005 was 50 per one million, meaning one person out of every 20,000 had an increased likelihood of contracting cancer from breathing air toxics from outdoor sources if exposed to 2005 emission levels over their lifetime. A respiratory hazard index below 1 indicates that exposures in the area do not exceed reference levels that would have adverse effects for human health.

Prevention of Significant Deterioration Increments

Prevention of Significant Deterioration (PSD) increments prevent the air quality in attainment areas from deteriorating to the level set by the NAAQS. While the NAAQS establishes a concentration "ceiling," a PSD increment is the maximum allowable increase in ambient concentrations allowed to occur above a baseline concentration for a pollutant. Significant deterioration is said to occur when the amount of new pollution would exceed the applicable PSD increment. PSD increments have been established for Class I, II, and III areas. Class I areas are areas of special national or regional natural, scenic, recreational, or historic value. Class II areas are all areas not established as Class I areas. Class III areas are areas that do not have any air quality standards. To date, no Class III areas have been established. The applicable PSD increment standards are presented in Table 3.7.

Table 3.7. Applicable PSD Increments

Pollutant	Period	Class I PSD Increment Standard	Class II PSD Increment Standard
NO_2	Annual	2.5 µg/m^3	25 µg/m^3
PM_{10}	24-hour	8 µg/m^3	30 µg/m^3
	Annual	4 µg/m^3	17 µg/m^3
$PM_{2.5}$	24-hour	2 µg/m^3	9 µg/m^3
	Annual	1 µg/m^3	4 µg/m^3

Pollutant	Period	Class I PSD Increment Standard	Class II PSD Increment Standard
SO_2	3-hour	25 µg/m^3	512 µg/m^3
	24-hour	5 µg/m^3	91 µg/m^3
	Annual	2 µg/m^3	20 µg/m^3

µg/m^3 = micrograms per cubic meter.
Source: 40 CFR 52.21.

Air Quality-Related Values

The Clean Air Act amendments of 1977 give federal land managers an "affirmative responsibility" to protect the natural and cultural resources of Class I areas from the adverse impacts of air pollution. Air quality related values (AQRVs) are used by federal land managers to determine the impact of pollution to federal lands. An AQRV is a resource that may be adversely affected by a change in air quality. The resource may include visibility or a specific scenic, cultural, physical, biological, ecological, or recreational resource identified by the federal land manager for a particular area. Federal agency actions must not adversely affect AQRVs at the nearest Class I area.

General Conformity

The 1977 Clean Air Act amendments established the Conformity Rule, which prohibits the participation of any federal agency in activities that do not meet the goals of an applicable SIP. All actions taken by federal agencies in non-attainment or maintenance areas must comply with EPA's General Conformity Rule. This rule ensures that any action taken by a federal entity would neither cause nor aggravate a violation in air quality standards, nor delay the timely attainment of standards. The conformity process provides the nexus between the federal regulation of criteria pollutants and state and local implementation of the federal standards.

The General Conformity Rule establishes a *de minimis* level for criteria pollutants in maintenance and non-attainment areas; emissions of HAPs and greenhouse gases (GHGs) do not have *de minimis* levels. *De minimis* levels are maximum emission levels in tons per year for a given pollutant, and are based on the severity of an area's air quality problem. The *de minimis* level is the threshold for determining if a general conformity determination must be performed. Activities below this threshold level are assumed to have no significant impact on air quality. HAPs are compared to the major source thresholds of 10 tons of any individual HAP and 25 tons of total combined HAPs, while GHGs are compared to the EPA's GHG reporting threshold of 25,000 metric tons. *De minimis* levels in the Proposed Action area are presented in Table 3.8.

Table 3.8. General Conformity Thresholds in Tons

Pollutant	De Minimis Level
Volatile organic compounds	100
Nitrogen oxides (NO_x)	100
CO	100
SO_2	100
PM_{10}	100
$PM_{2.5}$	100
Pb	25
Any individual HAP	10
Combined HAPs	25
GHGs	25,000 [1]

[1] Value in metric tons (approximately 27,558 short tons).
Source: 40 CFR 93.153.

Existing Air Quality

The existing air quality in the Proposed Action area can be determined by the classification of the area by the EPA, background concentrations of pollutants, and an emissions inventory of the counties involved. Special areas of concern, including Class I areas, are identified in this section.

Attainment Status

The EPA designates Lea and Eddy Counties in New Mexico, and Gaines and Andrews Counties in Texas, as being in attainment or unclassified with respect to the NAAQS for O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb.

Expected Proposed Action Area Background Concentrations

A representative background concentration monitor, 5ZS Hobbs-Jefferson, is located approximately 8 miles north of the project. Due to the prevailing winds in the Proposed Action area, the 5ZS Hobbs-Jefferson monitor can represent the expected background concentrations in the Proposed Action area. This monitor measures and records concentrations of NO_2, PM_{10}, $PM_{2.5}$, and O_3.

There are no total suspended particulate, total reduced sulfur, or H_2S monitors in New Mexico to compare to the NMAAQS. There are no Pb monitors in New Mexico or near the analysis area in west Texas, and CO and SO_2 monitors in the Proposed Action area have been decommissioned due to low concentrations. However, for completeness, the concentrations of the geographically closest Pb, CO, and SO_2 monitors are used. The monitor, TCEQ's Skyline Park (EPA AQS 14-141-0058), is located directly north of El Paso, Texas, approximately 160 miles away from the proposed pipeline. The monitor is located in an urban area and is expected to represent a conservatively high estimate of Pb, CO, and SO_2 concentration in the rural area where the pipeline would be located. Expected background concentrations for the Proposed Action area, utilizing data from the 5ZS Hobbs-Jefferson and Skyline Park monitors, are presented in Table 3.9.

Table 3.9. Expected Proposed Action Area Background Concentrations

Pollutant	Period	Background Concentration	Primary NAAQS	Units	% of NAAQS
CO	1-hour	1.2 [1]	35	ppm	3.4%
	8-hour	0.7 [1]	9	ppm	7.8%
NO_2	1-hour	36.3	100	ppb	36.3%
	Annual	4.2	53	ppb	7.9%
SO_2	1-hour	2.8 [1]	75	ppb	3.7%
Pb	24-hour	0.027 [1]	0.15	$\mu g/m^3$	18.0%
PM_{10}	24-hour	131.0	150	$\mu g/m^3$	87.3%
$PM_{2.5}$	24-hour	21.9	35	$\mu g/m^3$	62.7%
	Annual	8.6	12	$\mu g/m^3$	71.4%
O_3	8-hour	0.066	0.075	ppm	3.4%

Note: Data from 5ZS Hobbs-Jefferson monitor for the years 2011–2013, except otherwise noted.
[1] Data from TCEQ's Skyline Park monitor in El Paso, Texas, which is included for data completeness.
ppm = parts per million.
ppb = parts per billion.
$\mu g/m^3$ = micrograms per cubic meter.
Source: EPA 2014b, 2014c.

The expected background concentrations of all pollutants are below the NAAQS thresholds. Concentrations of PM_{10} and $PM_{2.5}$ are closest to the NAAQS thresholds. Concentrations of NO_2 are approximately 36.3% of the 1-hour standard. Pb concentrations at the Skyline Park monitor are approximately 18.0% of the standard. All other background concentrations of pollutants can be expected to be less than 10% of the applicable standard.

Emission Inventory and Regional Sources

Emission inventories are useful in comparing source categories to determine which industries or practices are contributing the most to the general level of pollution in an area. The county-level emission inventories for Eddy and Lea Counties in New Mexico and Andrews and Gaines Counties in Texas are presented in Table 3.10.

Table 3.10. Andrews, Gaines, Eddy, and Lea County Emissions Inventory in Tons per Year

Source	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	VOCs	HAPs
Andrews County, Texas							
Agriculture	-	-	-	755	151	-	-
Biogenics [1]	4,283	1,175	-	-	-	13,921	4,112
Dust	-	-	-	1,417	175	-	-
Fires	11,623	341	143	1,345	1,140	2,793	436
Fuel combustion	1,909	3,576	7	49	49	319	115
Industrial processes	3,265	3,507	1,340	108	106	42,012	64
Miscellaneous [2]	2	0	0	4	4	284	73
Mobile	2,764	954	2	50	43	182	40
Waste disposal	-	-	-	4	1	1	0
Subtotal	23,846	9,553	1,492	3,732	1,669	59,512	4,840
Gaines County, Texas							
Agriculture	-	-	-	8,570	1,714	-	-
Biogenics [1]	4,097	965	-	-	-	14,279	3,974
Dust	-	-	-	4,998	541	-	-
Fires	1,037	31	13	119	95	211	38
Fuel combustion	723	959	10	28	28	32	11
Industrial Processes	2,624	1,753	482	246	132	29,999	13
Miscellaneous [2]	2	0	0	5	5	865	74
Mobile	3,246	1,514	3	101	93	259	44
Waste disposal	50	3	1	21	19	5	4
Subtotal	11,779	5,225	509	14,088	2,627	45,650	4,158
Eddy County, New Mexico							
Agriculture	-	-	-	656	131	-	-
Biogenics [1]	13,620	1,423	-	-	-	57,192	13,000
Dust	-	-	-	18,905	1,928	-	-
Fires	13,153	268	127	1,424	1,198	3,100	385
Fuel combustion	956	1,378	48	89	74	201	28
Industrial processes	9,662	8,247	2,413	1,919	708	48,338	941
Miscellaneous [2]	9	0	0	23	21	822	232
Mobile	7,690	1,694	8	94	77	1,030	247
Waste disposal	632	21	1	82	66	48	5
Subtotal	45,722	13,031	2,597	23,192	4,203	110,731	14,838
Lea County, New Mexico							
Agriculture	-	-	-	2,031	406	-	-
Biogenics [1]	10,791	2,906	-	-	-	36,402	10,329
Dust	-	-	-	23,685	2,407	-	-
Fires	4,919	152	63	591	473	1,067	195
Fuel combustion	3,571	11,758	56	317	308	776	304
Industrial processes	9,479	7,194	10,373	259	242	43,116	799
Miscellaneous [2]	9	0	0	23	22	838	271
Mobile	6,609	1,372	7	70	56	572	142
Waste disposal	1,098	35	1	130	104	78	7

Source	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	VOCs	HAPs
Subtotal	36,476	23,417	10,500	27,106	4,018	82,849	12,047
Total Emissions	***117,823***	***51,226***	***15,098***	***68,118***	***12,517***	***298,742***	***35,883***

Note: "-" denotes no information available.
[1] Biogenic emissions are those emissions derived from natural processes (such as vegetation and soil).
[2] Miscellaneous categories include bulk gasoline terminals, commercial cooking, gas stations, miscellaneous non-industrial (not elsewhere classified), and solvent use.
Source: EPA 2013.
VOC = Volatile Organic Compounds.

Larger facilities near the proposed pipeline in New Mexico include the DCP Zia II Gas Plant, the Monument Gas Plant, the Monument Booster Station, and potash mines (NMED AQB 2014). In Andrews and Gaines Counties in Texas, there are 15 major sources of emissions. Many support oil and gas operations in the area. Common types of facilities include pipeline compressor stations, gas plants, and oil and gas tank batteries.

Class I and Other Special Designation Areas

The nearest Class I area to the Proposed Action is Carlsbad Caverns National Park, approximately 45 miles southwest from the western edge of the proposed pipeline. There is no IMPROVE monitor in the park, but a representative monitor exists at Guadalupe Mountains National Park, approximately 35 miles southwest of Carlsbad Caverns National Park. The standard visual range is the distance that can be seen on a given day. From 1989 to 2010, the standard visual ranges for Guadalupe Mountains National Park range from 111 to 155 miles on the best visibility days, 71 to 104 miles on intermediate visibility days, and 40 to 61.5 miles on the worst visibility days (IMPROVE 2011). The visibility on the worst days at Guadalupe Mountains National Park may have diminished since monitoring began, but a careful analysis of fire activity in the area would be necessary in order to draw conclusions about the cause of some peaks in recent years (BLM 2014). A recent study indicates that pollutants contributing to reductions in visibility are largely coming from outside the region (Applied Enviro Solutions 2011).

Global Climate Change

The 2013 Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report states that the atmospheric concentrations of well-mixed, long-lived GHGs, including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), have increased to levels unprecedented in at least the last 800,000 years. Further, human influence has been detected in warming of the atmosphere and the ocean, changes in the global water cycle, reductions in snow and ice, global mean sea level rise, and changes in some climate extremes. It is extremely likely (95%–100% probability) that human influence has been the dominant cause of the observed warming since the mid-twentieth century (IPCC 2013).

Global mean surface temperatures have already increased 1.5°F from 1880 to 2012. Additional near-term warming is inevitable due to the thermal inertia of the oceans and ongoing GHG emissions. Assuming there are no major volcanic eruptions or long-term changes in solar irradiance, global mean surface temperature increase for the period 2016–2035 relative to 1986–2005 would likely be in the range of 0.5°F to 1.3°F. Global mean temperatures are expected to continue rising over the twenty-first century under all of the projected future representative concentration pathway scenarios. Global mean temperatures in 2081–2100 are projected to be between 0.5°F and 8.6°F higher relative to 1986–2005.

A recent study indicated that the increase in mean annual temperatures in New Mexico has exceeded the global average increase by nearly 50% since the 1970s (Enquist 2008). Increases in mean winter temperatures have contributed to the rise. When compared to baseline levels, the period between 1991 and 2005 show temperature increases in over 95% of the geographical area of New Mexico. Warming is greatest in the northwestern, central, and southwestern parts of the state. For Andrews and Gaines Counties in Texas, warming trends of 0.4°F to 0.9°F per century have been observed for the area (Nielson-Gammon 2011).

In the region of the Proposed Action, it is estimated that 0.01% of U.S. total GHG emissions are produced through oil and gas production in the Permian Basin (BLM 2014). According to the NMED, emissions of GHGs in New Mexico remained essentially level from 2000 to 2007, despite a 6.7% growth in New Mexico's population over that period. The largest sources of GHG emissions in 2007 were electricity production (42%), the fossil fuel industry (22%) and transportation fuel use (20%), which remains consistent with estimation for the years 1990 and 2000 (NMED AQB 2010). From 1990 to 2010, New Mexico's GHG emissions have increased at an annual rate of 1.1%. Electricity generation, transportation, and fugitive sources account for around 38%, 18%, and 17% of New Mexico's GHG emissions in 2010, respectively (NMED AQB 2014). GHG emission data for Texas is not readily available for Andrews and Gaines Counties. Texas is the highest-emitting state for energy-related GHG emissions in 2007. However, the state also saw one of the greatest absolute declines in GHG emissions for the period of 2004 to 2007.

Per EPA rule, GHG emissions are quantified in carbon dioxide equivalent (CO_2e). CO_2e is calculated using an EPA-defined formula that assigns a global warming potential to greenhouse gases. For example, CH_4 has a global warming potential of 25, so 1 ton of CH_4 emissions are equal to 25 tons CO_2e (40 CFR 98). This method allows all GHG emissions to be considered together.

3.1.2 Impacts from the No Action Alternative

The following section presents the impact of the No Action alternative to air resources.

Direct and Indirect Impacts

Under the No Action alternative, the pipeline and associated facilities would not be built. As a result of the No Action alternative, emissions due to construction and operation of the project would not occur.

Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

3.1.3 Impacts from the Proposed Action

The following sections present the impact of the Proposed Action to air resources. First, a criterion for determining significant impacts is proposed based on existing laws and regulations. Then, impacts from the Proposed Action are determined according to the described methodology. Finally, the impacts from the Proposed Action are compared against the criteria to determine if the impacts are significant.

Impact Criteria

Under FLPMA and the Clean Air Act, the BLM cannot conduct or authorize any activity that does not conform to all applicable federal, state, tribal, or local air quality laws, statutes, regulations, standards, or implementation plans. Therefore, impact criteria are based on those laws, statutes, standards, or implementation plans. Significant direct and indirect impacts from the Proposed Action can be assumed to result if it is demonstrated that:

- The NAAQS or NMAAQS would be exceeded;
- Class I or Class II PSD increments would be exceeded;
- Air quality related values would be impacted beyond acceptable levels; or
- General conformity de minimis levels would be exceeded.

It is difficult to quantitatively determine whether air quality standards, Class I or Class II PSD increments, or AQRVs would be exceeded or impacted beyond acceptable levels during the construction and operation of the Proposed Action. However, while the Proposed Action is not located in a maintenance or non-attainment area, a comparison of the Proposed Action's projected emissions to general conformity *de minimis* thresholds is useful in determining whether the Proposed Action would have a significant impact. If the general conformity threshold is exceeded, a potential for significant direct and indirect impacts may occur.

For this analysis, general conformity *de minimis* levels are used to compare to construction and operational emission estimates. These potential significant impacts are evaluated separately as

construction-phase emissions (those emissions that are expected to be temporary in nature) and operational-phase emissions (those emissions that are expected to originate from routine inspection and maintenance of the pipeline). Additionally, for purposes of comparison, emissions from construction and operation of the Proposed Action are compared to the Lea County emission inventory, as approximately two-thirds of the Proposed Action is located within Lea County.

Emissions Calculation Methodology

Construction-related emissions include exhaust from construction equipment, emissions from construction worker vehicle commute, pipeline material delivery, and fugitive dust from earthmoving activities. Operational-related emissions include inspection and maintenance activities, which consist of periodically driving the length of the pipeline to inspect for leaks and ROW encroachments.

Construction equipment emissions are based on the South Coast Air Quality Management District's (SCAQMD's) Off-Road Model Mobile Source Emission Factors for the 2015 vehicle fleet (SCAQMD 2007a). The appropriate emission factor, the estimated quantity of equipment needed, the expected hours per day of operation, and total weeks of use during construction of the Proposed Action were used in determining emissions from construction equipment. In determining emissions due to the commute of construction workers and of pipeline material delivery, SCAQMD emission factors for 2015 for On-Road Passenger Vehicles and Heavy-Heavy-Duty-Vehicles (with vehicle weights ranging from 33,001 to 60,000 pounds) were used, along with estimates of the maximum number of construction workers (300 people) and pipeline material loads (340 loads) (SCAQMD 2007b). Estimates of fugitive dust emissions due to construction were based on the Western Regional Air Partnership's (2006) Fugitive Dust Handbook and the expected ground area to be disturbed during construction (600 acres). Inspection- and maintenance-related activities are based on an estimated number of inspections per year, traveling the entire length of the project.

