U.S. Department of the Interior
Bureau of Land Management

Decision Record
Finding of No Significant Impact
Environmental Assessment
DOI-BLM-NM-0060-2016-1003-EA
August 8, 2016

Public Access to the Cross Bar Management Area: Phase 1: Securing the Easement

U.S. Department of the Interior
Bureau of Land Management
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DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
AMARILLO FIELD OFFICE

Project: Public Access to the Cross Bar Management Area Phase 1: Securing the Easement
EA Log Number: DOI-BLM-NM-0060-2016-1003-EA
Location: Potter County, Texas (~ 15 miles north of the city of Amarillo, TX)

Decision Record

DECISION: It is my decision to move forward with Phase 1 of the legal process – legally securing the donated easement through private property for the purpose of constructing a public access road when funds become available in the future. This phase in the process has no impacts to our natural resources as no surface disturbing activities will be taking place at this time. All NEPA required evaluations and surveys will be conducted during Phase 2.

> Alternative A—Proposed Action is the preferred alternative. This alternative provides the only option for public access into the Cross Bar Management Area.
> Alternative B is the No Action alternative and does not provide access to the Cross Bar Management Area public lands.

RATIONALE: The Bureau of Land Management staff has reviewed the environmental assessment and has conducted brief surveys in the proposed area where the easement was legally surveyed. No cumulative surface impacts have been identified at this time; however, in depth analysis will need to be conducted before any surface disturbance commences. The proposed action is in conformance with the Texas Resource Management Plan and Environmental Impact Statement (August 1995), as amended and its Record of Decision (May 1996) and conforms to the land-use planning terms and conditions required under 43 CFR 1610.5.

ADMINISTRATIVE REVIEW AND APPEAL: Under BLM regulations, this decision record is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this decision record must include information required under 43 CFR 3166.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, New Mexico State office, 301 Dinosaur Trail, Santa Fe, NM 87508, no later than 20 business days after this Decision Record is received or considered to have been received.

Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3166.4.

Approved by:

_____ _____

Robert Jolley (Field Manager AmFO) Date

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Finding of No Significant Impact

Based on the analysis of the potential environmental impacts of the proposed action in the attached environmental assessment, we have determined that Phase 1: Alternative A—Proposed Action is not expected to have significant impacts on the environment and that preparation of an Environmental Impact Statement is not required.

Prepared by:

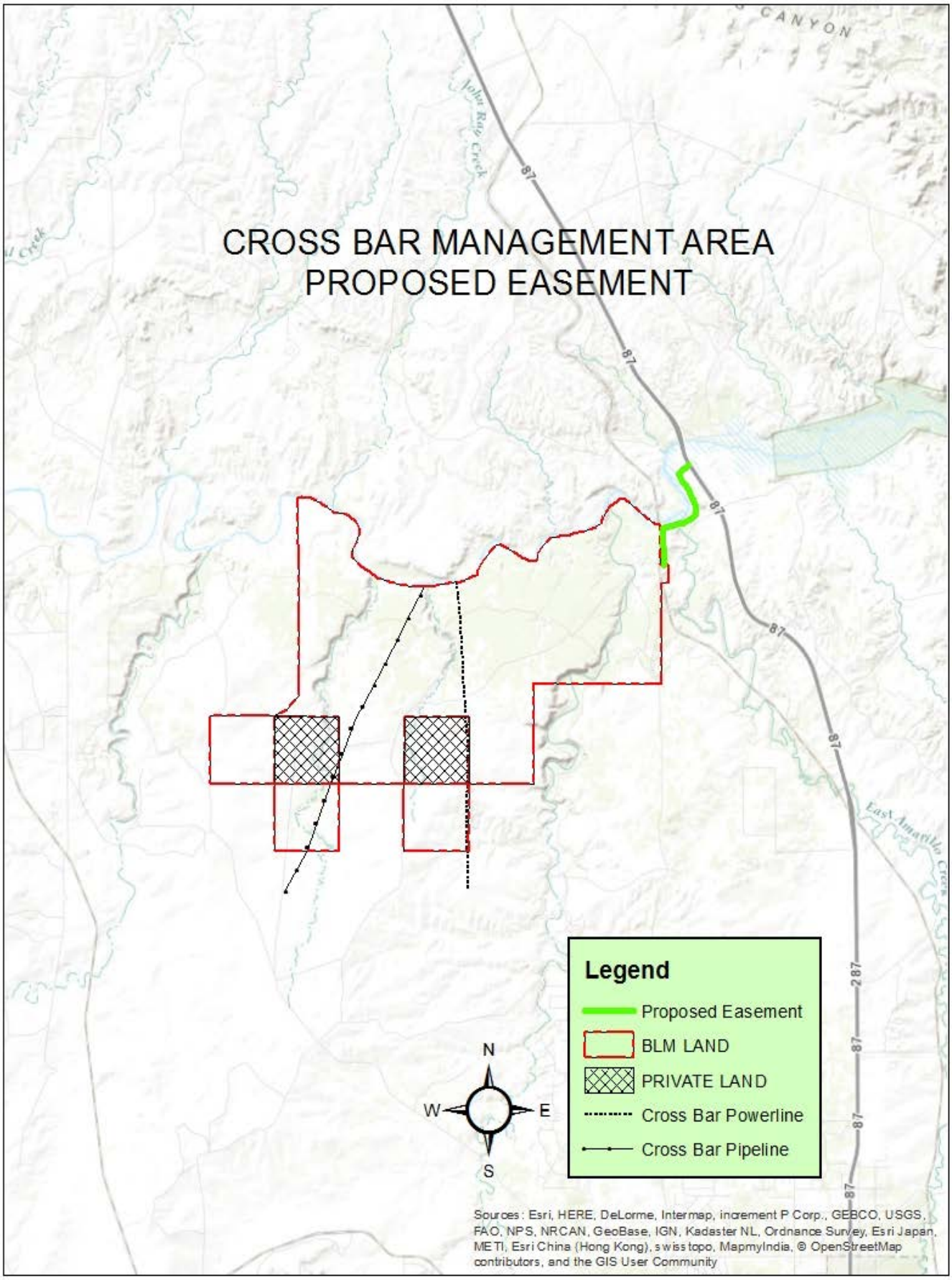
_____ Date:_____
Adrian Escobar
Natural Resource Specialist, AmFO