Direct and Indirect Impacts

Direct and indirect impacts are presented below. These potential impacts are evaluated separately as construction emissions (those emissions that are expected to be temporary in nature) and operational emissions.

Construction-related Emissions

Emissions from the construction of the Proposed Action are expected to be short term in duration (less than 1 year). During construction, impacts to air quality are generally from fugitive dust generation and the combustion of fuel from commuting and construction equipment. Common sources of fugitive dust include unpaved roads, aggregate storage piles, and heavy construction operations (EPA 1995). The sources of construction-related emissions are grouped as construction equipment engine exhaust, emissions from worker vehicle commuting trips, pipeline material delivery, and fugitive dust from earthmoving and equipment. Construction emissions from the Proposed Action are presented in Table 3.11.

Table 3.11. Construction Related Emissions in Tons Resulting from the Proposed Action

Source	CO	NO_x	SO_x [1]	PM_{10}	$PM_{2.5}$	VOCs	HAPs	CO_2e
Construction equipment	29.97	54.21	0.09	2.48	0.25	7.40	0.74	8,930
Construction worker commuting	8.42	0.83	0.01	0.13	0.08	0.91	0.09	1,513
Pipeline material delivery	0.12	0.34	< 0.01	0.02	0.01	0.03	< 0.01	68
Earthmoving activities	-	-	-	49.24	4.92	-	-	-
Total	***38.51***	***55.38***	***0.11***	***51.87***	***5.27***	***8.34***	***0.83***	***10,511***

Source	CO	NO_x	SO_x [1]	PM_{10}	$PM_{2.5}$	VOCs	HAPs	CO_2e
Percent of Total Lea County Emissions	***0.11%***	***0.24%***	***< 0.01%***	***0.49%***	***0.13%***	***0.01%***	***0.01%***	***N/A*** [2]

[1] All oxides of sulfur (including SO_2). For purposes of comparison, SO_2 emissions reported in the county inventory are assumed to be equal to SO_x.
[2] CO_2e emissions are not reported for all sources in the county inventory. Therefore, CO_2e emissions are not compared to the county inventory.
VOCs = Volatile Organic Compounds.

All emissions from the construction of the Proposed Action are below the general conformity *de minimis* thresholds and are less than 0.5% of the Lea County emissions inventory. Emissions of fugitive dust are greatest due to the area of construction for the pipeline and associated earthmoving activities. The transient nature of construction activities occurring along the pipeline segments would minimize annual impacts in any one location. Significant impacts to air resources are not likely to occur from the construction of the Proposed Action.

Operational- and Maintenance-related Emissions

Routine inspections and maintenance-related activities would occur during the operation of the pipeline. These activities have the potential to release regulated pollutants into the atmosphere and degrade air quality. Operational- and maintenance-related emissions are presented in Table 3.12.

Table 3.12. Operational-related Emissions in Tons per Year Resulting from the Proposed Action

Source	CO	NO_x	SO_x [1]	PM_{10}	$PM_{2.5}$	VOCs	HAPs	CO_2e
Routine inspections and maintenance	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	1.75
Total Operational Emissions	***0.01***	***< 0.01***	***< 0.01***	***< 0.01***	***< 0.01***	***< 0.01***	***< 0.01***	***1.75***
Percent of Total Lea County Emissions	***< 0.01%***	***< 0.01%***	***< 0.01%***	***< 0.01%***	***< 0.01%***	***< 0.01%***	***< 0.01%***	***N/A*** [2]

[1] All oxides of sulfur (including SO_2). For purposes of comparison, SO_2 emissions reported in the county inventory are assumed to be equal to SO_x.
[2] CO_2e emissions are not reported for all sources in the county inventory. Therefore, CO_2e emissions are not compared to the county inventory.
VOCs = Volatile Organic Compounds.

All emissions resulting from operational- and maintenance-related activities are below the general conformity *de minimis* thresholds and are less than 0.01% of the Lea County emissions inventory. These emissions are not expected to degrade air quality in the region. Significant impacts to air resources are not likely to occur from the operation of the Proposed Action.

The winds that frequent southeast New Mexico and west Texas generally disperse odors and emissions; however, air quality would be impacted temporarily from exhaust emissions, chemical odors, dust caused by vehicles traveling to and from the project area, and from motorized equipment used during construction. Impacts to air quality would diminish upon completion of the construction of the Proposed Action.

Cumulative Impacts

Potential cumulative effects, when combined with neighboring oil and gas development projects and existing ambient air quality, may include an increase in short- or long-term regional air quality

deterioration. For that reason, the analysis area considered for cumulative impacts is larger than the analysis area considered for direct and indirect impacts caused from the implementation of the Proposed Action. The cumulative effects analysis area extends 31 miles from the ROW. Therefore, in addition to the counties considered in the Proposed Action analysis area (Lea and Eddy Counties in New Mexico and Andrews and Gaines Counties in Texas), the analysis area for cumulative impacts encompasses portions of Chaves County in New Mexico and Yoakum, Winkler, and Ector Counties in Texas. For discussion of cumulative impacts, impacts to southeast New Mexico are considered similar to the cumulative impacts to west Texas, because the Permian Basin extends through the analysis area.

Current Trends Expected to Continue

Oil and gas development, which includes oil and gas production, natural gas compressor stations and pipelines, gas plants, and petroleum refining, contributes to air pollutants and GHG emissions throughout the analysis area. The analysis area is currently experiencing a rapid expansion of oil and gas development, which is expected to continue in the future. Currently, there are approximately 38,584 active, producing, or inactive (shut in or temporarily abandoned) oil and gas wells in Lea, Eddy, and Chaves Counties (BLM 2014). Consequently, air quality trends that have been developing over the past decade are expected to continue.

In Carlsbad, O_3 concentrations have increased approximately 6% from 2001 to 2010 (EPA 2013). An emissions inventory conducted for 2007 included Chaves, Lea, and Eddy Counties in southeastern New Mexico and shows that volatile organic compound (VOC) emissions from biogenic (natural) sources are far greater than those from anthropogenic (human) sources and account for 91% of VOCs inventoried (BLM 2014). Point source emissions account for 40% of anthropogenic VOC emissions in the area, solvent use accounts for 15%, and fire accounts for 8%. Oil and gas area sources produce only 1.4% of VOCs in the area, while pipeline transport of oil and gas accounts for 1.7%.

NO_x emissions in the Carlsbad area are largely anthropogenic, and account for 88% of the 2007 inventory. Of the total human-caused NO_x emissions, industrial point sources account for 84%, on-road mobile sources account for 7%, oil and gas area sources account for 5%, non-road mobile sources account for 2%, and residential heating with natural gas and propane account for 1% (BLM 2014).

New Mexico shows a trend in reduction of CO concentrations, which mirrors the national trend. In Chaves, Lea, and Eddy Counties, anthropogenic sources account for 65% of CO emissions and biogenic sources 35%. Of the anthropogenic sources, 47% are from on-road mobile sources, 24% from industrial point sources, 14% from non-road mobile sources, 9% from fire, and 2% each from oil and gas area sources and waste disposal burning (BLM 2014).

Particulate matter concentrations (including PM_{10} and $PM_{2.5}$) have decreased from 2001 to 2010 (EPA 2013). The bulk of emissions for both PM_{10} and $PM_{2.5}$ are from dust from unpaved roads (88% and 65%, respectively). For PM_{10}, the next three highest categories are point sources at 2.8%, tilling and harvesting at 2.6%, and paved roads at 2.4%. Oil and gas area sources account for only 0.1% of PM_{10} emissions. For $PM_{2.5}$, the next three highest categories are point sources at 17%, fire at 4.3%, and tilling and harvesting at 2.8%. Oil and gas area sources account for 0.8% of $PM_{2.5}$ emissions in the area (BLM 2014).

Nationally, SO_2 concentrations have decreased 83% since 1980 and have decreased 6% from 2000 to 2010 (EPA 2013). SO_2 monitoring sites in southeastern New Mexico have been discontinued due to very low concentrations. The Carlsbad area 2007 emissions inventory does not differentiate between SO_2 and SO_x, but SO_x includes SO_2 and other oxides of sulfur, and the percentage of emissions by category is similar. Oil and gas sources account for 74% of all SO_x emissions with most of the remainder (25%) accounting for industrial point sources (BLM 2014).

With the elimination of Pb from gasoline and regulation of industrial sources, levels of Pb have decreased 94% nationwide between 1980 and 1999. Airports account for 95% of the Pb emissions in New Mexico. In Texas, 66% of Pb emissions are from airports and 10% are from smelting (BLM 2014).

The NMED has no routine monitors for H_2S. In a study by the USFWS, H_2S was monitored in southeast New Mexico to determine potential impacts to wildlife (USFWS 2010). Peak H_2S measurements near oil and gas facilities were generally found to be below 6 parts per million (ppm), but occasional peaks at 33

ppm and 27 ppm were noted near Loco Hills, New Mexico. Away from oil and gas operations, readings were less than 1 ppm.

Reasonably Foreseeable Actions

Reasonably foreseeable future actions in the area are generally those serving the oil and gas industry. The DCP Zia II Gas Plant, Western Refining and Centurion crude oil pipelines, and other pending oil and gas well pad and access roads would all be located in the area. More electric transmission lines and projects typical of an area with a growing population would also be expected.

Construction and operation of the Proposed Action would result in emissions of regulated pollutants. As discussed in the above sections, impacts from construction are considered short term and minor and the operation of the pipeline would result in minor, long-term emissions. Once built, the Proposed Action would have a minimal impact on air resources.

Climate Change

Climate change is a global process that results from global GHG emissions. Climate change may be affected by numerous factors including solar radiation, ocean circulation, and human activities such as burning fossil fuels or altering the Earth's surface through deforestation or urbanization (EPA 2014). Projected climate change impacts include air temperature increases; sea level rise; changes in the timing, location, and quantity of precipitation; and increased frequency of extreme weather events such as heat waves, droughts, and floods. While uncertainties remain regarding the timing and magnitude of climate change impacts, the scientific evidence predicts that continued increases in GHG emissions would lead to increased climate change.

Climate change will impact regions differently and warming will not be equally distributed. Natural internal variability will continue to be a major influence on climate, and both observations and computer model predictions indicate that increases in temperature are likely to be greater at higher latitudes, where the temperature increase may be more than double the global average. Warming of surface air temperature over land will very likely be greater than over oceans. There is also high confidence that warming relative to the reference period will be larger in the tropics and subtropics than in mid-latitudes. Frequency of warm days and nights will increase, and frequency of cold days and cold nights will decrease in most regions. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures are more likely than increases in daily maximum temperatures. Models predict increases in the duration, intensity, and extent of extreme weather events. The frequency of both high and low temperature events is expected to increase (IPCC 2013).

It is important to note that GHGs will have a sustained climatic impact over different temporal scales. For example, while CO_2's lifetime in the atmosphere is poorly defined, some excess emissions of CO_2 will remain in the atmosphere for thousands of years, due in part to the very slow process by which carbon is transferred to ocean sediments (EPA 2014).

Current research suggests that climate change will have several effects on the project area and throughout New Mexico (U.S. Forest Service 2010). Temperature levels in the Southwest are anticipated to rise as a result of global climate change. By the end of the twenty-first century, temperatures could rise by 5°F to 8°F. Overall precipitation levels in the Southwest are anticipated to fall by as much as 10% as a result of global climate change. The effects of these changes on the project are expected to be an increased risk of drought and wildfire.

It is difficult to state with any certainty what impacts on global warming may result from GHG emissions or to what extent the Proposed Action would contribute to those climate change impacts. As a result, any attempt to analyze and predict the local or regional impacts of the Proposed Action on GHG emissions cannot be done in any way that produces reliable results. On May 14, 2008, the Director of the USFWS noted, "The best scientific data available today do not allow us to draw a causal connection between GHG emissions from a given facility and effects posed to listed species or their habitats, nor are there sufficient data to establish that such impacts are reasonably certain to occur" (USFWS 2008).

Climate change analyses consist of several factors, including GHGs, land use management practices, and the albedo effect (a measure of how much of the sun's energy is reflected back into space). The

tools necessary to quantify incremental climatic impacts of specific activities associated with those factors are presently unavailable. As a consequence, impact assessment of effects of specific anthropogenic activities cannot be performed. Additionally, specific levels of significance have not yet been established. Qualitative and/or quantitative evaluation of potential contributing factors within the project area is included where appropriate and practicable. When further information on the impacts to climate change in southeast New Mexico is known, such information will be incorporated into the BLM's NEPA documents as appropriate.

Environmental and economic climate change impacts from commodity consumption are not effects of the proposed planning decisions and thus are not required to be analyzed under NEPA. They are not direct effects, as defined by the Council on Environmental Quality (CEQ), because they do not occur at the same time and place as the action. Neither are they indirect effects because the proposed plan actions and resulting GHG emissions production are not a proximate cause of the emissions or other factors resulting from consumption. The BLM does not determine the destination of the resources produced from federal lands. The effects from consumption are not only speculative, but beyond the scope of agency authority or control. Therefore, this document does not include analysis of the consumption of resources produced as a result of planning decisions.

Currently, there are no sites within or near the Proposed Action area that are collecting ambient GHG data. Ambient background data that exist are parametrically derived from fossil fuel combustion and other industrial sources. It is also difficult to state with any certainty what impacts on global warming may result from GHG emissions or to what extent the Proposed Action would contribute to those climate change impacts.

Construction (and, to a lesser extent, operation and maintenance) activities would result in GHG emissions, well below the CEQ threshold of 25,000 metric tons of GHGs requiring a further GHG emissions analysis. While the cumulative effect of climate change in the air quality analysis area would be major and long term, the contribution of the proposed project to this change would be negligible.

Mitigation Measures and Residual Impacts

Measures to minimize or eliminate impacts to air quality are described in the Proposed Action's project design features (see Section 2.1.4). No additional mitigation measures have been recommended.

3.2 Soil Resources

3.2.1 Affected Environment

According to the Natural Resources Conservation Service (2014), 45 mapped soil types are found within the project area. Soil types and descriptions for all soils accounting for greater than 1% of the project area are found in Table 3.13. A full description of all soil types in the project area presented in the BA (see Appendix B).

Table 3.13. Soil Types Found within the Project Area

Soil Type	Acres in Project Area	Percent of Project Area	Soil Description (abridged)
Berino-Cacique loamy fine sands association	22.84	3.82%	The parent material consists of sandy eolian deposits derived from sedimentary rock over calcareous sandy alluvium derived from sedimentary rock and calcareous eolian deposits derived from sedimentary rock.
Berino-Cacique fine sandy loams association	36.61	6.12%	Same as above.
Brownfield and Patricia fine sands	11.50	1.92%	The parent material consists of eolian deposits derived from sedimentary rock.

Soil Type	Acres in Project Area	Percent of Project Area	Soil Description (abridged)
Brownfield fine sand, thick surface	51.25	8.56%	This component is on sand sheets on plateaus. The parent material consists of sandy eolian deposits.
Faskin and Douro soils, gently undulating	11.40	1.90%	The parent material consists of loamy eolian deposits.
Jalmar-Penwell association, undulating	60.48	10.10%	This component is on sand sheets on plateaus. The parent material consists of sandy eolian deposits of Holocene age over loamy eolian deposits.
Kermit-Palomas fine sands, 0%–12% slopes	21.81	3.64%	This component is on dunes and sandhills. The parent material consists of calcareous sandy eolian deposits derived from sedimentary rock. The parent material consists of alluvium derived from sandstone.
Kermit soils and dune land, 0%–12% slopes	59.69	9.97%	This component is on dunes and sandhills. The parent material consists of calcareous sandy eolian deposits derived from sedimentary rock.
Kimbrough gravelly loam, 0%–3% slopes	15.98	2.67%	The parent material consists of calcareous alluvium and/or calcareous eolian deposits derived from sedimentary rock.
Kimbrough-Lea complex	25.08	4.19%	The parent material consists of calcareous alluvium and/or calcareous eolian deposits derived from sedimentary rock.
Mansker loam, 1%–3% slopes	7.21	1.21%	The parent material consists of calcareous loamy alluvium and/or calcareous loamy eolian deposits derived from sedimentary rock.
Ratliff-Wink fine sandy loams	28.87	4.82%	Same as above.
Patricia fine sand	17.57	2.94%	The parent material consists of sandy eolian deposits.
Pyote and Maljamar fine sands	41.46	6.93%	The parent material consists of sandy eolian deposits derived from sedimentary rock.
Pyote soils and dune land	66.85	11.17%	This component is on depressions and sandhills. The parent material consists of sandy eolian deposits derived from sedimentary rock.
Simona fine sandy loam, 0%–3% slopes	18.03	3.02%	The parent material consists of calcareous eolian deposits derived from sedimentary rock.
Tonuco loamy fine sand	14.74	2.46%	The parent material consists of eolian deposits derived from sedimentary rock.
Triomas and Wickett soils, gently undulating	35.42	5.92%	The parent material consists of sandy eolian deposits.
Other soil types (less than 1% of project area individually)	51.77	8.67%	Various.

The major soil types found in the project area as summarized in the above table are dunes, sandhills, sand sheets, or soils developed from eolian (windblown) and alluvium (water-eroded) parent material. They can be best characterized as loamy sands to sandy soils with coarse to moderately textured surface

soils. Due to the coarse texture of the soils within the project area, they are highly susceptible to erosion when vegetation cover is removed.

3.2.2 Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to soil resources, because the ROW would not be granted and no soils would be disturbed.

Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

3.2.3 Impacts from the Proposed Action

Direct and Indirect Impacts

Construction activities (e.g., clearing vegetation, grading, excavating, etc.) related to the trenching of the pipeline would directly impact approximately 598 acres of soil resources. Most of this would be short-term disturbance, with full vegetation reclamation of the area expected within 2 years after construction, given sufficient rainfall and proper seeding techniques. Long-term, direct impacts would result from the construction and permanent fencing of 0.42 acre of valve stations along the pipeline. Direct impacts to soils include increased erosion from the removal of the vegetative cover, contamination from accidental spills or leaks, and compaction of soil from heavy equipment usage resulting in a loss of structure and porosity. These impacts can lead to increased runoff and susceptibility to high wind events, and subsequently increased erosion.

Indirect impacts to soil resources can include a change to the overall productivity from the mixing of the topsoil with subsoil during trenching and grading activities. This has the greatest chance of occurring on sensitive soils, which include soils that are easily eroded with shallow profiles such as those found in the project area. Another indirect impact is the colonization of noxious weeds on disturbed soils. This can occur anywhere a soil is disturbed. Weeds can outcompete native species because of their ability to thrive under conditions with low soil water content, poor nutrient availability, and coarse textures. Per communication with the BLM CFO and comparison with similar projects in the region, it is reasonable to expect vegetation to be re-established along the pipeline corridor 2 years after construction. This assumes the project area would receive sufficient rainfall, proper seed bed preparation, appropriate seeding techniques, and a BLM-prescribed seed mix.

The project design features in Section 2.1.4 have been developed to minimize impacts to soils and maximize the potential for successful reclamation.

Cumulative Impacts

Any surface-disturbing activity that removes native vegetation and topsoil would adversely affect soils. Specific impacts to soils include removal of vegetation, exposure of soil, mixing of soil horizons (layers), soil compaction, loss of productivity, and increased susceptibility to wind and water erosion. Impacts from past and present actions within the 1,355,517-acre CIAA include approximately 97,136 acres of surface disturbance, including past construction of oil and gas well pads and access roads (approximately 7.1% of total CIAA), as well as the Zia II Gas Plant. Reclamation of some disturbed areas and use of BMPs for erosion control has reduced impacts to soils from some of these disturbances.

RFFAs would result in an additional 59 acres of surface disturbance within the CIAA. This is approximately 0.04% of the CIAA. There are no specific data on when project activities are scheduled to begin and when reclamation would be complete, but most of the soil types identified in the CIAA and in the project area have characteristics that could limit successful reclamation. RFFAs would require BMPs or other mitigation measures to mitigate soil movement and productivity loss. Together, past, present, and reasonably foreseeable surface disturbance would total 96,827 acres (approximately 7.14% of the CIAA).

The Proposed Action would disturb an additional 598 acres of soils, which is approximately 0.04% of the CIAA. This comprises a 0.6% addition to the past, present, and reasonably foreseeable surface disturbance identified above. This contribution would be localized and minimized from implementation of project design features and BMPs. Soil salvaged and used in reclamation would become viable and would be expected to return to pre-disturbance productivity once vegetation is established.

Mitigation Measures and Residual Impacts

Soil protection and restoration methods are included in the project design features (see Section 2.1.4). No residual impacts to soils were identified.

3.3 Water Resources

3.3.1 Affected Environment

Surface Hydrology

The project area occurs within four surface drainage sub-basins, as defined by the eight-digit Hydrologic Unit Codes (HUCs). Two of the watersheds drain to the Pecos River, while the other two drain towards the Colorado River.

Upper Pecos-Black Sub-basin (HUC 13060011)

The westernmost 20 miles (approximately) of the pipeline lie within the Upper Pecos-Black surface water sub-basin. This area is relatively flat with little defined drainage or topography and generally drains to the west-southwest towards the Pecos River, located roughly 30 miles to the west. There is no major drainage channel towards the Pecos River, only small localized drainages. Based on the National Hydrography Dataset (NHD), there are no channels or drainages crossed by the proposed pipeline that could be considered jurisdictional waters of the U.S.

The dominant hydrologic feature of this area is the presence of salt playas, which are the terminal areas of small closed drainage networks. There are three salt playas near the project area: Laguna Plata (about 1,100 acres in size), Laguna Tonto (200 acres), and Laguna Gatuna (400 acres). The proposed pipeline goes through the vicinity of these salt playas, and intersects one of them twice for approximately 100 total feet (Laguna Tonto). The proposed project also crosses an ephemeral drainage that flows into the Laguna Tonto playa lake. Aside from the salt playa and one ephemeral drainage, no other potential waters of the U.S., wetlands, or special aquatic sites were identified that would be impacted directly by the project.

There are several impaired waters as defined by Section 303(d) of the Clean Water Act within this sub-basin. Several sections of the Pecos River from the Texas border to the Rio Peñasco are impaired with boron, dissolved oxygen, PCBs, or pesticides. Three reservoirs along this same reach of the Pecos River (Avalon, Brantley, and Lower Tansil Lake) are also impaired for mercury, pesticides, or PCBs. The cause of these impairments is not fully known, but indications are that they may be from atmospheric deposition, springs, and anoxic groundwater (NMED 2012). While within the same sub-basin, all of these impaired waters are a long distance from the project area (at least 30 miles away), and potential impacts from the project area are not likely to affect these impaired waters.

There are no New Mexico Outstanding National Resource Waters within this sub-basin.

Landreth-Monument Draws Sub-basin (HUC 13070007)

The next 19 miles of the pipeline lie within the Landreth-Monument Draws surface water sub-basin. Technically this area drains south to the lower Pecos River, approximately 100 miles distant, but in reality this area is also relatively flat with little defined drainage or topography. Monument Draw is a discontinuous surface water feature in the area, which based on the NHD does not intersect with the proposed project. During field surveys of the project, Monument Draw did not exhibit a defined bed or bank. Based on the NHD, one pipeline is crossed but this crossing is not likely to be considered a jurisdictional water of the U.S. Monument Draw is a potential jurisdictional water of the U.S.

There are no impaired waters within this sub-basin from either the New Mexico or the Texas 303(d) list (NMED 2012; TCEQ 2014), nor are there any New Mexico or Texas Outstanding National Resource Waters within this sub-basin.

Monument-Seminole Draws Sub-basin (HUC 12080003)

The next 16 miles of the pipeline lie within the Monument-Seminole Draws surface water sub-basin. This area drains to the southeast, eventually reaching the upper Colorado River, with the major drainage being Monument Draw (note: this is a different Monument Draw than that discussed above). Based on the NHD, there are two crossings of potential jurisdictional waters of the U.S.; Monument Draw (a different Monument Draw than discussed in the previous section) is crossed by the proposed pipeline at two different locations. During field surveys of the project, both locations of Monument Draw did not exhibit a defined bed or bank. The proposed project also crosses an unnamed ephemeral drainage, which is a potential jurisdictional water of the U.S.

There are no impaired waters within this sub-basin from either the New Mexico or the Texas 303(d) list (New Mexico 2012; Texas Commission on Environmental Quality 2014), nor are there any New Mexico or Texas Outstanding National Resource Waters within this sub-basin.

Mustang Draw Sub-Basin (HUC 1208004)

The easternmost 10 miles of the pipeline lie within the Mustang Draw surface water sub-basin. This area also drains to the southeast, eventually reaching the upper Colorado River. The area is relatively flat with little defined drainage or topography. Based on the NHD, there are no crossings of potential jurisdictional waters of the U.S. within this sub-basin.

There are no impaired waters within this sub-basin from either the New Mexico or the Texas (303)d list (NMED 2012; TCEQ 2014), nor are there any New Mexico or Texas Outstanding National Resource Waters within this sub-basin.

Groundwater Hydrology

The project area occurs primarily within three groundwater areas: the Capitan and Lea County Basins, and the Ogallala Aquifer.

Capitan Basin

The westernmost 18 miles of the proposed pipeline overlie the Capitan Basin. Groundwater use within this basin is relatively limited, with small livestock and domestic uses, and industrial use for potash, oil, and gas development. Groundwater supplies in the Capitan Basin are primarily derived from the Capitan Limestone and also from the Castile, Rustler, and Dockum Formations. Groundwater quality is generally poor and well yields are limited (BGW 2001).

Lea County Basin and Ogallala Aquifer

The Lea County Basin is a geographic area designated by the New Mexico Office of the State Engineer (NMOSE) for the purposes of groundwater management; the Lea County Basin geographically ends at the Texas border. Physically, however, the primary aquifer of the Lea County Basin is the Ogallala Formation, which extends into Texas. The Ogallala Formation is a Tertiary-age sedimentary formation, composed primarily of unconsolidated, poorly sorted clay, silt, sand, and gravel. The Ogallala Aquifer is unconfined and the saturated thickness of the Ogallala Aquifer in the vicinity of the pipeline is approximately 50 to 250 feet (NMOSE 1999; U.S. Geological Survey 2000). Groundwater flow in the Ogallala Aquifer is generally to the southeast. The primary uses of groundwater in the vicinity of the pipeline are irrigation and public water supply, with Hobbs, Lovington, and Tatum having municipal well fields accessing the Ogallala. Areas of discontinuous shallow alluvial aquifers may also exist in the vicinity of the proposed pipeline (NMOSE 1999). Groundwater quality is variable, with generally good quality water but some areas in the vicinity of the pipeline have elevated dissolved solids (NMOSE 1999).

Groundwater Levels

Groundwater levels in the vicinity of the pipeline are generally less than 200 feet below ground the surface, but with some areas of relatively shallow water levels, including some measurements as shallow as 25 feet (NMOSE 2014).

3.3.2 Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to water resources, because the ROW would not be granted and no surface disturbance would occur.

Cumulative Impacts

No cumulative impacts would be realized as a result of the No Action alternative.

3.3.3 Impacts from the Proposed Action

Direct and Indirect Impacts

The proposed project crosses three potential waters of the U.S. These include two ephemeral drainages and two crossings of Laguna Tonto, an intermittent playa lake. Laguna Tonto will be crossed by the use of HDD and no impacts to it are expected to occur. The ephemeral drainages will be crossed by using traditional open-trench techniques. Once the pipe is installed, the drainages will be returned to pre-construction contours and significant no long-term impacts are expected. Construction within the on-site waters of the U.S. will be conducted consistent with the general conditions and regional conditions of Nationwide Permit 12.

The potential to impact water resources primarily lies with the indirect impacts that could occur due to stormwater runoff from pipeline construction activities into downstream waters or the nearby salt playas. While indirect impacts from stormwater movement of contaminants or sediment due to ground disturbance is a possibility, the stabilization and rehabilitation procedures described in Section 2.1.4, including established BMPs, are likely to limit any movement of contaminants or sediment and limit any indirect impacts. This Proposed Action would have no impact on either the Pecos River or the Colorado River, as these water bodies are a long distance downstream and the intervening waters are ephemeral in nature.

Depth to groundwater in the area can be relatively shallow. There is also the potential to impact groundwater resources from construction activities. Direct contact with groundwater is unlikely as trenching of the pipeline would only penetrate to approximately 5 to 6 feet deep. The greatest risk is from accidental spillage or release of contaminants that could migrate to groundwater. The use of BMPs, good housekeeping practices, and spill prevention, control, and cleanup procedures would minimize the risk of any impact to shallow groundwater resources, if they exist.

The project would also involve discharge of hydrostatic test water following completion and testing of the pipelines. Hydrostatic test water would be discharged to an upland area in compliance with required permits from the NMED or TCEQ, using appropriate discharge and erosion control measures. Given the nature and location of the controlled discharge, there is not likely to be any direct or indirect impacts to any waters of the U.S., salt playas, or groundwater resources.

Cumulative Impacts

Impacts from past and present actions within the 1,355,517-acre CIAA include approximately 97,136 acres of surface-disturbing activities including past construction of oil and gas well pads and access roads (approximately 7.1%) and also including the Zia II Gas Plant. Reclamation of some disturbed areas and use of BMPs for erosion control and stormwater events has reduced impacts to water by limiting sedimentation and controlling runoff.

RFFAs would result in an additional 59 acres of surface disturbance within the CIAA. This is approximately 0.04% of the CIAA. Impacts to surface water resources would depend on the placement and type of surface disturbance, the type of soil and the hydrology. The subject projects would require BMPs and other mitigation to reduce erosion and sedimentation. Together, past, present, and reasonably foreseeable surface disturbance would total 97,195 acres (approximately 7.14% of the CIAA).

The Proposed Action would disturb an additional 598 acres of soils, which is approximately 0.04% of the CIAA. This comprises a 0.6% addition to the past, present, and reasonably foreseeable surface disturbance identified above. This contribution would be localized and minimized from implementation of project design features and BMPs. No groundwater impacts are expected from the Proposed Action; therefore, this resource is not included in the cumulative impacts analysis.

Mitigation Measures and Residual Impacts

Measures to minimize or eliminate impacts to water resources are described in the Proposed Action's project design features (see Section 2.1.4). Areas impacted during construction would be returned to their pre-disturbance condition as soon as possible after final construction is completed. No additional mitigation measures have been recommended.

3.4 Upland Vegetation

3.4.1 Affected Environment

The project area occurs within three EPA Level IV ecoregions: Chihuahuan Desert Grasslands, Shinnery Sands, and Arid Llano Estacado (Griffith et al. 2006). Chihuahuan Desert Grasslands are found in areas of fine-textured soils, such as silts and clays that have a higher water retention capacity than coarse-textured, rocky soil. These grasslands are present in areas of somewhat higher annual precipitation (10–15 inches) than the Chihuahuan Basins and Playas ecoregion, such as elevated basins between mountain ranges, low mountain benches and plateau tops, and north-facing mountain slopes. Chihuahuan Desert Grasslands were once more widespread, but heavy grazing in the late nineteenth and early twentieth centuries was unsustainable, and desert shrubs invaded where the grass cover became fragmented. In grassland areas with lower rainfall, areal coverage of grasses may be sparse, 10% or less. Some areas are now mostly shrubs, as grasslands continue to decline due to erosion, drought, and climatic change. Typical grasses are black grama (*Bouteloua eriopoda*), blue grama (*B. gracilis*), sideoats grama (*B. curtipendula*), dropseeds (*Sporobolus* sp.), bush muhly (*Muhlenbergia porteri*), and tobosagrass (*Pleuraphis mutica)*, with scattered creosotebush (*Larrea tridentata*), prickly pear (*Opuntia* sp.), and cholla (*Cylindropuntia* sp.) (Griffith et al. 2006).

The Shinnery Sands ecoregion is the dominant habitat within the project area, covering 518.8 acres. This ecoregion includes sand hills and dunes, as well as flat sandy recharge areas. These sand beds lie at the western edge of the High Plains where rising winds drop heavier sand grains and carry finer material further east onto the flat expanse of the Llano Estacado. The ecoregion is named for the Havard (shinnery) oak (*Quercus havardii*) brush that stabilizes sandy areas subject to wind erosion. Although shinnery oak rarely grows higher than 4 feet, its extensive root system can reach over 50 feet through dune sand to reach water. The largest area of sand dunes, at the southwestern edge of the Llano Estacado, is composed of sands blown out of the Pecos River Basin against the Mescalero Escarpment of the Llano Estacado by prevailing southwesterly winds. These dunes serve as a major recharge area for the Pecos River. While sand sagebrush (*Artemisia filifolia*) and prairie grasses may create a continuous plant cover in portions of the Shinnery Sands ecoregion, the vegetative cover is vulnerable to overgrazing and subsequent dune blowouts, which may begin a cycle of dune formation. In dune areas, anchoring shrubs such as shinnery oak, fourwing saltbush (*Atriplex canescens*), and yucca (*Yucca* sp.) stabilize the dune sand for herbaceous grasses and forbs such as sand verbenas (*Abronia fragrans*), sunflowers (*Helianthus annuus*), fringed sagewort (*Artemisia frigida*), and hoary rosemary-mint (*Poliomintha incana*). Ephemeral ponds and swales between the dunes support rushes (*Juncus* sp.), sedges (*Carex* sp.), and sandbar willow (*Salix interior*). The Shinnery Sands are habitat for the LPC and DSL, two species that have exhibited significant population declines. The shrubs offer cover and shade for nesting LPCs, and shinnery oak acorns are a staple food source. Parts of the sand plains and dune fields of the Shinnery Sands ecoregion contain dense arrays of oil fields.

The Arid Llano Estacado ecoregion is drier than the main Llano Estacado region to the north. The ecoregion is a climate transitional area from the Chihuahuan Desert region to the southwest, and it has somewhat more broken topography and fewer playas than the plain to the north. Yearly precipitation is less due to a lack of winter precipitation and the absence of snow cover. Lack of precipitation in this region often causes a caliche layer closer to the surface, which increases the general drought condition of the soil. Land use is dominated by livestock grazing and more recently irrigated peanut production. Oil and gas production activities are widespread. Vegetation cover includes shortgrass prairie: blue, black, and hairy grama (*Bouteloua hirsuta*), buffalograss (*B. dactyloides*), silver bluestem (*Bothriochloa saccharoides*), sand dropseed (*Sporobolus cryptandrus*), threeawn (*Aristida* sp.), Arizona cottontop (*Digitaria californica*), hairy tridens (*Erioneuron pilosum*), muhly (*Muhlenbergia* sp.), bottlebrush (*Callistemon* sp.), squirreltail (*Elymus elymoides*), and sand sagebrush. Burrograss (*Scleropogon* sp.), threeawn, tobosagrass (*Pleuraphis mutica*), and broom snakeweed (*Gutierrezia sarothrae*) increase with grazing activities. Forbs include bush sunflower (*Encelia californica*), gray goldaster (*Heterotheca canescens*), dalea (*Dalea* sp.), and gayfeather (*Liatris* sp.). Mesquite (*Prosopis* sp.), narrowleaf yucca (*Yucca angustissima*), juniper (*Juniperus* sp.), and ephedra (*Ephedra* sp.) compose invading shrub cover (Griffith et al. 2006).

SWCA biologists performed pedestrian surveys of the project area in April to June 2014. The results of these surveys and a list of plant species observed can be found in the BA (see Appendix B). None of the plant species recorded corresponds to a special status species.