Reviewed by:

_____ Date:_____
Cindy Sundblad
Planning & Environmental Coordinator, AmFO

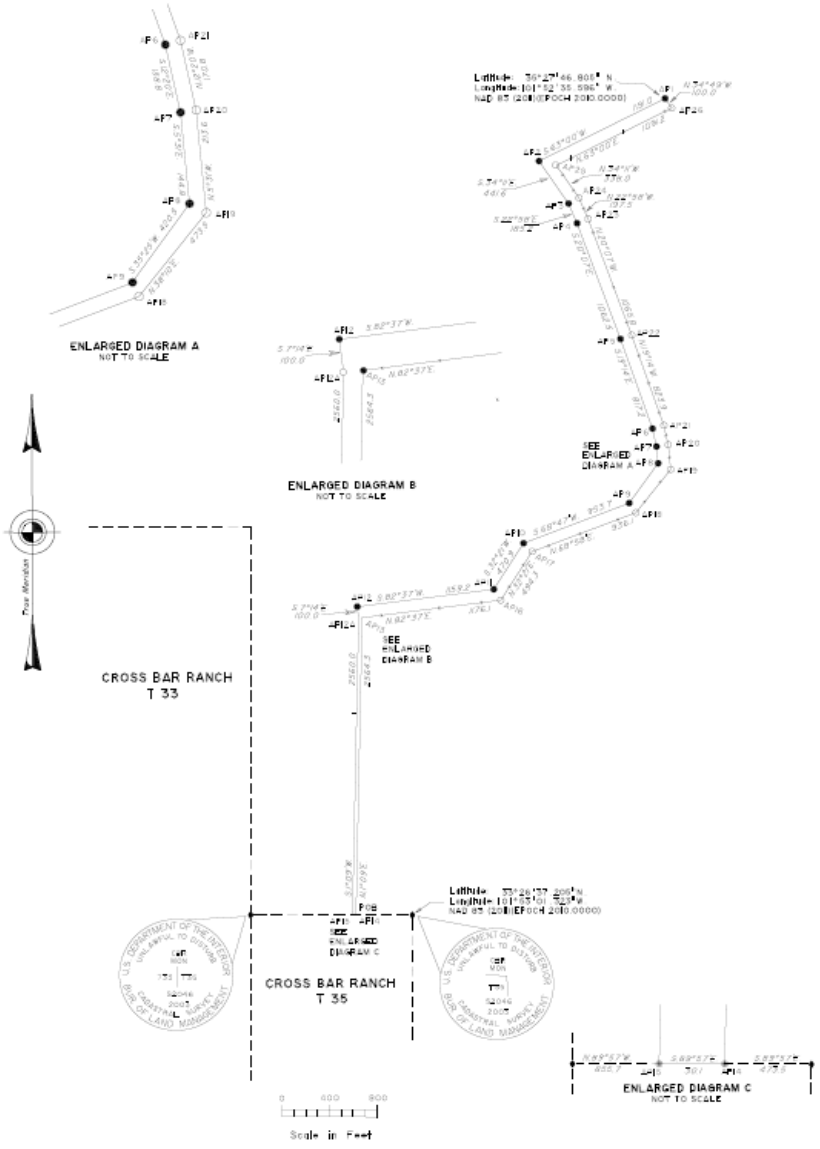
Approved by:

_____ Date:_____
Robert Jolley
Field Manager, AmFO


CANYON
John Ray Creek
87
CROSS BAR MANAGEMENT AREA
PROPOSED EASEMENT
East Amarillo Creek
Legend
Proposed Easement
BLM LAND
PRIVATE LAND
Cross Bar Powerline
Cross Bar Pipeline
N
W
E
S
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

GUNTER AND MUNSON BLOCK 5, CROSS BAR RANCH RIGHT-OF-WAY, POTTER COUNTY, TEXAS

ADMINISTRATIVE SURVEY



17.80 ACRE RIGHT-OF-WAY PARCEL

A portion of land situated in Gunter and Munson Block 5, Potter County, Texas, being the results of an administrative survey and being more particularly described as follows:

Beginning at Angle Point (AP) 14 on the North Boundary of Track 35 of the Cross Bar Ranch, in said Block 5, in Potter County, Texas, monumented with a 3/4 inch rebar, with 2 inch diameter aluminum cap marked BLM ROW AP 14 2016, from which a stainless steel post with brass cap marked CRB MON T35 ANGLE POINT S2046 2003, as described in the survey by D. G. Smyth & Co., dated May 2004, bears S. 89° 57' E., a distance of 473.5 feet. Said corner hereinafter referred to as the POINT OF BEGINNING.

Thence, N. 1° 09' E., a distance of 2564.3 feet, to AP 13;

Thence, N. 82° 37' E., a distance of 1176.1 feet, to AP 16;

Thence, N. 32° 21' E., a distance of 494.3 feet, to AP 17;

Thence, N. 68° 58' E., a distance of 936.1 feet, to AP 18;

Thence, N. 38° 10' E., a distance of 473.5 feet, to AP 19;

Thence, N. 5° 31' W., a distance of 213.6 feet, to AP 20;

Thence, N. 12° 20' W., a distance of 170.8 feet, to AP 21;

Thence, N. 19° 14.' W, a distance of 823.9 feet, to AP 22;

Thence, N. 20° 07' W., a distance of 1065.8 feet, to AP 23;

Thence, N. 22°58' W., a distance of 197.5 feet, to AP 24;

Thence, N. 34° 11' W., a distance of 338.0 feet, to AP 25;

Thence, N. 63° 00' E., a distance of 1091.2 feet, to AP 26;

Thence, N. 34° 49' W., a distance of 100.0 feet, to AP 1;

Thence, S. 63° 00' W., a distance of 1191.0 feet, to AP 2;

Thence, S. 34° 11' E., a distance of 441.6 feet, to AP 3;

Thence, S. 22° 58' E., a distance of 185.2 feet, to AP 4;

Thence, S. 20° 07' E., a distance of 1062.5 feet, to AP 5;

Thence, S. 19° 14' E., a distance of 817.2 feet, to AP 6;

Thence, S 12° 20' E., a distance of 158.8 feet, to AP 7;

Thence, S 5° 31' E., a distance of 144.8 feet, to AP 8;

Thence, S. 35° 25.' W, a distance of 420.5 feet, to AP 9;

Thence, S. 68° 47.' W, a distance of 953.7 feet, to AP 10;

Thence, S. 32° 21' W., a distance of 470.9 feet, to AP 11;

Thence, S. 82° 37' W., a distance of 1159.2 feet, to AP 12;

Thence, S. 7° 14' E., a distance of 100.0 feet, to AP 12A;

Thence, S. 1° 09' W., a distance of 2560.0 feet, to AP 15, from which a stainless steel post with brass cap marked CRB MON T33 T35 S2046 2003, as described in the survey by D. G. Smyth & Co. dated May 2004, bears N. 89° 57' W., a distance of 855.7 feet.