Noxious Weeds

There are four plant species within the CFO region that are listed as noxious weeds by the New Mexico Department of Agriculture (NMDA) targeted for control and eradication pursuant to the Noxious Weed List and Noxious Weed Management Act of 1998 (NMDA 2009). These include two Class B noxious weed species, African rue (*Peganum harmala*) and Malta starthistle (*Centaurea melitensis*), and two Class C noxious weed species, Russian olive (*Elaeagnus angustifolia*) and saltcedar (*Tamarix* sp.). African rue and Malta starthistle populations have been identified throughout the CFO region and mainly occur along the shoulders of highways, state and county roads, lease roads, and well pads (especially abandoned well pads). The CFO has an active noxious weed monitoring and treatment program, in addition to partnerships with county, state, and federal agencies and industry, to chemically treat infested areas and monitor the counties for new infestations. The CFO actively patrols this area twice a year, in the spring and fall, specifically to identify and treat any populations of Malta starthistle or African rue. None of these four noxious weed species or other NMDA noxious weeds were found during SWCA's surveys of the project area.

3.4.2 Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to vegetation, because the ROW would not be granted and no ground disturbance would occur.

Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

3.4.3 Impacts from the Proposed Action

Direct and Indirect Impacts

General Vegetation Communities

Impacts to plant communities and habitats from the construction of the pipeline and associated aboveground appurtenances would include 598 acres of temporary, direct impacts from vegetation removal. Short-term impacts would be incurred during initial site preparation and would continue until successful revegetation of the pipeline ROW is achieved, which is estimated to be 2 years after construction. Long-term impacts from 0.42 acre vegetation loss would last throughout the operational life

of the aboveground valve stations. Direct or indirect impacts from project activities could incur short- or long-term changes in species composition, abundance, and distribution.

Direct impacts on plant communities and habitats would be expected to occur along the entire project area. Vegetation would be removed via blading 50 feet within the ROW and the remaining 25 feet would have vegetation removal without topsoil disturbance.

Indirect impacts to vegetation may occur as a result of the deposition of fugitive dust generated during clearing and grading activities, the use of access roads, or from wind erosion of exposed soils. This could reduce photosynthesis and productivity, increase water loss (Eveling and Bataille 1984) in plants near the project area, and result in injury to leaves. Considerable amounts of fugitive dust could be generated from the large areas of disturbed soil from trenching and blading associated with construction. Plant community composition could subsequently be altered, resulting in habitat degradation. In addition, pollinator species could be affected by fugitive dust, potentially reducing pollinator populations in the vicinity. Localized impacts on plant populations and communities could occur if seed production in some plant species is reduced.

Noxious Weeds

Any surface disturbance can increase the possibility of establishment of new populations of invasive, non-native species. The construction of the Proposed Action may contribute to the establishment and spread of African rue and Malta starthistle, which are known to occur in the project vicinity. The main mechanism for seed dispersion would be by equipment and vehicles that were previously used and/or driven across noxious weed infested areas. Noxious weed seed could be carried to and from the project area by construction equipment and transport vehicles. BMPs to prevent the spread and new propagation of invasive, non-native species is incorporated into the project design are listed in Section 2.1.4.

Cumulative Impacts

Impacts from past and present actions within the 1,355,517-acre CIAA include approximately 97,136 acres (approximately 7.1%) of surface-disturbing activities with the resulting losses in vegetation and potential for spread of noxious and invasive species. Reclamation of some disturbed areas and use of BMPs has reduced the overall impact to vegetation; however, revegetation efforts are not always successful and drought conditions can impact that success. Reclamation can also result in some alterations to the plant communities within the CIAA, including the introduction of noxious or invasive species.

RFFAs would result in an additional 59 acres of surface disturbance within the CIAA. This is approximately 0.04% of the CIAA. Impacts to vegetation would depend on the type of vegetative cover found in the respective project areas. The subject projects would require BMPs and other mitigation to promote successful revegetation. In time, the reclaimed and seeded areas would result in stable plant communities with densities that are similar to the pre-disturbance plant densities. However, disturbed areas would be candidates for invasion by non-native species such as noxious weeds. Areas at risk would be the entire 598 acres of proposed disturbance, plus all acreage within 200 feet of disturbed areas. Together, past, present, and reasonably foreseeable surface disturbance would total 97,195 acres (approximately 7.14% of the CIAA).

The Proposed Action would disturb an additional 598 acres of vegetation, which is approximately 0.04% of the CIAA. This comprises a 0.6% addition to the past, present, and reasonably foreseeable surface disturbance identified above. This contribution would be localized and minimized from implementation of project design features and BMPs. Because earlier disturbances would undergo reclamation concurrent with later disturbances, it is expected that at least portions of the total 598 acres of disturbance would be temporally removed from the RFFAs described above, further reducing impacts to vegetation resources in terms of total cumulative acres of disturbance at one point in time.

Mitigation Measures and Residual Impacts

Measures to minimize impacts to vegetation, as well as revegetation measures, are described in the Proposed Action's project design features (see Section 2.1.4).

After construction, the project area would be reclaimed with a BLM-prescribed seed mix. In some areas, restoration may potentially include species that are not locally native or plant communities different from local native communities. Although the replanting of disturbed soils may successfully establish vegetation in some locations (i.e., with a biomass and species richness similar to those of local native communities), the resulting plant community may be quite different from native communities in terms of species composition and representation of particular vegetation types, such as shrubs. The community composition of replanted areas would likely be greatly influenced by the species that are initially seeded, and colonization by species from nearby native communities may be slow. In addition, the planting of non-native species may result in the introduction of those species into nearby natural areas. The establishment of mature native plant communities may require decades, and some community types may never fully recover from disturbance. Successful re-establishment of some habitat types, such as shinnery oak and sand sagebrush communities, may be difficult and may require considerably greater periods of time. Restoration of plant communities in areas with arid climates (e.g., averaging less than 9 inches of annual precipitation) would be especially difficult (Monsen et al. 2004).

3.5 Wildlife

3.5.1 Affected Environment

The Chihuahuan Desert Grasslands, Shinnery Sands, and Arid Llano Estacado ecoregions (Griffith et al. 2006) provide habitat for a variety of wildlife species. The BLM CFO RMPA contains a description of wildlife species that are found within the planning area (BLM 2008a). The BLM CFO wildlife management objective is to manage habitats on public land for the conservation and rehabilitation of fish, wildlife, and plant resources consistent with multiple use management principles (BLM 2008a).

SWCA biologists conducted a field survey of the project area from April to June 2014. Table 3.14 lists the wildlife detected during the survey (bolded entries denote special status species). A full description of the biological survey and effects analysis is found in Appendix B.

Table 3.14. Wildlife Detected during Biological Surveys, April–June 2014

Common Name	Scientific Name
Birds	
American crow[1]	*Corvus brachyrhynchos*
American kestrel[1]	*Falco sparverius*
Ash-throated flycatcher[1]	*Myiarchus cinerascens*
Barn swallow[1]	*Hirundo rustica*
Black-throated sparrow[1]	*Amphispiza bileata*
Blue grosbeak[1]	*Passerina caerulea*
Brewer's blackbird[1]	*Euphagus cyanocephalus*
Brewer's sparrow[1]	*Spizella breweri*
Bullock's oriole[1]	*Icterus bullockii*
Burrowing owl[1, 2, 3]	*Athene cunicularia*
Cactus wren[1]	*Campylorhynchus brunneicapillus*
Canyon towhee[1]	*Pipilo fuscus*
Cassin's kingbird[1]	*Tyrannus vociferans*
Chihuahuan raven[1]	*Corvus cryptoleucus*
Chipping sparrow[1]	*Spizella passerina*
Clay-colored sparrow[1]	*Spizella pallida*
Cliff swallow[1]	*Petrochelidon pyrrhonota*
Common raven[1]	*Corvus corax*
Crissal thrasher[1]	*Toxostoma crissale*
Curve-billed thrasher[1]	*Toxostoma curvirostre*
Eastern meadowlark[1]	*Sturnella magna*
Ferruginous hawk[1, 2]	*Buteo regalis*
Golden eagle[1]	*Aquila chrysaetos*

Common Name	Scientific Name
Great-tailed grackle[1]	*Quiscalus mexicanus*
Greater roadrunner[1]	*Geococcyx californianus*
Green-tailed towhee[1]	*Pipilo chlorurus*
Harris's hawk[1]	*Parabuteo unicinctus*
House finch[1]	*Haemorhous mexicanus*
House wren[1]	*Troglodytes aedon*
Killdeer[1]	*Charadrius vociferus*
Ladder-backed woodpecker[1]	*Picoides scalaris*
Lark bunting[1]	*Calamospiza melanocorys*
Lark sparrow[1]	*Chondestes grammacus*
Loggerhead shrike[1, 2]	*Lanius ludovicianus*
Mourning dove[1]	*Zenaida macroura*
Northern bobwhite[1]	*Colinus virginianus*
Northern mockingbird[1]	*Mimus polyglottos*
Pyrrhuloxia[1]	*Cardinalis sinuatus*
Say's phoebe[1]	*Sayornis saya*
Scaled quail[1]	*Callipepla squamata*
Scissor-tailed flycatcher[1]	*Tyrannus forficatus*
Swainson's hawk[1]	*Buteo swainsoni*
Vesper sparrow[1]	*Pooecetes gramineus*
Violet-green swallow[1]	*Tachycineta thalassina*
Western kingbird[1]	*Tyrannus verticalis*
Western meadowlark[1]	*Sturnella neglecta*
White-crowned sparrow[1]	*Zonotrichia leucophrys*
White-throated sparrow[1]	*Zonotrichia albicollis*
Yellow-rumped warbler[1]	*Setophaga coronata*
Mammals	
Badger[1]	*Taxidea taxus*
Domestic cattle[1]	*Bos* sp.
Cottontail rabbit[1]	*Sylvilagus* sp.
Coyote[1]	*Canis latrans*
Jackrabbit[1]	*Lepus californicus*
Javelina[1]	*Pecari tajacu*
Kangaroo rat[2]	*Dipodomys* sp.
Mule deer[1]	*Odocoileus hemionus*
Pronghorn[1]	*Antilocapra americana*
Wood rat[2]	*Neotoma* sp.
Reptiles	
Common side-blotched lizard[1]	*Uta stansburiana*
Unknown lizard[1]	*Sceloporus* sp.
Western box turtle[1]	*Terrapene ornate*
Whiptail lizard[1]	*Cnemidophorus* sp.
Invertebrates	
Unknown fly[1]	*Diptera* sp.
Unknown grasshopper[1]	*Orthoptera* sp.

Note: [1]Direct observation; [2] mounds and/or nests; [3] tracks and/or scats; [4] carcass/shell.

A number of big game species have the potential to occur in and around the project area, including mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), and javelina (*Peccari tajacu*). Small game species could include scaled quail (*Callipepla squamata*) and Montezuma quail (*Cyrtonyx montezumae*). Badger (*Taxidea taxus*), long-tailed weasel (*Mustela frenata*), gray fox (*Urocyon*

cinereoargenteus), red fox (*Vulpes vulpes*), ringtail (*Bassariscus astutus*), and bobcat (*Lynx rufus*) also have the potential to occur in the project area in a variety of habitats (Findley et al. 1975; Frey 2004).

An abundance of non-game species are also known to occur within the CFO's jurisdiction, including mammals, reptiles, amphibians, raptors, and neotropical migrants. Due to the range of habitats present within the project area, such species are numerous and diverse. Non-game mammals with the potential to occur in the project area include desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), ground squirrels, mice, rats, shrews, and bats. Various reptiles and amphibians have the potential to occur in the project area, including but not limited to western diamondback rattlesnake (*Crotalus atrox*), coachwhip (*Coluber flagellum*), desert kingsnake (*Lampropeltis getula*), bull snake (*Pituophis catenifer*), Texas horned lizard (*Phrynosoma cornutum*), side-blotched lizard (*Uta stansburiana*), checkered whiptail (*Aspidoscelis tesselata*), collared lizard (*Crotaphytus collaris*), ornate box turtle (*Terrapene ornata*), Great Plains toad (*Anaxyrus cognatus*), Mexican spadefoot toad (*Spea multiplicata*), Couch's spadefoot toad (*Scaphiopus couchii*), and eastern tiger salamander (*Ambystoma tigrinum*) (Degenhardt et al. 1996; Stebbins 2003)

A variety of raptor species have the potential to occur in the project area, including but not limited to golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*B. jamaicensis*), rough-legged hawk (*B.* lagopus), Harris's hawk (*Parabuteo unicinctus*), Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus*), barn owl (*Tyto alba*), western burrowing owl (*Athene cunicularia hypugaea*), great horned owl (*Bubo virginianus*), western screech owl (*Otus kennicotti*), American kestrel (*Falco sparverius*), prairie falcon (*F. mexicanus*), and aplomado falcon (*F. femoralis*) (Cartron 2010). A myriad of neotropical migrants may also be found in the project area varying with vegetation community type (BLM 2013).

Migratory Birds

The Migratory Bird Treaty Act (MBTA) provides federal protection to all migratory birds, including their nests and eggs. The MBTA prohibits the taking, hunting, killing, selling, purchasing, etc., of migratory birds, parts of migratory birds, or their eggs and nests. Most bird species native to North America are covered by the MBTA. Numerous bird species in addition to active and inactive passerine and raptor nests were observed during SWCA's April to June 2014 field survey. Occupied nests included one ferruginous hawk nest, two loggerhead shrike (*Lanius ludovicianus*) nests, and two active burrowing owl nesting burrows (see Table 3.14 for a full list of birds observed during biological surveys).

Bald and Golden Eagle Protection Act

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles are protected under the Bald and Golden Eagle Protection Act and the MBTA. In New Mexico the bald eagle is found typically in association with water and nests only at a few undisclosed locations along lakes or streams in the northern and western portions of the state (Stahlecker and Walker 2010). The golden eagle nests primarily on rock ledges or cliffs, less often in large trees at elevations ranging from 4,000 to 10,000 feet and is typically found in mountainous regions of open country, prairies, arctic and alpine tundra, open wooded areas, and barren areas. Both bald and golden eagles are carnivores. In New Mexico, bald eagles prey on fish but also on mammals, especially prairie dogs (*Cynomys* sp.). Golden eagles feed mainly on small mammals, as well as invertebrates, carrion, and other wildlife (Biota System of New Mexico [BISON-M] 2014).

Bald eagles are unlikely to occur in the project area due to the lack of water, trees, and preferred prey. No bald eagles were observed during the field survey. A golden eagle was observed flying near the project area near the New Mexico/Texas state line (see Appendix B).

3.5.2 Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to wildlife or migratory birds, because the ROW would not be granted and no ground disturbance or noise related to construction and operations would occur.

Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

3.5.3 Impacts from the Proposed Action

Direct and Indirect Impacts

General Wildlife

Impacts to wildlife would result from actions that alter wildlife habitats, including changes to habitat and disturbance. Altering wildlife habitat in ways that would be considered adverse may occur directly (through habitat loss from surface disturbance) or indirectly (through the reduction in habitat quality caused by increased noise levels and increased human activity).

Construction of the pipeline and aboveground appurtenant facilities would result in approximately 598 acres of temporary, direct surface disturbance and habitat removal. Construction of the pipeline would cause short-term impacts by temporarily removing vegetation from the 75-foot-wide ROW.

Reclamation of the disturbed pipeline areas is expected to return those affected areas to herbaceous production within 2 years after construction, depending on drought conditions. Additional short-term impacts may include displacement of wildlife during construction activities or exposure of wildlife to hazards such as open trenches and project-related vehicle traffic.

Long-term, direct impacts to wildlife include the permanent removal and fencing of 0.42 acre of vegetated area to permanent aboveground valve stations. After construction, most species should become acclimated to the operational activity associated with maintenance and operations of the facilities, as wildlife typically habituate to and become accustomed to new noise and activity over the long term.

Migratory Birds

Impacts to any migratory birds present in the general area at the time of construction are possible in the form of noise disturbance, but such impacts would be temporary. The majority of project construction would occur outside the migratory bird season (March–August). If such timing is not feasible or construction extends beyond March, construction would be preceded by migratory bird surveys to identify the possibility of active nests in the project area and establish avoidance buffers around any occupied nests. Adult migratory birds would not be directly harmed by the Proposed Action because of their mobility and ability to avoid areas of human activity.

The increased human presence, traffic, noise levels, and dust dispersion during construction and reclamation may indirectly disturb or displace adults from nests and foraging habitats within and surrounding the project area in the short term (approximately 1 year of construction and 1 year of reclamation). Long-term production operations would result in only a slight increase in human activity in the immediate project area.

The Proposed Action is not expected to impact bald and golden eagles. Golden eagles may occur in the project area, particularly outside the breeding season when they can perch on utility poles far from cliffs and other rugged terrain. However, their presence would likely be of short duration and nesting within or adjacent to the project area would be unlikely due to the absence of suitable nesting habitat within the project area. The proposed project is not anticipated to cause take of individual bald or golden eagles, their nests, or eggs.

In general, no major or long-term effects on migratory birds are anticipated from the implementation of the proposed project. If vegetation clearing occurs during the bird breeding season (March–August), pre-clearing nesting bird surveys would be conducted to ensure avoidance of any occupied nests; however, incidental mortality or displacement is possible on a local scale. Plant communities present in the project area are widespread elsewhere and many birds occurring locally would likely simply move into adjacent habitats in response to temporary habitat loss.

In addition to the conservation measures required by the BLM RMPA, DCP would implement project design features to address potential impacts to wildlife and migratory birds (see Section 2.1.4).

Cumulative Impacts

General Wildlife and Migratory Birds

Land-disturbing activities affect wildlife through decreasing available forage and habitat and causing habitat alteration and fragmentation. Well pad and road density break the available habitat into smaller and smaller pieces, which can lead to displacement and physiological stress in wildlife species. Fragmentation results in indirect habitat loss and degradation. Wildlife species would have to expend an increased amount of energy to avoid disturbed areas or when experiencing alarm due to human presence (traffic, noise, interaction).

Watkins et al. (2007) describe quantitative thresholds of fragmentation impact as moderate, high, and extreme, based on the density of well pads per section and cumulative surface disturbance. Moderate impact is defined as one to four wells and less than 20 acres of disturbance per section. High impact is defined as five to 16 wells and 20 to 80 acres of disturbance per section. Extreme impact is defined as more than 16 wells and greater than 80 acres of disturbance per section. The density of current oil and gas development varies across the project area; however, the existing habitat fragmentation in the project area is considered high.

Impacts to wildlife from past and present actions within the 1,355,517-acre CIAA include approximately 97,136 acres (approximately 7.1%) of surface-disturbing activities including past construction of oil and gas well pads and access roads. Reclamation of some disturbed areas has reduced impacts to wildlife from some of this development.

RFFAs would result in an additional 59 acres of surface disturbance within the CIAA. This is approximately 0.04% of the CIAA. There are no specific data on when RFFA activities are scheduled to begin and when reclamation would be complete, but most of the soil types identified in the CIAA and in the project area have characteristics that could limit successful reclamation. RFFAs would require BMPs or other mitigation measures to mitigate soil movement and productivity loss. Together, past, present, and reasonably foreseeable surface disturbance would total 97,195 acres (approximately 7.14% of the CIAA).

The Proposed Action would disturb an additional 598 acres of soils, which is approximately 0.04% of the CIAA. This comprises a 0.6% addition to the past, present, and reasonably foreseeable surface disturbance identified above. This contribution would be localized and minimized from implementation of project design features and BMPs.

Mitigation Measures and Residual Impacts

Measures to minimize impacts to wildlife are described in the Proposed Action's project design features (see Section 2.1.4).

After construction, the project area would be reclaimed with a BLM-prescribed seed mix. In some areas, restoration may potentially include plant species that are not locally native or plant communities different from local native communities. Although the replanting of disturbed soils may successfully establish vegetation in some locations (i.e., with a biomass and species richness similar to those of local native communities), the resulting plant community may be quite different from native communities in terms of species composition and representation of particular vegetation types, such as shrubs. In addition, the planting of non-native species may result in the introduction of those species into nearby natural areas. While it is expected that successful revegetation would occur within 2 years of reclamation efforts, the establishment of mature native plant communities may require decades, and some community types may never fully recover from disturbance. Successful re-establishment of some habitat types, such as shinnery oak and sand sagebrush communities, may be difficult and may require considerably greater periods of time. As a result, reclamation of the project area could have a residual impact on wildlife by modifying the habitat within and adjacent to the project area. The change in vegetative species composition may modify cover and foraging opportunities for wildlife. It should be noted that this residual impact from reclamation activities is more desirable than not including reclamation as a design feature of the Proposed Action.

3.6 Special Status Species

3.6.1 Affected Environment

The special status species evaluated in this EA are described in the BA (see Appendix B) and consist of 1) all federally protected (i.e., endangered and threatened) species, 2) additional species listed by the USFWS as candidate and proposed and species under review (USFWS 2014), 3) state-listed endangered and threatened species (BISON-M 2014; Texas Parks and Wildlife Department 2014), and 4) BLM sensitive species, some of which are also listed as candidates or are under the review by the USFWS and/or are state listed. The BLM manages certain sensitive species that 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. The authority for this policy and guidance is established by the ESA, as amended; Title II of the Sikes Act, as amended; the FLPMA of 1976; and Department of the Interior Manual 235.1.1A.

Based on the biological survey conducted by SWCA in the project area from April to June 2014 and additional biological research, 10 special status species are likely to occur in the project area (Table 3.15).

Table 3.15 Special Status Species with the Potential to Occur in the Project Area

Common Name	Status	Range or Habitat Requirements	Potential for Occurrence in Project Area
Northern aplomado falcon (*Falco femoralis septentrionalis*)	USFWS ENEP State NM E	Associated with semi-desert grasslands with scattered yuccas, mesquite, and cacti. Naturally occurring populations are essentially restricted to the southern tier of New Mexico. The species has also been reintroduced on the Armendaris Ranch in Socorro and Sierra Counties and on lands administered by the BLM, White Sands Missile Range, and the SLO beginning in 2006.	May occur in the project area. Aplomado falcons occur in open country throughout much of southern New Mexico. Utility poles in or near the proposed route afford hunting perches to raptors.
Lesser prairie-chicken *(Tympanuchus pallidicinctus)*	USFWS T BLM S	Occurs in southeastern New Mexico primarily in shinnery oak or sand sagebrush grasslands. Also occurs in shinnery oak-bluestem habitats dominated by sand bluestem (*Andropogon hallii*), little bluestem (*Schizachyrium scoparium*), sand dropseed, threeawn, and blue grama.	May occur in grassland and dune habitat within the project area. The project area lies within the estimated LPC distribution (Davis et al. 2008). LPC lek surveys in 2014 did not detect this species.
Dunes sagebrush lizard (*Sceloporus arenicolus*)	State NM E BLM S	A habitat specialist native to the shinnery oak sand dune habitats extending from the San Juan Mesa in northeastern Chaves County, Roosevelt County, and through eastern Eddy and southern Lea Counties. DSLs have an extremely strong affinity for bowl-shaped depressions in active dune complexes referred to as sand dune blowouts. They prefer relatively large blowouts and select microhabitat within a given blowout. Within their geographic range, the presence of the DSL is also associated with composition of the sand; they only occur at sites with relatively coarse sand.	May occur. Shinnery oak sand dune habitat is located throughout the project area. Portions of project are within the known distribution for the DSL.
Texas horned lizard (*Phrynosoma cornutum*)	BLM S State TX T	Inhabits arid and semiarid areas in the southwestern United States, characterized by open country with little vegetation. Preferred habitat often consists of grasses interspersed with cacti, yucca, mesquite, and other assorted woody shrubs and trees. In New Mexico, the species is associated with *Yucca-Prosopis-Ephedra* and *Larrea-Acacia-Fouquieria* associations often in playas or on bajadas and mountain foothills. Soil may vary in texture from sandy to rocky. Burrows into soil, enters rodent burrows, or hides under rock when inactive. Breeds in March through September.	May occur. Suitable *Yucca-Prosopis-Ephedra* and *Larrea-Acacia-Fouquieria* habitat within the project area.

Common Name	Status	Range or Habitat Requirements	Potential for Occurrence in Project Area
Sprague's pipit (*Anthus spragueii*)	USFWS C	Occurs in New Mexico only as a sporadic winter resident. Its distribution in the state is not well known, but includes the lower Pecos River valley, Otero Mesa, and the Animas Valley. It is associated with southern desert grasslands of the state. Species as a whole prefers dry, open grasslands.	May occur in the project area due to the presence of dry, open grasslands.
Baird's sparrow (*Ammodramus bairdii)*	BLM S	A winter resident in New Mexico and Texas. Generally prefers dense, extensive grasslands with few shrubs. Avoids heavily grazed areas.	May occur due to portions of suitable dense grassland present in the project area.
Ferruginous hawk (*Buteo regalis*)	BLM S	Occurs year-round in New Mexico. During the breeding season it is present in grasslands, badlands, and along the ecotone between grasslands and piñon-juniper woodlands, especially in the vicinity of prairie dog towns. During the winter, ferruginous hawks are primarily associated with grasslands but may be found in other habitat types such as ponderosa pine (*Pinus ponderosa*) forest. Prairie dogs are important year-round in the diet of New Mexico's ferruginous hawks.	May occur in the project area, which is characterized by open vegetation and has utility poles for perches. Species was observed nesting during surveys.
Burrowing owl (*Athene cunicularia hypugaea*)	BLM S	Present mainly during the breeding season in the northern half of New Mexico and present year-round in the southern half. In Texas, its breeding is mostly restricted to the western part of the state and the panhandle. Year-round residents and winter migrants are common. Found in grasslands especially in association with prairie dog colonies, in desert scrub, and in agricultural and semi-urban environments. Depends on prairie dogs, rock squirrels (*Otospermophilus variegatus*), and other fossorial mammals for the availability of burrows.	May occur due to grassland and desert scrub vegetation in the project area. Individual owls, suitable nesting burrows, and occupied nest burrows were observed during surveys.
Loggerhead shrike (*Lanius ludovicianus*)	BLM S	Inhabits a variety of grassland, shrubland, and ecotonal habitats in the southwest. Can be found in improved pastures and piñon-juniper woodlands as well. Forages in open areas of short grass and shrubs. Uses shrub thorns or barb-wire fences to impale its prey. One of only a few species to show significant declines across its entire range in the United States.	May occur due to open country and grasslands within the project area. Individual shrikes and occupied nests were observed during surveys.
Scheer's beehive cactus (*Coryphantha robustispina* var. *scheeri*)	State NM T BLM S	Typically associated with gravelly or silty soil in desert grassland and Chihuahuan desert scrub. May also be found on rocky benches or bajadas on limestone or gypsum; the elevation range of this cactus is 3,300–3,600 feet.	May occur in the project area. Although this cactus was not observed during surveys, there is suitable habitat in the project area.

Federal (USFWS) status definitions:
E = Endangered. Any species considered by the USFWS as being in danger of extinction throughout all or a significant portion of its range. The ESA specifically prohibits the take of a species listed as endangered. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.
T = Threatened. Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The ESA specifically prohibits the take (see definition above) of a species listed as threatened.
P = Proposed. Any species or critical habitat being proposed by the USFWS for protection under the ESA.
ENEP = Experimental, Non-essential Population. Any reintroduced population established outside the species' current range, but within its historical distribution. For purposes of Section 7 consultation, experimental, non-essential populations are treated as proposed species (species proposed in the *Federal Register* for listing under Section 4 of the ESA), except on national wildlife refuges and national parks, where they are treated instead as threatened.
w/CH = with Critical Habitat. Critical habitat corresponds to specific areas within the geographical area occupied by the species at the time of listing or historically or containing the essential physical or biological features for the species' conservation and requiring special management considerations or protection.
S = Sensitive. The BLM manages certain sensitive species not federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered under ESA in the future.

Common Name	Status	Range or Habitat Requirements	Potential for Occurrence in Project Area
State status definitions: State NM E = Endangered. Any species that is considered by the State of New Mexico (NMDGF for wildlife, New Mexico Forestry and Resources Conservation Division for plants) as being in jeopardy of extinction or extirpation from the state. State NM T = Threatened. Any species that, in the view of the State of New Mexico, is likely to become endangered within the foreseeable future throughout all or a significant portion of its range in New Mexico. State TX E = Endangered. Any species that is considered by the State of Texas (Texas Parks and Wildlife Department for wildlife, New Mexico Forestry and Resources Conservation Division for plants) as being in jeopardy of extinction or extirpation from the state. State TX T = Threatened. Any species that, in the view of the State of Texas, is likely to become endangered within the foreseeable future throughout all or a significant portion of its range in Texas.			

The project area lies within the RMPA zoning area established by the BLM (2008a). The RMPA zoning area was designated to provide greater protection for LPC and DSL habitat. Conservation measures and other protective criteria have been established by the BLM for installation of new pipelines within the RMPA area, which include following BMPs for construction and revegetation and implementation of controlled surface use stipulations (BLM 2008a).

Northern Aplomado Falcon (Falco femoralis septentrionalis)

The aplomado falcon is currently listed as a New Mexico state endangered species and a federal experimental, non-essential population in Eddy, Hidalgo, Grant, Luna, Doña Ana, Sierra, Socorro, Otero, and Lea Counties, New Mexico. This federal designation authorizes unintentional or incidental take of the falcon pursuant to otherwise legal actions, but still prohibits intentional take. The aplomado falcon is currently listed as a federally endangered species in Texas. The aplomado falcon is a permanent resident in Texas and has historically bred from near sea level to approximately 4,500 feet in arid grasslands (Oberholser 1974).

The project area is within the known distribution of the species. Moreover, approximately 38 acres of potential Chihuahuan Desert Grasslands habitat and 42 acres of Arid Llano Estacado habitat with scarce yuccas and mesquite are present within the project area in small patches, which provide potential habitat. The presence of utility poles provides hunting perches for this species. The aplomado falcon was not observed during biological surveys of the project area.

Lesser Prairie-Chicken (Tympanuchus pallidicinctus)

The LPC is currently listed by the USFWS as a threatened species with a special 4(d) rule and is a BLM sensitive species. The range of the LPC has been reduced by about 92% over the past century (New Mexico Partners in Flight 2014). The Shinnery Sands ecoregion is the dominant LPC habitat in the project area (518.8 acres).

The habitat categories for designated management areas for LPC in New Mexico are defined in the 2008 RMPA as:

- PPA = Primary Population Area
- CMA = Core Management Area
- HEA = Habitat Evaluation Area
- SSPA = Sparse and Scattered Population Area
- IPA = Isolated Population Area

There are 17 HEAs located in the IPA. The HEAs were established to serve as potential habitat building blocks for expansion of the LPC (BLM 2008a). The proposed project area traverses through areas of the IPA and near HEAs (see Figure A.1–Figure A.3 in Appendix A).

Surveys for LPC leks conducted by SWCA personnel during the 2014 breeding season did not detect the presence of LPCs within proximity of the project area (see the BA in Appendix B for species-specific survey procedures and criteria and results) Additionally, no LPCs or indicators of this species (e.g., tracks, scat, feathers) were detected during biological surveys. The nearest known active LPC lek occurs

approximately 5.5 miles east of the project area towards the New Mexico/Texas state line within Section 2, Township 16 South, Range 30 East (see Figure A.6 in Appendix A).

Dunes Sagebrush Lizard (Sceloporus arenicolus)

The DSL is a New Mexico state endangered species and a BLM sensitive species. The species is not protected in Texas. The DSL is native to a small area of shinnery oak sand dunes in southeastern New Mexico and adjacent western Texas from approximately 3,400 to 4,600 feet in elevation. The shinnery oak dune habitat extends from the San Juan Mesa in northeastern Chaves and Roosevelt Counties, south through eastern southern Lea County in New Mexico, and the DSL is known from portions of that potential habitat (Fitzgerald et al. 1997; USFWS 2013). In Texas, the DSL is found in a narrow band of shinnery oak dunes in Gaines, Ward, Winkler, and Andrews Counties (Laurencio et al. 2007). It is considered to be a habitat specialist because it has adapted to thrive only in a narrow range of environmental conditions that exist within shinnery oak dunes. Areas within the survey area fall within the boundary of the DSL habitat area as determined in the RMPA (BLM 2008a). The project area crosses approximately 113 acres of the known distribution for the DSL. No DSLs were observed during the biological survey of the project area.

Texas Horned Lizard (Phrynosoma cornutum)

The Texas horned lizard is a BLM sensitive species. No Texas horned lizards were observed in the project area during the field surveys.

Sprague's Pipit (*Anthus spragueii*)

Sprague's pipit is federally listed as a candidate species. Although not detected during surveys conducted by SWCA personnel, this species could occur in the project area during winter, but would not be expected to breed in the vicinity of the project.

Baird's Sparrow (Ammodramus bairdii)

Baird's sparrow is a BLM sensitive species and a threatened species in the state of New Mexico. The probability of the presence of a Baird's sparrow in the project area is low. No individuals were detected during surveys conducted by SWCA personnel across the project area.

Ferruginous Hawk (Buteo regalis)

The ferruginous hawk is a BLM sensitive species. The project area contains some areas of suitable habitat for the ferruginous hawk. Moreover, an occupied ferruginous hawk nest was observed during the biological surveys. Mammalian prey, such as cottontail rabbits, jackrabbits, and woodrats, offer a food source for the species in the project vicinity.

Burrowing Owl (Athene cunicularia)

The burrowing owl is protected under the MBTA and it is a BLM sensitive species.

SWCA biologists observed individual burrowing owls, suitable unoccupied nesting burrows, and two occupied nesting burrows during the 2014 field surveys. Both occupied nesting burrows were found within the 75-foot ROW on private property, one each in New Mexico and Texas. No prairie dog colonies were identified within the project area.

Loggerhead Shrike (Lanius ludovicianus)

The loggerhead shrike is a BLM sensitive species. The species is known to occur within the project area and suitable thorny shrub habitat is present. Loggerhead shrikes were observed during the field surveys, and two occupied nests were found within the project area.

Scheer's Beehive Cactus (Coryphantha robustispina var. scheeri)

Scheer's beehive cactus is a New Mexico state endangered plant and a BLM sensitive species. Scheer's beehive cactus could potentially occur in the project area. No Scheer's beehive cacti were observed during field surveys.

3.6.2 Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to special status species, because the ROW would not be granted and no ground disturbance or noise related to construction and operations would occur.

Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

3.6.3 Impacts from the Proposed Action

Direct and Indirect Impacts

Short-term impacts to special status species include removal or crushing of existing vegetation and compaction of soils from construction and maintenance traffic and disturbance from noise and human activity.

Potential short-term direct impacts to special status species are the risk of direct mortality of species during construction and loss or degradation of native habitat and displacement of wildlife species from habitat due to development. Potential short-term indirect impacts to special status species may include disruption or displacement of species from nesting/birthing and foraging areas, other activity patterns due to construction, increased human activity, increased predation on sensitive species due to displacement from their habitat during construction, and other human activities such as noise disturbance.

Potential long-term indirect impacts to special status species could include a contribution to overall habitat fragmentation and isolation of connected habitats, including reduced habitat patch size, reduced distance between areas of disturbance, and the potential displacement of wildlife. See the project design features (Section 2.1.4) for operational noise and design plans that would mitigate potential impacts to LPCs and DSLs.

Northern Aplomado Falcon (Falco femoralis septentrionalis)

The project area is within the known distribution of the species. Moreover, approximately 38 acres of potential Chihuahuan Desert Grasslands habitat and 42 acres of Arid Llano Estacado habitat with scarce yuccas and mesquite are present within the project area in small patches, which provide potential habitat. Impacts to any aplomado falcons present in the general area at the time of construction are possible in the form of noise disturbance, but such impacts would be temporary. The majority of project construction would occur outside the breeding bird season (March–August). If such timing is not feasible or construction extends beyond March within aplomado falcon habitat, construction would be preceded by migratory nest surveys to identify the possibility of aplomado falcons nesting in the project area and establish avoidance buffers around any occupied nests. No long-term impacts to the aplomado falcon or its habitat are anticipated. The Proposed Action is not likely to adversely impact the aplomado falcon.