Thence, S. 89° 57' E., a distance of 301 feet, to the POINT OF BEGINNING, containing 17.80 acres of land.

LEGEND

Monumentation recovered and set during this resurvey.

- Set 3/4" diameter rebar with 2" aluminum cap.
- Recovered stainless steel post 2 1/2 ins. diam. with brass cap as described hereon.
- Point established at fence corner, not monumented

BLM
ROW
AP #
2016

TYPICAL CAP MARKING FOR ANGLE POINTS
SET 2 INCH DIAMETER ALUMINUM CAP

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Santa Fe, New Mexico May 9, 2016

This plat represents an administrative survey of a parcel of property providing a right-of-way to the Cross Bar Ranch. This plat was executed to provide a legal description for administrative purposes.

For the Director

Chief Cadastral Surveyor for New Mexico

1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to inform the public of the BLM's interest in legally securing a donated easement through the LX Ranch property east of the Cross Bar Management Area (CBMA) between HWY 287/87 and the BNSF Railroad near the southern boundary of the Canadian River for the purpose of creating a public access route into the CBMA (*see Administrative Survey Map and Location Map*). Phase 1 in the process includes surveying the easement (completed through the BLM Cadastral Department), obtaining title insurance through Chicago Title Company, and completing all the necessary paperwork required through the State of Texas. Phase 2 is an in depth analysis which includes surveying the surface for potential environmental impacts, analyzing social impacts and conducting meetings for public input. Consultations with the Texas Parks and Wildlife Department Parks Division, the City of Amarillo, and Potter County will be conducted.

1.1 Background

The BLM manages approximately 12,000 acres of BLM lands known as the Cross Bar Management Area (aka Cross Bar Ranch). The lands were acquired from Humble Oil and Refining Company, March 6, 1931, under the Acts of February 15, 1928 and January 25, 1929, which gave the Department of the Interior (DOI) approval to acquire land to produce and transport helium gas. In 1997, due to the elimination of the Bureau of Mines, the Helium Operations portion was transferred to the BLM. As part of the BLM, those acquired lands and minerals then came under the jurisdiction of the Federal Land Policy and Management Act (FLPMA). The CBMA is now the only BLM managed land throughout the entire state of Texas. It is located within the Texas High Plains ecological sub-region in the transition between the high plains and the rolling plains. With the exception of 1920 acres, the CBMA is in a contiguous block of 9913 acres. The CBMA overlies an active gas field and helium storage dome and is completely surrounded by private lands. The CBMA was closed to all public use from its acquisition in 1931 until 1997 when the Bureau of Mines office in Amarillo became part of the BLM. The property has no legal physical public access; however, it is now open to visitors for archery hunting, hiking, and general naturizing. Visitors can access the property on foot via the Canadian River which borders the CBMA on the north.

1.2 Purpose and Need

The purpose of securing a legal permanent easement into the CBMA is to provide the general public access to the property for the purposes of general outdoor recreation and education. The goal for the CBMA is to create more opportunities for recreationists to enjoy camping, hiking, horseback riding, mountain biking, and hunting and to provide educational opportunities for schools and groups. Current access is limited by the changing conditions on the Canadian River. The Canadian River experiences periodic floods which naturally prohibits most people from accessing the CBMA. Without a public access route, the property cannot attain optimal recreation opportunities for the general public.

1.3 Land Use Plan Conformance

The Proposed Action is subject to and has been reviewed for conformance with (43 CFR 1610.5, BLM 1617.3) the Texas Resource Management Plan (RMP) (May 1996), as amended. The Texas RMP and Record of Decision describe management decisions based on resource and surface management ownership areas. At the time of preparation and development of the RMP the Amarillo Helium Operations Office was a part of the Department of Interior, Bureau of Mines (BM). At the dissolution of the Bureau of Mines, the Amarillo Helium Operations Office was transferred to the BLM. Transfer of the Helium Operations Office in Amarillo from the jurisdiction of the Bureau of Mines to the BLM resulted in the need to amend the Texas RMP. The Texas RMP was amended in 2000 to include the AmFO.