Lesser Prairie-Chicken (Tympanuchus pallidicinctus)

The Shinnery Sands ecoregion is the dominant habitat in the project area (518.8 acres). Impacts to LPC present in the general area of the project are possible in the form of noise disturbance, but such impacts would only be temporary. Any LPCs present locally during pipeline construction activities would likely move to adjacent suitable habitat. The proposed project may affect, but is not likely to adversely affect the species or its habitat.

The project area is located in the BLM's RMPA area. Within the RMPA area, strict regulations apply for the LPC (BLM 2013). Regulations for the LPC include timing restrictions, which prohibit work from 3:00

a.m. to 9:00 a.m. during March 1 to June 15, except for emergency situations. The RMPA is currently being updated, and before construction begins DCP would verify whether any additional regulations apply to the Proposed Action. LPC conservation measures incorporated into the project design are listed in Section 2.1.4.

Dunes Sagebrush Lizard (Sceloporus arenicolus)

The project area crosses approximately 113 acres of the known distribution area for the DSL. The proposed project may impact individuals through accidental entrapment in open trenches and/or impact its habitat through vegetation removal. However, placement of the proposed pipeline follows previously disturbed ROW easements to the extent feasible. Established regulations in the RMPA and trenching guidelines would be followed, as required by the BLM in the RMPA (BLM 2008a), the BLM Open Trench Wildlife Removal Workshop materials (BLM 2013), and the NMDGF Habitat Handbook trenching guidelines (NMDGF 2003). These measures would ensure the project would not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

In addition, all personnel working on the construction of the proposed project would be instructed to avoid intentionally harassing all animals. The RMPA is currently being updated, and before construction begins DCP would verify whether any additional regulations apply to the Proposed Action. DSL conservation measures incorporated into the project design are listed in Section 2.1.4.

Texas Horned Lizard (Phrynosoma cornutum)

No Texas horned lizards were observed in the project area during the field surveys. However, the species may occur in the project area, which is characterized by suitable open habitat. If Texas horned lizards are present in the project area during construction, they could avoid the disturbance by moving to adjacent habitat. The proposed project is not likely to adversely affect this species as long as the animals themselves are not intentionally harassed by construction crews. All personnel working on the construction of the proposed project would be instructed to avoid intentionally harassing all animals. Following BMPs on pipeline burial (NMDGF 2003) would prevent accidental Texas horned lizard mortality resulting from entrapment. The proposed project may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Sprague's Pipit (*Anthus spragueii*)

Impacts to Sprague's pipit present in the general area of the project are possible in the form of construction-related noise disturbance, but such impacts would be temporary and would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species. The proposed project is not anticipated to adversely impact the Sprague's pipit.

Baird's Sparrow (Ammodramus bairdii)

Potential impacts on the species would be loss of habitat for migrant individuals. The proposed project may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Ferruginous Hawk (Buteo regalis)

Construction of the proposed project would follow previously disturbed ROWs. Thus, any impacts to ferruginous hawks would likely be in the form of construction-related noise disturbance. Vegetation removal would occur outside the breeding bird season (March–August). If such timing is not feasible or construction extends beyond March, vegetation removal would be preceded by nest surveys to identify the possibility of ferruginous hawks nesting in the project area and establish avoidance buffers around any occupied nests. No long-term impacts to the ferruginous hawk or its habitat are anticipated from the proposed project. The proposed project may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species. The proposed project is not anticipated to adversely impact the ferruginous hawk.

Burrowing Owl (Athene cunicularia)

Burrowing owls are known to occur within the project area. DCP plans to construct pipeline portions through the two documented nesting burrow areas in advance of the 2015 nesting season (March–August). For portions of the project being constructed during the nesting season, DCP would conduct pre-construction surveys to determine nesting status and establish a 200-meter avoidance zone around any active burrow complex. Active burrows would be avoided until the young have fledged. DCP would also provide a biological monitor during construction near occupied burrows identified during pre-construction surveys. Workers would be informed of sensitive areas and should also be advised to avoid parking in the vicinity of potentially suitable nesting burrows.

No long-term impacts are anticipated to the burrowing owl or its habitat. The proposed project may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Loggerhead Shrike (Lanius ludovicianus)

The loggerhead shrike is known to occur within the project area and suitable thorny shrub habitat is present. The BLM would remove existing bird nests once they become unoccupied to discourage future nesting in the project area. Vegetation removal would occur outside the breeding bird season (March–August). If such timing is not feasible, vegetation removal would be preceded by nest surveys to identify the possibility of loggerhead shrikes nesting in the project area and establish avoidance buffers around any occupied nests. The proposed project may temporarily impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Scheer's Beehive Cactus (Coryphantha robustispina var. scheeri)

The proposed project may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species. To limit any impacts, workers would be instructed not to park off existing roads or previously disturbed areas to protect any threatened or endangered species, including Scheer's beehive cactus, that were not observed during the April to June 2014 field surveys.

Cumulative Impacts

The BLM has identified specific CIAAs for the LPC and DSL, based on the habitat zones identified in the 2008 RMPA. For all other special status species with potential to occur in the project area, the cumulative effects analysis above for general wildlife would also apply (see Section 3.5).

Lesser Prairie-Chicken: Impacts to LPC from past and present actions within the 322,982-acre CIAA (see Table 3.2) include approximately 23,350 acres of surface-disturbing activities primarily resulting from past construction of oil and gas well pads and access roads (approximately 7.1% of total CIAA), as well as the already approved Zia II Gas Plant. Reclamation of some disturbed areas has reduced impacts to LPC from some of this development.

RFFAs would result in an additional 38 acres of surface disturbance within the CIAA. This is approximately 0.01% of the CIAA. There are no specific data on when RFFA activities are scheduled to begin and when reclamation would be complete, but most of the soil types identified in the CIAA and in the project area have characteristics that could limit successful reclamation. RFFAs would require BMPs or other mitigation measures to mitigate soil movement and productivity loss. Together, past, present, and reasonably foreseeable surface disturbance would total 23,388 acres (approximately 7.24% of the CIAA).

The Proposed Action would disturb an additional 518.8 acres of potential LPC habitat, which is approximately 0.16% of the CIAA. This comprises a 2.2% addition to the past, present, and reasonably foreseeable surface disturbance identified above. This contribution would be minimized from implementation of project design features and BMPs presented in Section 2.1.4.

Dunes Sagebrush Lizard: Impacts to DSL from past and present actions within the 144,835-acre CIAA (see Table 3.2) include approximately 10,305 acres of surface-disturbing activities primarily resulting from past construction of oil and gas well pads and access roads (approximately 7.1% of total CIAA), as well

as the already approved Zia II Gas Plant. Reclamation of some disturbed areas has reduced impacts to DSL from some of this development.

RFFAs would result in an additional 18 acres of surface disturbance within the CIAA. This is approximately 0.01% of the CIAA. There are no specific data on when RFFA activities are scheduled to begin and when reclamation would be complete but most of the soil types identified in the CIAA and in the project area have characteristics that could limit successful reclamation. RFFAs would require BMPs or other mitigation measures to mitigate soil movement and productivity loss. Together, past, present, and reasonably foreseeable surface disturbance would total 10,323 acres (approximately 7.12% of the CIAA).

The Proposed Action would disturb an additional 113 acres of potential DSL habitat, which is approximately 0.07% of the CIAA. This comprises a 0.98% addition to the past, present, and reasonably foreseeable surface disturbance identified above. This contribution would be minimized from implementation of project design features and BMPs presented in Section 2.1.4.

Mitigation Measures and Residual Impacts

Measures to minimize impacts to wildlife are described in the Proposed Action's project design features (see Section 2.1.1).

After construction, the project area would be reclaimed with a BLM-prescribed seed mix. In some areas, restoration may potentially include plant species that are not locally native or plant communities different from local native communities. Although the replanting of disturbed soils may successfully establish vegetation in some locations (i.e., with a biomass and species richness similar to those of local native communities), the resulting plant community may be quite different from native communities in terms of species composition and representation of particular vegetation types, such as shrubs. In addition, the planting of non-native species may result in the introduction of those species into nearby natural areas. The establishment of mature native plant communities may require decades, and some community types may never fully recover from disturbance. Successful re-establishment of some habitat types, such as shinnery oak and sand sagebrush communities, may be difficult and may require considerably greater periods of time. As a result, reclamation of the project area could have a residual impact for special status species by modifying the habitat within and adjacent to the project area. The change in vegetative species composition may modify cover and foraging opportunities for special status species. It should be noted that this residual impact from reclamation activities is more desirable than not including reclamation as a design feature of the Proposed Action.

3.7 Cultural Resources

3.7.1 Affected Environment

Several federal laws and implementing regulations apply to the evaluation and protection of significant cultural resource properties and preservation of cultural standards. Among the most significant of these laws and regulations are:

- NHPA, Section 106, as amended (16 USC 470, EO 13007);
- National Register of Historic Places of 1966 (NRHP) (36 CFR 60);
- Protection and Enhancement of the Cultural Environment, 1971 (EO 11593);
- American Indian Religious Freedom Act Amendments of 1978, as amended (42 USC 1996, 43 CFR 7);
- Archaeological Resources Protection Act of 1979 (16 USC 470aa-47011, 43 CFR 7); and
- Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001, 43 CFR 10).

Management of cultural resources on BLM lands is determined by policy directives contained in the CFO RMP (BLM 1988), as amended. The BLM makes land use decisions that could limit access or require alterations to the Proposed Action to minimize impacts to cultural resources.

SWCA conducted a Class I records search prior to fieldwork to identify any previously recorded cultural resources in the project area or cultural buffer. In the New Mexico portion of the project area, a total of 19 previously recorded sites was identified within 0.25 mile of the Proposed Action. These sites consist of 13

Jornada Mogollon campsites, two sites of unknown prehistoric age, one historic communication cable, and three sites of unknown age. No previously conducted archaeological surveys or previously recorded archaeological sites were documented in the Texas portion of the APE.

SWCA archaeologists conducted an intensive Class III inventory of the Proposed Action's area of potential effect (APE), which includes the 75-foot ROW and a cultural resource buffer area up to 200 feet total. SWCA conducted the cultural resources survey over four sessions between April and June 2014, in accordance with the *Procedures for Performing Cultural Resources Fieldwork on Public Lands in the Area of New Mexico BLM Responsibilities* (BLM 2005) and *Standards for Survey Site Evaluation and Reporting for the CFO* (BLM 2012), as well as the *Archeological Survey Standards for Texas* (Texas Historical Commission 2012). The survey was conducted by a two-person crew by walking parallel transects spaced no more than 49 feet apart.

In total, 28 cultural properties were investigated—19 newly recorded archaeological sites (11 in New Mexico and eight in Texas), eight previously recorded sites (all located in New Mexico), and one historic property (a cemetery located in New Mexico). One previously recorded site was not relocated. A total of 75 isolated manifestations was identified in the APE (61 in New Mexico and 14 in Texas).

One previously recorded site—LA 130326—appeared on the Archaeological Records Management Section and/or BLM CFO shapefiles to be within the project area; however, upon investigation, the site could not be relocated. This site had previously been determined eligible to the NRHP; because the site could not be relocated during this investigation, SWCA recommends the site to be of undetermined eligibility and no further management is recommended in relation to the present undertaking.

Twelve of the newly recorded sites—LA 179412, LA 179413, LA 179414, LA 179417, LA 179418, LA 179491, LA 179492, 41AD68, 41AD69, 41AD72, 41GA72, and 41GA73—and four previously recorded sites, LA 22120, LA 163692, LA 166382, and LA 176305, are recommended eligible to the NRHP. LA 22120 and LA 166382 have been previously recommended eligible to the NRHP and SWCA agrees with these recommendations. Of these 16 recommended eligible sites, three would have limited impacts by the proposed project—LA 22120, LA 163692, and LA 176305. LA 22120 is considered part of the Laguna Plata Archaeological District. SWCA recommends that ground disturbance be confined to previously disturbed portions of the sites and a qualified archaeologist should monitor construction activities at these sites. All other eligible sites have been be avoided by surveyed reroutes, though monitoring is also recommended for LA 179414, LA 179417, LA 179418, 41AD68, and 41AD72 due to the close proximity of the construction corridor to the site boundaries.

Newly recorded sites LA 179415, LA 179416, LA 179419, LA 179420, 41AD67, 41AD70, and 41AD71 are recommended not eligible to the NRHP and no further management for these sites is recommended. Previously recorded sites LA 55014, LA 130744, and LA 176304 are recommended not eligible to the NRHP. HCPI 33870 is not eligible to the NRHP and no further management of this resource is recommended. The 75 isolated manifestations are recommended not eligible to the NRHP. No further management of these ineligible resources is recommended.

Full site descriptions are provided in SWCA's cultural resource inventory reports (Sisneros et al. 2014a, 2014b).

3.7.2 Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to cultural resources, because the ROW would not be granted and no ground disturbance would occur.

Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

3.7.3 Impacts from the Proposed Action

Direct and Indirect Impacts

Direct impacts to a cultural site, if disturbed by construction, would include alterations to the physical integrity of the site. However, of the 16 sites recommended eligible to the NRHP, 13 are located outside the proposed construction corridor. These resources would not be impacted by the Proposed Action. Three NRHP-eligible sites (LA 22120, LA 163692, and LA 176305) would be partially impacted in that a portion of the defined eligible cultural site boundary lies within the area of direct ground disturbance. These sites would not be adversely affected provided the recommended mitigation measures are implemented. The construction corridor for the current project would be entirely contained within the larger construction corridor of the Zia II pipeline in the area of these three sites. Both the BLM and the SLO (in a letter dated September 27, 2013) previously determined that monitoring by a qualified archaeologist during the Zia II pipeline construction was an appropriate measure to prevent adverse effects to LA 22120, LA 163692, and LA 176305. Since construction of the Lea County Lateral pipeline would be confined to the corridor already disturbed by the Zia II pipeline construction and no new disturbance would result from the current undertaking, SWCA recommends monitoring by a qualified archaeologist during ground-disturbing activity. While LA 130744 has been determined not eligible to the NRHP, boring under the site would be required.

If a cultural site is significant for reasons other than its scientific information potential, direct impacts may also include the introduction of audible, atmospheric, or visual elements that are out of character for the cultural site. A potential indirect impact from the Proposed Action is the increase in human activity that could contribute to unauthorized removal or other alteration to cultural sites in the area.

Cumulative Impacts

Cultural resources tend to degrade over time from natural forces; however, many survive for hundreds or thousands of years. Any surface-disturbing activity can cause alterations to the physical integrity of cultural resources. Activities such as grazing, exploration, and road construction all have potential to disturb, damage, or cause changes to the setting of cultural resources. Impacts from past and present actions within the 1,355,517-acre CIAA include approximately 97,136 acres of surface-disturbing activities (approximately 7.1% of the CIAA), as well as the Zia II Gas Plant. Past and present development activities have led to collection of information about previous cultural, but also to the loss of sites Identification and avoidance of NRHP-eligible sites through cultural surveys have reduced these disturbances, but there may still be losses of cultural resources important to understanding the past. Recreation activities and wildfires may also cause damage or discovery of cultural resources. Cultural resources of concern within the CIAA consist of prehistoric and historic ranching and oil and gas related resources.

RFFAs would result in an additional 59 acres of surface disturbance within the CIAA. This is approximately 0.4% of the CIAA. All RFFAs are subject to a 100% Class III cultural resources pedestrian survey. All impacts to cultural resource have either been avoided altogether or acceptable mitigation is required by the BLM. Mitigation of impacts would occur through archaeological data recovery investigations and other measures such as boring beneath an eligible site. Livestock grazing, recreation, and wildfires are also likely to continue within the CIAA, which would continue to disturb or damage cultural resources. Together, past, present, and reasonably foreseeable surface disturbance would total 97,195 acres (approximately 7.17% of the CIAA).

The Proposed Action would disturb an additional 598 acres, which is approximately 0.04% of the CIAA. This comprises a 0.6% addition to the past, present, and reasonably foreseeable surface disturbance identified above. This contribution would be minimized through implementation of project design features and appropriate mitigation (see list of mitigation measures in Section 2.1.4).

Mitigation Measures and Residual Impacts

Mitigation measures would apply to cultural sites recommended eligible for listing in the NRHP that could potentially be adversely impacted by the Proposed Action. Eligibility recommendations and mitigation measures are provided in the table below (Table 3.16).

Table 3.16. Site Summary, Eligibility, and Mitigation Recommendations

Site No.	Field/Agency No.	Site Type/Cultural Affiliation and Dates	Eligibility Recommendation	Land Ownership	Recommended Mitigation
LA 22120	NM-06-0253	Artifact scatter/Middle Archaic (3200–1800 B.C.) through Formative (A.D. 500–1450)	Eligible, D	SLO	Confine activity to current pipeline corridor through site; monitor construction
LA 55014	N/A	Artifact scatter/Formative (A.D. 500–1450)	Not eligible	BLM CFO	None
LA 130326	NM-08-8864	Artifact scatter/Formative (A.D. 500–1450)	Undetermined (not relocated)	BLM CFO	None
LA 130744	N/A	Communication/Recent (A.D. 1948–1987)	Not eligible	BLM CFO	Avoidance by boring
LA 163692	N/A	Artifact scatter with features/ Formative (A.D. 500–1450)	Eligible, D	SLO	Confine activity to southeastern portion of site; monitor construction
LA 166382	N/A	Artifact scatter with features/ Late Formative (A.D. 1100–1450)	Eligible, D	BLM CFO	Avoidance by surveyed reroute
LA 176304	N/A	Artifact scatter/Unspecified Native American (< A.D. 1850)	Not eligible	BLM CFO and SLO	None
LA 176305	N/A	Artifact scatter/Late Formative (A.D. 1100–1450)	Eligible, D	SLO	Confine activity to southwestern portion of site; monitor construction
LA 179412	28417-RB-1	Artifact scatter with features/ Formative (A.D. 500–1450)	Eligible, D	SLO	Avoidance by surveyed reroute
LA 179413	28417-RB-2	Artifact scatter/Late Archaic (A.D. 100–500) through Mogollon, Early Formative (A.D. 100–900)	Eligible, D	BLM CFO	Avoidance by surveyed reroute
LA 179414	28417-MS-1	Single Residence/Statehood–Recent (A.D. 1920–1975)	Eligible, D	SLO	Avoidance by surveyed reroute. monitor construction
LA 179415	28417-MS-5	Artifact scatter with features/U.S. Territorial–WWII (A.D. 1880–1945)	Not eligible	Private	None
LA 179416	28417-MS-6	Artifact scatter/U.S. Territorial–WWII (A.D. 1912–1945)	Not eligible	Private	None
LA 179417	28417-WH-2	Artifact scatter with features/ Formative (A.D. 500–1450)	Eligible, D	Private	Avoidance by surveyed reroute, monitor construction
LA 179418	28417-WH-3	Ranching/Agricultural/U.S. Territorial–WWII (A.D. 1880–1945)	Eligible, D	Private	Avoidance by surveyed reroute, monitor construction

Site No.	Field/Agency No.	Site Type/Cultural Affiliation and Dates	Eligibility Recommendation	Land Ownership	Recommended Mitigation
LA 179419	28417-WH-4	Artifact scatter/Statehood–Recent (A.D. 1920–1967)	Not eligible	Private	None
LA 179420	28417-WH-5	Artifact scatter/U.S. Territorial–WWII (A.D. 1880–1945)	Not eligible	Private	None
LA 179491	28417-RB-3	Artifact scatter with features/ Formative (A.D. 500–1450)	Eligible, D	BLM CFO and SLO	Avoidance by surveyed reroute
LA 179492	28417-RB-4	Artifact scatter with features/ Formative (A.D. 500–1450)	Eligible, D	SLO and Private	Avoidance by surveyed reroute
41AD67	N/A	Artifact Scatter/Unspecified Native American (< A.D. 1850)	Not eligible	Private	None
41AD68	N/A	Artifact Scatter with Features/ Jornada Mogollon, Formative (A.D. 500–1450)	Eligible, D	Private	Monitor during construction
41AD69	N/A	Artifact Scatter/Unspecified Native American (< A.D. 1850)	Eligible, D	Private	Avoidance by reroute
41AD70	N/A	Artifact Scatter/Jornada Mogollon, Formative (A.D. 500–1450)	Not eligible	Private	None
41AD71	N/A	Artifact Scatter/Unspecified Prehistoric (9500 B.C.–A.D. 1500)	Not eligible	Private	None
41AD72	N/A	Artifact Scatter/Jornada Mogollon, Late Formative (A.D. 1100–1450)	Eligible, D	Private	Monitor during construction
41GA72	N/A	Artifact Scatter/Unspecified Native American (< A.D. 1850)	Eligible, D	Private	Avoidance by reroute
41GA73	N/A	Artifact Scatter with Features/ Jornada Mogollon, Late Formative (A.D. 1100–1450)	Eligible, D	Private	Avoidance by reroute
HCPI 33870	HCPI_MS-1	Cemetery/Anglo, ca. 1905	Not eligible	SLO	None

3.8 Visual Resources

3.8.1 Affected Environment

The BLM is responsible for managing public lands for multiple uses while ensuring that the scenic values of public lands are considered before authorizing actions on public lands. The BLM accomplishes this through the visual resource management (VRM) system. The VRM system classifies land based on visual appeal, public concern for scenic quality, and visibility from travel routes or observation points. The system is based on the premise that public lands have a variety of visual values, and these values mandate different levels of management. Visual values are identified through the VRM inventory (BLM Manual Section 8410) process that consists of scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes. The visual resource inventory classes are then evaluated with other management considerations and a VRM class is assigned to identify the degree of acceptable visual change (contrast to form, line, color, and texture) within a landscape based on the physical and

sociological characteristics: VRM Classes I and II are the most restrictive with regard to the allowable change to the visual landscape, Classes III and IV are more lenient with regard to allowable modification.

The project area falls entirely within VRM Class IV. The objective for VRM Class IV lands is to provide for management activities that require major modification of the existing character of the landscape. The level of change may be high and may dominate the view and be the major focus of viewer attention. Every attempt should be made, however, to minimize the visual impact through careful location, minimal disturbance, and repeating the basic elements.

Vegetation along the proposed pipeline route is primarily grasslands and sagebrush shrubland (Figure 3.3). The land form topography is flat with scattered hilltops visible in the distance (Figure 3.4). Vertical elements in the surrounding landscape include pumpjacks and aboveground tanks associated with the surrounding oil and gas production facilities. Linear features are present in the form of oil and gas access roads and overhead power lines. Colors are tans and browns from the sandy soils and light and medium greens from the vegetation.

Figure 3.3. Photograph of the proposed ROW, facing west, showing typical vegetative cover type.

Figure 3.4. Photograph of the proposed ROW showing distance mountains and flat topography.

3.8.2 Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to visual resources, because the ROW would not be granted and the proposed pipeline would not be built.

Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

3.8.3 Impacts from the Proposed Action

Direct and Indirect Impacts

The visual impacts associated with the proposed project would be minimal. The area is rural, primarily uninhabited, and not a high-use area for recreation. The most frequent viewers would be residents of Lea County and west Texas traveling past the proposed pipeline route and employees actively working in area oil and gas activities. These users of nearby roads would not be considered to have a high sensitivity to development of the site, as the roads are not considered scenic and the pipeline would be consistent with existing landscape developments. The BLM measures impacts to the visual environment by evaluating the resulting contrast to the landscape in terms of alterations to form, line, color, and texture. The project would create contrasts to all of these categories. Form contrasts would come from the structural elements of the valve stations and associated fencing. Line contrasts would result from cleared vegetation on the linear pipeline ROW, until reclamation is complete and successful. Color contrasts would come from the disturbance to vegetation. Textural contrast would come from the reflective quality of the valve stations and fencing on the largely vegetated landscape.

Construction of the pipeline would have a short-term direct visual impact resulting from the removal of existing vegetation. Fugitive dust dispersion during construction and reclamation would create a short-term impact to visibility. The construction within the pipeline ROW would disturb primarily grassland vegetation. In some areas, this type of vegetation can recover quickly with successful revegetation treatments. In other areas, re-establishment of vegetation may take as long as 2 years (assuming average precipitation). Construction of pipelines creates linear features in the landscape and causes

contrasts in soil color and changes in vegetation. Soil color contrasts would be eliminated after the ROW is reclaimed and revegetated, but the contrasts caused by the difference in vegetation types between the ROW and the surrounding landscape would be a long-term effect until the vegetation in disturbed areas is mature enough to blend in with the surrounding landscape. The few aboveground facilities would also create a visual impact for the life of operations.

The Proposed Action is in compliance with VRM Class IV management objectives, as proposed activities would represent a modification to the landscape and would be visible at near and distant observation points. The view would not dominate the attention of the casual observer, as the area is already heavily developed.

Cumulative Impacts

Impacts from past and present actions within the 211,200-acre visual CIAA include approximately 15,159 acres of surface disturbance (approximately 7.1% of the CIAA is disturbed from past actions as well as the 164-acre Zia II Gas Plant), with the resulting contrasts in form, line, color, and texture of the existing natural vegetation and topography throughout the area. Reclamation of some disturbed areas and use of BMPs such as requiring that oil and gas infrastructure be painted with colors to blend with the overall landscape has reduced some of these contrasts.

RFFAs would result in an additional 18 acres of surface disturbance within the CIAA. This is less than 0.01% of the CIAA. The subject projects would require BMPs and other mitigation to promote successful revegetation and to blend aboveground facilities with the surrounding landscape. In time, the reclaimed and seeded areas would be less visible. Together, past, present, and reasonably foreseeable surface disturbance would total 15,177 acres (approximately 7.2% of the CIAA).

The Proposed Action would disturb an additional 598 acres of vegetation, which is approximately 2.8% of the CIAA. This comprises a 3.9% addition to the past, present, and reasonably foreseeable surface disturbance identified above. Because earlier disturbances would undergo reclamation concurrent with later disturbances, it is expected that at least portions of the total 598 acres of disturbance would be temporally removed from the RFFAs described above, further reducing impacts to visual resources in terms of total cumulative acres visibly disturbed at one point in time.

Mitigation Measures and Residual Impacts

Measures to minimize impacts to visual resources are described in the Proposed Action's project design features (see Section 2.1.4). Areas impacted during construction would be returned to their pre-disturbance condition as soon as possible after final construction is completed. No additional mitigation measures have been recommended.

3.9 Livestock Grazing

3.9.1 Affected Environment

The project is predominantly located in rural areas with a mixture of open rangeland used for cattle or other livestock grazing, grasslands, and extensive oil and gas development. Livestock grazing is common along the extent of the proposed pipeline and includes grazing of domestic cattle, sheep, goats, and horses. The most common livestock operations in the project area are cattle and calf operations.

The project area coincides with nine BLM allotments within the CFO, summarized in Table 3.17. Grazing authorizations vary for each allotment.

Table 3.17 BLM CFO Allotments on BLM-administered Lands Coinciding with the Project Area

Project Section (from West to East end)	Allotment Name	Allotment Acreage
19, 20	Twin Wells North #77012	83,211 (BLM) 1,593 (private) 15,136 (state) (Total = 99,940)
20, 29, 27, 28, 34, 35, 36, 31,4, 5, 6	Laguna Tonto #76011 (Salt Lake Unit)	76,268 (BLM 4,885 (private) 14,536 (state) (Total = 95,689)
1, 2, 3, 4, 35, 36, 2, 3, 4, 5, 6	Laguna Tonto #76011 (Laguna Tonto Unit)	14,304 (BLM 6,506 (private) 2,777 (state) (Total = 23,587)
1	West Jackson #76055	327 (BLM) 321 (private) (Total = 648)
6,5,4,3	Jackson East #76057	1,292 (BLM) 1,937 (private) (Total = 3,229)
33	Record #76013	321 (BLM) 4,654 (private) (Total = 4,975)
31,6	White Breaks #76014	280 (BLM) 6,981 (private) 2,046 (state) (Total = 9,307)
28	Clayton Basin #77013	50,396 (BLM) 2,156 (private) 6,056 (state) (Total = 58,608)
5, 6	Buckeye South #76005	19,948 (BLM) 2,128 (private) 7,772 (state) (Total = 29,848)

3.9.2 Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action alternative, there would be no impacts to livestock grazing, because the ROW would not be granted and no vegetation removal or fencing of available animal unit months related to construction and operations would occur.

Cumulative Impacts

No cumulative impacts would be realized as a result of the No Action alternative.

3.9.3 Impacts from the Proposed Action

Direct and Indirect Impacts

Forage removal from the project area would be the main impact to grazing resources in all of the nine allotments affected by the Proposed Action. Construction of the pipeline would temporarily remove or impact vegetation from a 75-foot-wide ROW (which includes 30 feet of disturbance area and 45 feet of temporary use or construction area). In total there would be approximately 212.85 acres disturbed or excluded across grazing allotments on BLM-administered lands. Table 3.18 shows the total acres disturbed or excluded in each allotment from the Proposed Action. The remaining 386 acres within the proposed project area may also impact livestock grazing, as some of this acreage may be used for grazing purposes on private and state lands.

Table 3.18 Potential Impacts to Grazing Allotments Managed by the BLM CFO

Project Section	Allotment Name and Number	Proposed Surface Disturbance (acres; includes entire 75-foot-wide ROW)
19, 20	Twin Wells North #77012	5.13
20, 29, 27, 28, 34, 35, 36, 31, 4, 5, 6	Laguna Tonto #76011 (Salt Lake Unit)	66.26
28	Clayton Basin #77013	4.76
1, 2, 3, 4 35, 36 2, 3, 4, 5, 6	Laguna Tonto #76011 (Laguna Tonto Unit)	68.03
5, 6	Buckeye South #76005	13.24
1	West Jackson #76055	9.28
6,5,4,3	Jackson East #76057	36.97
33	Record #76013	4.56
31	White Breaks #76014	4.62
Total		***212.85***

Ongoing drought in the region could threaten the reclamation success of the disturbed pipeline area if conditions do not improve and would indirectly impact grazing opportunities. It is expected that herbaceous production and forage levels would return to pre-construction levels within the average two growing seasons, assuming adequate precipitation levels.

Additional short-term impacts may include displacement of permitted livestock during construction activities or exposure of livestock to hazards. Movement of livestock may also be temporarily impeded in areas of active construction. After construction, livestock should become acclimated to the plant and pipeline activity associated with operation and maintenance of the facilities. Vehicle traffic associated with the Proposed Action could pose impacts to livestock considering that the area is open range and livestock may be found on roads in the area. Direct impacts to livestock occur when holes, ditches, or trenches are not excluded properly. Any type of hole or ditch is potentially a hazard to livestock while grazing. Cow or calf injuries may occur if they fall into a ditch or trench-type cavity or in the process of trying to get out. Cow or calf leg injuries also may occur when any hole is left uncovered. Livestock can step into the hole and break or injure a leg.

The project has the potential to temporarily impact natural or human-made barriers to livestock movement (fencing/ditches) and range improvements such as watering ponds or water delivery systems (ditches/pipelines) on BLM-administered lands. The project design features contained in Section 2.1.4 are included to minimize potential injury or loss of livestock.

Surface disturbance resulting from construction and ongoing maintenance may facilitate the introduction and spread of noxious weeds throughout grazing allotments and could accelerate soil erosion, which would reduce site productivity and limit grazing opportunities.

Cumulative Impacts

Impacts from past and present actions within the 237,374-acre CIAA include approximately 17,162 acres of surface-disturbing activities, including past construction of oil and gas well pads and access roads (7.1% of CIAA), as well as the Zia II Gas Plant, with the resulting losses in amount of forage available for livestock, as well as impacts to overall rangeland health. Reclamation, including reseeding, of some of these previously disturbed areas and also the use of BMPs for erosion control have reduced some of these impacts to livestock grazing by contributing to amount of available forage.

RFFAs would result in an additional 199 acres of surface disturbance within the CIAA (approximately 0.08% of the CIAA). The area of surface disturbance for the RFFAs has not yet been identified but the majority would be expected to occur in the Shinnery Sands ecoregion, as it comprises 87% of the project area. Impacts to vegetation from reclamation efforts resulting from road and well pad construction would include short-term alterations to native plant composition but would ultimately contribute to stable plant communities comparable to pre-disturbance plant densities through time.

Together, past, present and reasonable foreseeable surface disturbance would total 17,361 acres (approximately 7.3% of the CIAA). The Proposed Action would disturb an additional 598 acres of land (less than 1% of the CIAA), primarily within the Shinnery Sands and Arid Llano Estacado ecoregions. This comprises a 3.4% addition to past, present, and reasonably foreseeable surface disturbance. Due to the fact that earlier disturbances would undergo reclamation concurrent with later disturbances, it is expected that some acres comprising the 598 acres of disturbance would be temporally removed from the RFFAs, further reducing the impacts to the amount of available forage and also overall rangeland health in relation to total cumulative acres of disturbance at one time. Additionally, implementation of the Proposed Action's project design features, as well as implementation of BMPs for other future activities, would mean the cumulative impact to the grazing resources in relation to the availability of forage in the larger surrounding area would be low, as revegetation efforts would restore the amount of available forage in the majority of the CIAA.

Mitigation Measures and Residual Impacts

Mitigation measures have been built-in to the Proposed Action and are detailed in Section 2.1.4. No other mitigation has been recommended.

3.10 Public Health and Safety

3.10.1 Affected Environment

A major priority in land management for the CFO is ensuring health and human safety on its public lands. The BLM's goals are to effectively manage safety hazards and hazardous materials, protect the health and safety of public land uses, protect the natural and environmental resources, minimize future hazardous risks including costs and liabilities, and mitigate physical hazards in compliance with all applicable laws, regulations, and policies. The BLM follows its national, state, and local contingency plans as they apply to emergency responses. These plans are also consistent with federal and state laws and regulations.

The proposed pipeline is located in an area with established oil and gas exploration, development, transportation, and processing operations with the accompanying pipelines, drilling rigs, pumpjacks, traffic, and other related activities. During construction of the pipeline physical hazards such as welding equipment, heavy machinery, and deep trenches would be present.

A small number of seasonal recreation users (i.e., hunters and off-highway vehicle riders) may occasionally be in the vicinity of the project area. However, these users are warned about possible

hazardous conditions in the project area through posted signs and have limited access to the pipeline during construction.

OSHA regulates worker safety under the Occupational Safety and Health Act of 1970. This act requires employers and operators to provide a safe and healthy workplace for employees, and the agency must track and monitor reportable incidents of accidents and injury.

OSHA requires all chemicals stored within the project area during construction and operations must be handled according to label directions for each chemical. All chemicals present within the project area must also have a Material Safety Data Sheet (MSDS) located in a specified central location where it could be accessed during an emergency situation. These MSDSs must be kept up to date and any new chemical added to the project area must have an MSDS added to the existing catalog. All lists of hazardous substances that may be stored within the project area must be updated at a minimum of once per month or more frequently if chemicals are added more often.

The EPA also regulates public health and safety through its Risk Management Program. This program requires facilities using extremely hazardous substances in excess of specified threshold quantities to evaluate typical and worst case scenarios and have emergency response procedures in place to protect the public and the environment.

DCP is committed to operating its facilities in a safe and environmentally sound manner. To achieve this goal, the company has systems and procedures in place ranging from written operating procedures, required internal policies and standards, and compliance audits/inspections and accountability for correcting findings. See Section 2.1.4 for additional information on policies and safeguards.