The proposed action is in conformance with the applicable RMP. The RMP was completed by the BLM in 1996. That plan did not address the lands and minerals managed in Potter County, Texas, by the, then, Bureau of Mines office in Amarillo, TX. The BLM has amended that plan to include the 11,833.8 acres of Federal surface estate and 38,256.18 acres of split estate in Potter County. The plan considered recreation opportunities and recreation development on the CBMA.

1.4 Identification of Issues

Internal scoping will be conducted in Phase 2 by reviewing the proposed project and locations to identify potentially affected resources and land uses. The Interdisciplinary Team (IDT) identified resources and land uses present and affected by the proposed project and focused the analysis on those issues. The following questions were raised as issues to consider further:

- What effect *will* the proposed action have on air quality?
- What effect *will* the proposed action have on soil loss and contamination?
- What effect *will* the proposed action have on water quality and quantity?
- What effect *will* the proposed action have on the watershed condition?
- What effect *will* the proposed action have on known and newly discovered artifacts or areas of cultural, paleontological, and archeological significance?
- What effect *will* the proposed action have on the spread of non-native species?
- What effect *will* the proposed action have on federally listed and state-listed species that have the potential to be located in the proposed project area?
- What effect *will* the proposed action have on Migratory Bird species?
- What effect *will* the proposed action have on wildlife and their habitat in general?
- What effect *will* the proposed action have on visual quality?
- What effect *will* the proposed action have on socioeconomics?
- What effect *will* the proposed action have on floodplains and wetland/riparian areas?
- What effect *will* the proposed action have on recreation?

Several issues were considered during project scoping but dismissed from detailed analysis because there would be no potentially significant effects related to the issues resulting from any of the

alternatives presented below. The following elements are determined by the IDT, following onsite visits, review of the Texas RMP (1996), as amended and other data sources, to not be present:

- Areas of Environmental Concern
- Livestock Grazing
- Wild Horse and Burros
- Mineral Resources
- Wilderness
- Cave and Karst
- Hazardous Wastes

2.0 PROPOSED ACTION AND ALTERNATIVES

This EA analyzes the impacts of the No Action and Proposed Action Alternatives relating to a donated land acquisition through the LX Ranch in Potter County, Texas for general public access to the CBMA.

2.1 Alternative A—Proposed Action

The BLM AmFO proposes to legally secure through donated easement an area of land through the LX Ranch in Potter County. The AmFO has met with the LX Ranch Management and has agreed upon a donated easement totaling 17.80 acres (*see attachment 1*). Securing this donated easement will provide the BLM an opportunity to plan for the construction of a public access road into the CBMA. The BLM will work with the City of Amarillo, Potter County, the State of Texas, and various non-profit organizations to secure funds for the construction of the proposed road.

2.1 Alternative B—No Action

CEQ regulations require the consideration of the No Action alternative (40 CFR 1502.14). The BLM NEPA Handbook (H-1790-1) states that for EAs on externally initiated proposed actions, the no action alternative generally means that the action considered in this EA would not take place. Under this alternative, the BLM would withdraw their pursuit of this easement acquisition and the general public will continue to lack access to the property for recreation and education opportunities.

3.0 DESCRIPTION OF AFFECTED ENVIRONMENT

This section describes the environment that would be affected by implementation of the alternatives described in Section 2. Aspects of the affected environment described in this section focus on the relevant resources and issues. Certain critical environmental components require analysis under BLM policy. Only those elements of the affected environment that have potential to be impacted are described in detail.

3.1 Air Resources

Air quality and climate are components of air resources which may be affected by BLM applications, activities, and resource management. Therefore, the BLM must consider and analyze the potential effects of BLM and BLM-authorized activities on air resources as part of the planning and decision making process.

3.1.1 Air Quality

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality nationwide, including six “criteria” air pollutants. These criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM10 & PM2.5), sulfur dioxide (SO_2) and lead (Pb). Ozone is produced when volatile organic compounds (VOC) and nitrogen oxides (NO_x) undergo photochemical reactions in the presence of sunlight. EPA has established National Ambient Air Quality Standards (NAAQS) for criteria air pollutants. The NAAQS are protective of human health and the

environment. Air quality concerns are of specific concern in Potter County where most contaminant air emissions occur, typically from oil and gas operations. EPA has approved Texas' State Implementation Plan and the state enforces state and federal air quality regulations on all public and private lands within the state, except for tribal lands. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain.

The proposed area of this analysis is considered a Class II air quality area by the EPA. There are three classifications of areas that attain national ambient air quality standards, Class I, Class II and Class III. Congress established certain national parks and wilderness areas as mandatory Class I areas where only a small amount of air quality degradation is allowed. All other areas of the U.S. are designated as Class II, which allow a moderate amount of air quality degradation. No areas of the U.S. have been designated Class III, which would allow more air quality degradation. "Non-attainment" areas are areas that are not meeting one or more of the EPA NAAQS. There are no Class I or "non-attainment" areas within 250 miles of the project area.

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

Current Pollution concentrations

There is no data available for SO_2, lead and CO. Lead and CO concentrations would not be elevated in rural areas, so there is no monitoring conducted for these pollutants. "Design Concentrations" are the concentrations of air pollution at a specific monitoring site that can be compared to the NAAQS. The 2011 design concentrations of criteria pollutants (Table 1).

Table 1. 2011 Design Concentrations of Criteria pollutants (EPA 2012a)

Pollutant	Design Value	Averaging period	NAAQS
O_3	0.074 ppm	8-hour	0.075 ppm[1]
$PM_{2.5}$	12.4 µg/m^3	Annual	12.0 µg/$m^{3,2}$
$PM_{2.5}$	24 µg/m^3	24-hour	35 µg/$m^{3,3}$
NO_2	5 ppb	Annual	53 ppb
NO_2	58 ppb	1-hour	100 ppb[3]

[1] Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years

[2] Annual mean, averaged over 3 years

[3] 98th percentile, averaged over 3 years

AQI is measured in Amarillo, TX (Potter County), <15 miles from the project area. Mean AQI values for the area were generally in the good range (AQI<50) in 2011. Of the days in 2011, 94 percent were

classified as “good” and 6 percent were classified as “moderate.” The median AQI was 26.5 or “good” and the maximum AQI was 70. The air quality index in the area has not reached “unhealthy for sensitive groups,” “unhealthy,” or “very unhealthy” in over a decade.

3.1.2 Climate

The proposed area lies within both “cool” and “warm” parts of the Temperate Zone of the northern hemisphere. There are three major climatic types which are classified as Continental, Mountain, and Modified Marine. There are no distinct boundaries which divide these climate types. The proposed area lies within a region frequently referred to as “Tornado Alley.”

Texas Panhandle

Texas is a large state that has various climate types. The climate type of Potter County is typical of interiors of continents and is characterized by large variations in the magnitude of ranges in daily temperature extremes, low relative humidity, and irregularly-spaced rainfall of moderate amounts. The main feature of this climate in Texas is semi-arid with mild winters. New information about greenhouse gases (GHGs) and their effects on national and global climate conditions have emerged since the RMP was prepared. Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Without additional meteorological monitoring and modeling systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions; what is known is that increasing concentrations of GHGs are likely to accelerate the rate of climate change.

GHGs that are included in the US GHG Inventory are: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). CO_2 and CH_4 are typically emitted from combustion activities or are directly emitted into the atmosphere. On-going scientific research has identified the potential impacts of GHG emissions (including CO_2; CH_4, N_2O; and several trace gases) on global climate. Through complex interactions on regional and global scales, these GHG emissions cause a net warming effect of the atmosphere (which make surface temperatures suitable for life on Earth), primarily by decreasing the amount of heat energy radiated by the Earth back into space. Although GHG levels have varied for millennia (along with corresponding variations in climatic conditions), recent industrialization and burning of fossil carbon sources have caused CO_2 concentrations to increase dramatically, and are likely to contribute to overall climatic changes. Increasing CO_2 concentrations may also lead to preferential fertilization and growth of specific plant species.

In 2007, the Intergovernmental Panel on Climate Change (IPCC) predicted that by the year 2100, global average surface temperatures would increase 1.4°C to 5.8°C (2.5°F to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) supports these predictions, but has acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer,

and increase in daily minimum temperatures are more likely than increases in daily maximum temperatures. It is not, however, possible at this time to predict with any certainty the causal connection of site specific emissions from sources to impacts on the global/regional climate relative to the proposed lease parcel and subsequent actions of oil and gas development.

A 2007 US Government Accountability Office (GAO) Report on Climate Change found that, "federal land and water resources are vulnerable to a wide range of effects from climate change, some of which are already occurring. These effects include, among others: 1) physical effects such as droughts, floods, glacial melting, and sea level rise; 2) biological effects, such as increases in insect and disease infestations, shifts in species distribution, and changes in the timing of natural events; and 3) economic and social effects, such as adverse impacts on tourism, infrastructure, fishing, and other resource uses."