Hazardous Materials

The EPA, along with state and local government agencies, has numerous laws and policies designed to protect the public including:

- The Resource Conservation and Recovery Act (RCRA), passed in 1976, establishes a comprehensive program for managing hazardous wastes from the time they are produced until their disposal. The EPA regulations define solid wastes as any “discarded materials” subject to a number of exclusions. A “hazardous waste” is a solid waste that 1) is listed by the EPA as a hazardous waste, 2) exhibits any of the characteristics of hazardous wastes (ignitability, corrosivity, reactivity, or toxicity), or 3) is a mixture of solid and hazardous waste. On July 6, 1988, the EPA determined that oil and gas exploration, development, and production wastes would not be regulated as hazardous wastes under the RCRA. A simple rule of thumb was developed to determine whether exploration, development, and production waste is likely to be considered exempt or non-exempt from RCRA regulations. If 1) the waste came from downhole or if 2) the waste was generated by contact with the oil and gas production stream during removal of produced water or other contaminants, the waste is most likely to be considered exempt by the EPA. Typical wastes associated with the Proposed Action include trash, sanitary wastes, produced water, and produced hydrocarbons. Based on the discussion above, these are generally exempt from the RCRA.
- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), passed in 1980, deals with the release (spillage, leaking, dumping, accumulation, etc.) or threat of a release of hazardous substances into the environment. Despite many oil and gas constituent wastes being exempt from hazardous waste regulations, certain RCRA-exempt contaminants could be subject to regulations as hazardous substances under CERCLA. Hazardous waste regulations for oil and gas activates are administered by the New Mexico Oil Conservation Division (NMOCD) in New Mexico and by the TCEQ in Texas.
- All hazardous chemicals, as defined by the EPA Hazardous Substances Reportable Quantities and the Emergency Planning and Community Right to Know Act (EPCRA) list within 40 CFR 302–312 (EPA 2011b), stored at quantities greater than the reportable quantities must be reported as required by the EPCRA regulations. Any release of a hazardous substance above a specified reportable quantity for the hazardous substance must be reported to the EPA.

All spills would be cleaned up immediately after discovery and reported to the appropriate agencies, in accordance with applicable regulations. To reduce the likelihood of oil released by container or equipment failures from reaching navigable waters, a spill response procedure is in place (see Section 2.1.4).

If any spill is of a sufficient quantity to require notification and possible emergency response, the emergency response agency within Lea County, New Mexico, and Andrews and Gaines Counties, Texas, as well as the NMOCD and the TCEQ, must be notified immediately upon discovery of the release. All hazardous substances that are recovered during the cleanup must be handled and disposed of in accordance with available information.

Any emergency response necessary would be based on information available regarding the specific hazardous associated with the substance and after consultation of the DCP Operations Manager and the proper emergency response officials.

3.10.2 Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action alternative, the ROW would not be granted and the NGL pipeline would not be built. Therefore, NGLs would be delivered from the Zia II Gas Plant in Lea County, New Mexico, to the Sand Hills Pipeline at the Fullerton Gas Plant in Andrews County, Texas, by commercial pressurized trucks. It is anticipated the increased truck traffic would be directed primarily to Highway 176/234 between the two delivery points, thereby causing additional wear to the two-lane roadway already experiencing heavy industrial traffic. This increased truck traffic would result in additional public safety risks for those people traveling in and around Eunice, New Mexico.

Cumulative Impacts

No cumulative impact would be realized as a result of the No Action alternative.

3.10.3 Impacts from the Proposed Action

Direct and Indirect Impacts

Numerous laws and safeguards are detailed in the Proposed Action design features to protect both workers and the public (see Section 2.1.4). Some potential risk is inherent in any construction project and could include the potential risk of contamination to soil through improper disposal of waste, leaks from equipment, or accidental releases. There is also potential for releases of hazardous materials from the pipeline during operation. Release of H_2S gas could pose a severe health risk to employees, contractors, and neighboring residences.

When significant amounts of chemicals are stored on-site, governmental agencies would be notified as required under the EPCRA. The notification of releases such as natural gas, NGLs, and petroleum outside the facility site is required under CERCLA. All facilities must have informational signs, as directed under 43 CFR 3160.

The increase in traffic to area roads during construction could pose a hazard to other vehicles and road users. However, area roads are already used by oil and gas traffic, and users would be accustomed to the type of vehicles necessary for construction. The increase in vehicles would be spread across the project area and drivers would be warned of possible hazards by appropriate signage and would be expected to follow all rules of the road. This impact to area roads would be short term for construction of the pipelines and would lessen considerably during the operations phase.

The proposed project would have a long-term beneficial impact to the local road system by removing the need for commercial truck traffic to haul NGLs away from the Zia II Gas Plant. The public safety benefits would be twofold: 1) the traveling public would have fewer large trucks on the roadway and 2) the transportation infrastructure would not be deteriorated by the large commercial trucks.

Cumulative Impacts

No measurable impacts to public health and safety are expected provided the management cited above is followed; therefore, no cumulative impact to public health and safety is expected. Operators of other nearby oil and gas facilities would be made aware of the construction and location of the proposed pipeline.

Mitigation Measures and Residual Impacts

Measures to protect the public's health and safety would be implemented as described in the Proposed Action's project design features (see Section 2.1.4). No additional mitigation measures have been recommended.

4 SUPPORTING INFORMATION

4.1 List of Preparers

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Appendix A: Mapping

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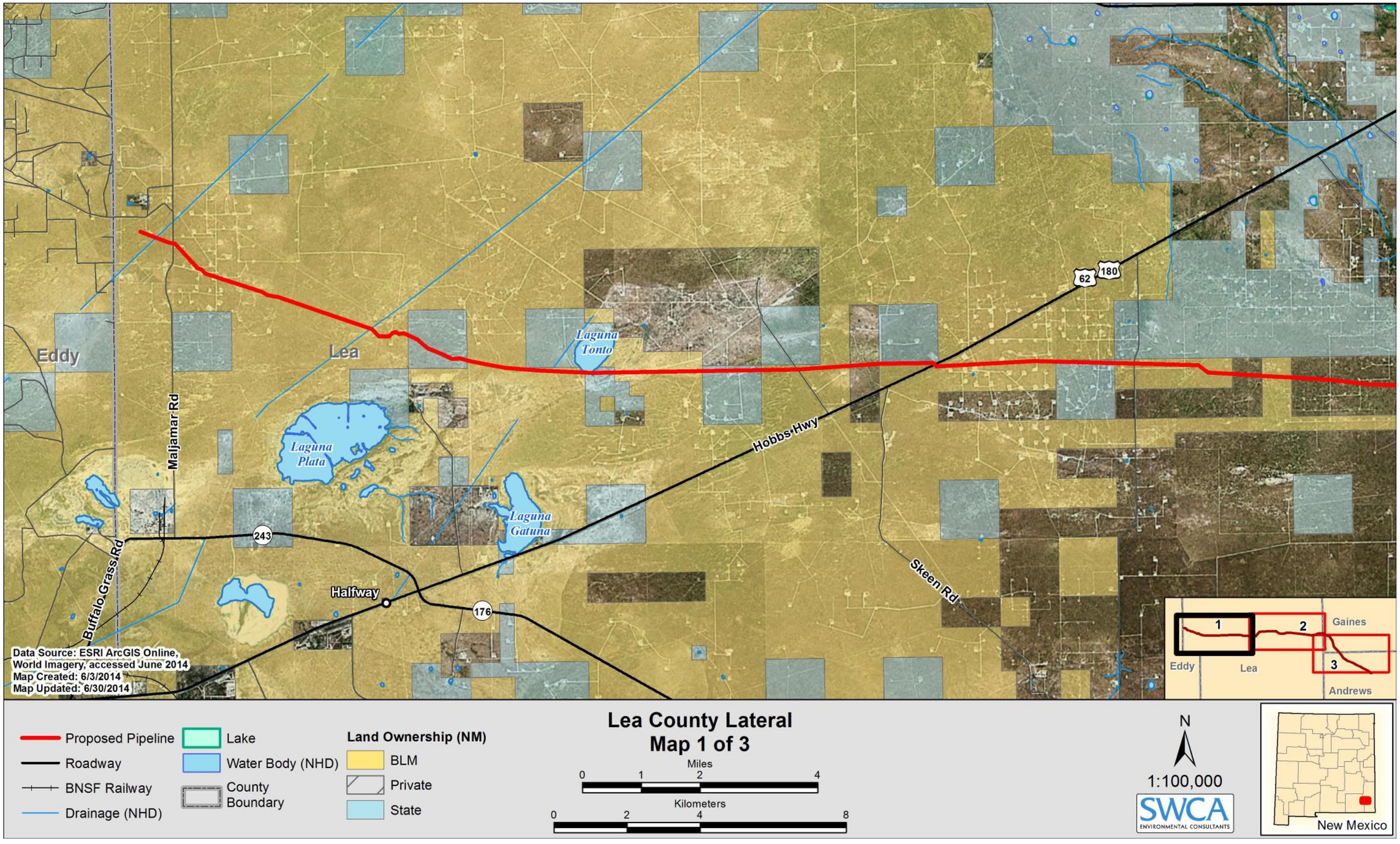
Eddy
Lea
Maljamar Rd
Buffalo Grass Rd
Laguna Plata
Laguna Tonto
Laguna Gatuna
Halfway
243
176
62
180
Hobbs Hwy
Skeen Rd
Data Source: ESRI ArcGIS Online, World Imagery, accessed June 2014
Map Created: 6/3/2014
Map Updated: 6/30/2014
1
2
3
Gaines
Andrews
Proposed Pipeline
Roadway
BNSF Railway
Drainage (NHD)
Lake
Water Body (NHD)
County Boundary
Land Ownership (NM)
BLM
Private
State
Lea County Lateral
Map 1 of 3
Miles
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Kilometers
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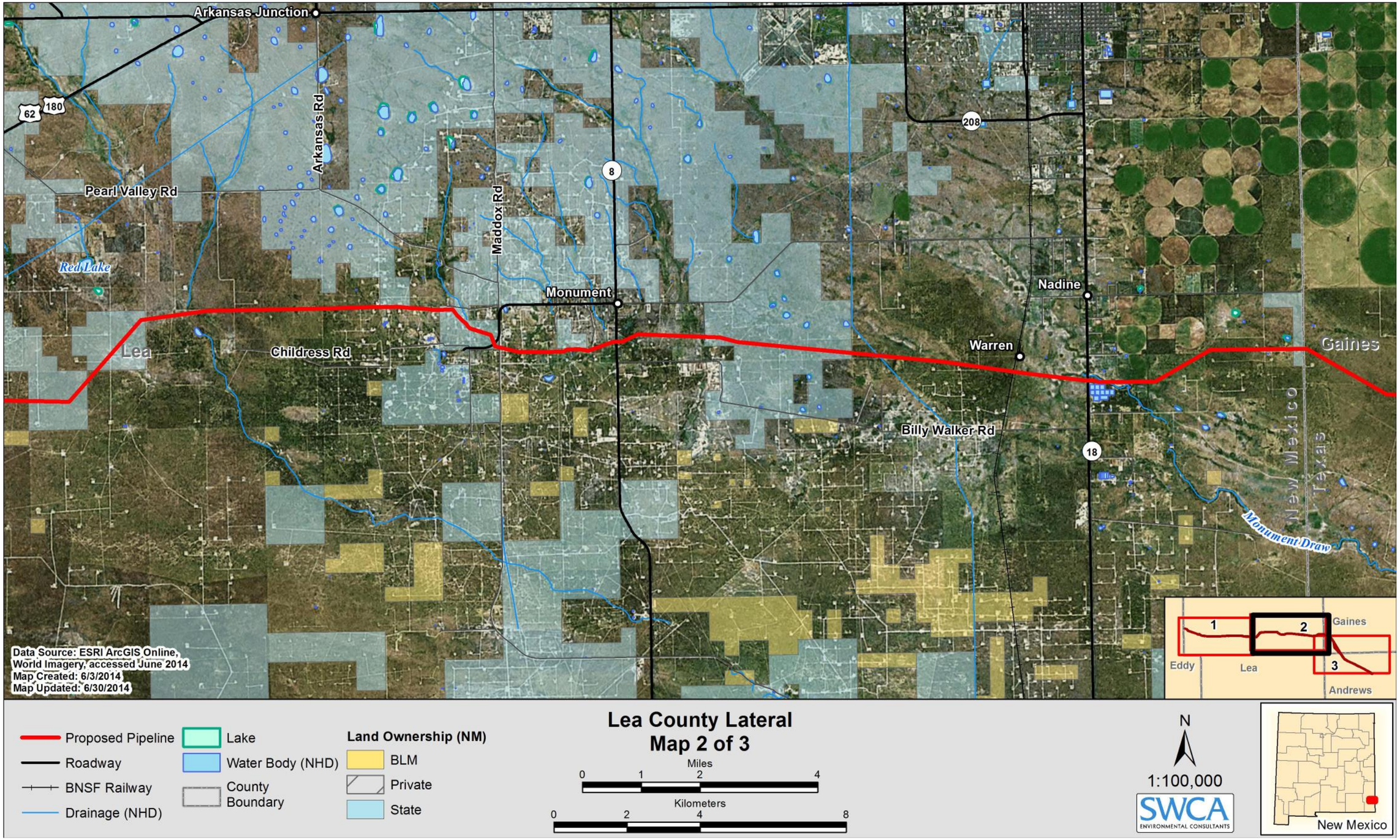
SWCA
ENVIRONMENTAL CONSULTANTS
New Mexico


Arkansas Junction
62
180
Arkansas Rd
Pearl Valley Rd
Red Lake
Maddox Rd
8
208
Monument
Nadine
Warren
Lea
Childress Rd
Gaines
Billy Walker Rd
18
New Mexico
Texas
Monument Draw
Data Source: ESRI ArcGIS Online, World Imagery, accessed June 2014
Map Created: 6/3/2014
Map Updated: 6/30/2014
1
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3
Gaines
Eddy
Lea
Andrews
Proposed Pipeline
Roadway
BNSF Railway
Drainage (NHD)
Lake
Water Body (NHD)
County Boundary
Land Ownership (NM)
BLM
Private
State
Lea County Lateral
Map 2 of 3
Miles
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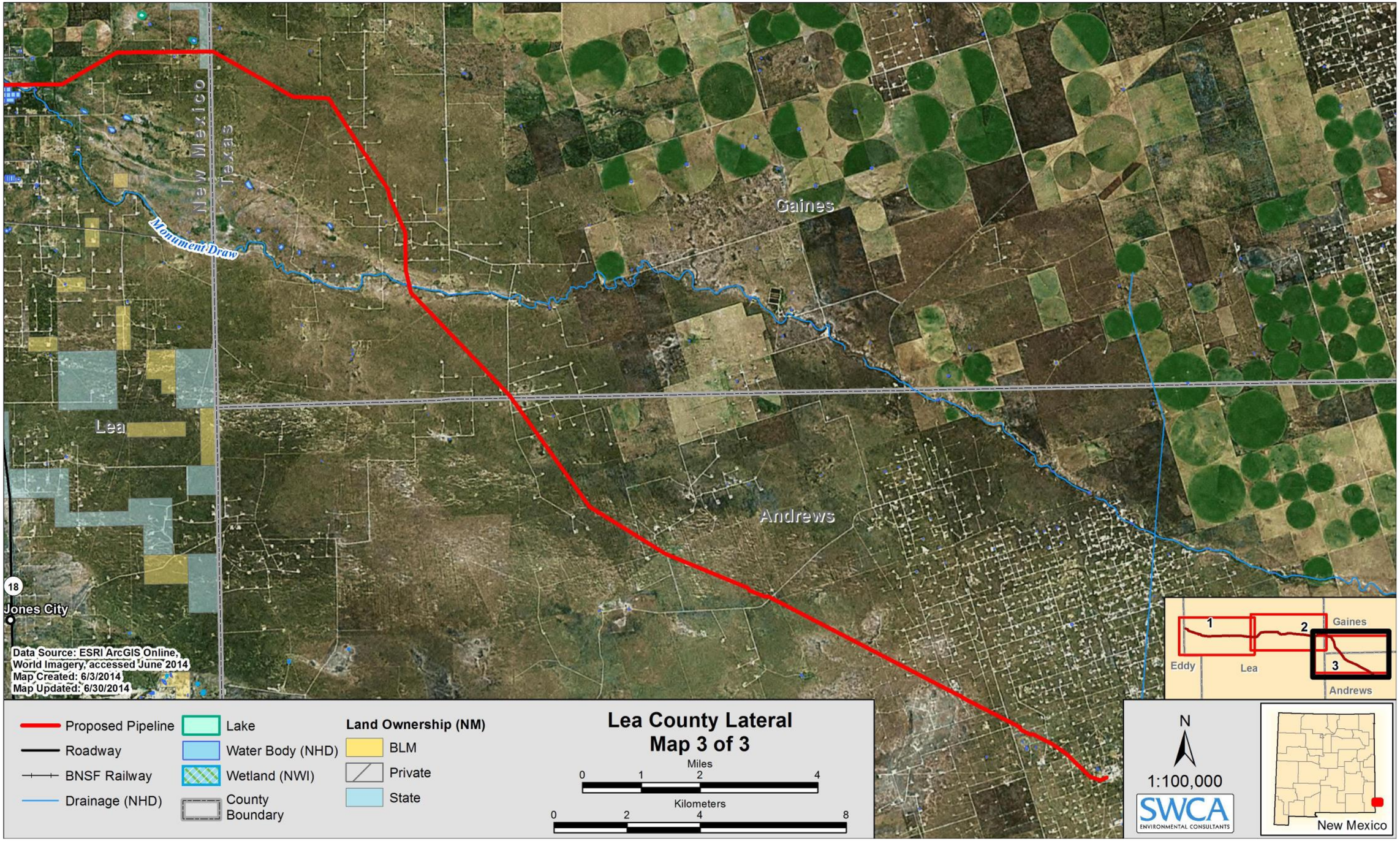
SWCA
ENVIRONMENTAL CONSULTANTS
New Mexico


New Mexico
Texas
Monument Draw
Gaines
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Jones City
Data Source: ESRI ArcGIS Online, World Imagery, accessed June 2014
Map Created: 6/3/2014
Map Updated: 6/30/2014
Proposed Pipeline
Roadway
BNSF Railway
Drainage (NHD)
Lake
Water Body (NHD)
Wetland (NWI)
County Boundary
Land Ownership (NM)
BLM
Private
State
Lea County Lateral
Map 3 of 3
Miles
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Kilometers
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SWCA
ENVIRONMENTAL CONSULTANTS
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3
Gaines
Eddy
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Andrews
New Mexico

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Appendix B: Biological Assessment

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