A number of activities contribute to the phenomenon of climate change, including emissions of GHGs (especially CO_2 and CH_4) from fossil fuel development, large wildfires, activities using combustion engines, changes to the natural carbon cycle, and changes to radiative forces and reflectivity (albedo). It is important to note that GHGs will have a sustained climatic impact over different temporal scales due to their differences in global warming potential (described above) and life span of the atmosphere.

3.2 Major Land Resource Areas

The Natural Resources Conservation Service (NRCS) utilizes Major Land Resource Areas (MLRA) as a spatial framework in the planning, design, implementation, and evaluation of natural resource management activities. MLRA boundaries reflect nearly homogenous areas of land use, elevation, topography, climate, water resources, potential vegetation, and soils.

MLRA's contain ecological sites. An ecological site is distinctive kind of land with specific soil and physical characteristics that differs from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation, and in its ability to respond similarly to management actions and natural disturbances. Unlike vegetation classification, ecological site classification uses climate, soil, geomorphology, hydrology, and vegetation information to describe the ecological potential of land areas. A particular ecological site may feature several plant communities (described by vegetation classification) that occur over time and/or in response to management actions.

Ecological sites descriptions are used to stratify the landscape and organize ecological information for purposes of monitoring, assessment, and management. Ecological site descriptions are reports that describe the: a) biophysical properties of ecological sites, b) vegetation and surface soil properties of reference conditions that represent either; c) pre-European vegetation and historical range of variation (in the United States) or ii) proper functioning condition or potential natural vegetation, c) state-and-transition model graphics and text, and d) a description of ecosystem services provided by the ecological site and other interpretations (NRCS).

3.3 Water Resources

3.3.1 Surface water

Texas' abundant surface water resources include rivers, streams and both natural and man-made reservoirs. There are 23 surface water basins in Texas, including 15 major river basins and eight coastal basins, each with varying hydrological regimes and abilities to provide water supplies. The state's water availability models estimate that available surface water during drought was 13.3 million acre-feet in 2010. Of this amount, only 9.0 million acre-feet can be used as existing supply due to physical and legal constraints. Existing surface water supply is projected to decrease to 8.4 million acre-feet by 2060, primarily from sedimentation of existing reservoirs.

The proposed project area in Potter County is within the Canadian River Basin. The Canadian River Basin is the northernmost river basin in Texas. Due to low precipitation and high evaporation rates that predominate in the region, the basin has a low average watershed yield. From headwaters in the Sangre de Cristo Mountains of New Mexico, the Canadian River flows across the northern Panhandle of Texas to its confluence with the Arkansas River in Oklahoma. Smaller streams in the Basin include Punta de Agua, Palo Duro, and Wolf Creeks. There are three lakes in the basin including: Lake Meredith, Palo Duro Reservoir, and Rita Blanca Lake. The Canadian River Compact between New Mexico, Oklahoma, and Texas places limits on conservation pool storage in reservoirs in the Texas and New Mexico portions of the basin. Limited surface water supplies, often further depleted by drought, are an issue in the basin especially since the ground-water supplies are experiencing long-term declines (TWDB 2013).

The proposed project area is within the Lake Meredith watershed (USGS 1109015). The nearest listed impaired water is over 20 miles to the northeast of the project area.

3.3.2 Groundwater

Groundwater deposits underlie about 76 percent of Texas and are considered to be one of the state's most valuable resources. Sixty percent of the freshwater used in Texas is supplied from 23 major aquifers. Groundwater supplies are produced from numerous saturated geologic formations comprised of various mineralogical types such as sand and gravel alluviums and cavernous limestones and dolomites.

The major aquifer underling the proposed project area is the Ogallala. The Ogallala Aquifer is the major water-bearing formation of the Panhandle Region. Although many communities use water from the aquifer as their primary source of drinking water, approximately 90 percent of the water obtained from the Ogallala is used for irrigation. The Ogallala supports the major irrigated agricultural production and processing base, as well as the region's municipal and industrial water needs. Water-table elevations approximately parallel the land surface and dip from the northwest to the southeast. The aquifer is recharged by precipitation and runoff that drains to lakes, rivers, playas, and streams (TWDB 2006).

The Ogallala is comprised primarily of sand, gravel, clay, and silt deposited during the Tertiary period. Groundwater, under water-table conditions, moves slowly through the formation in a southeasterly

direction toward the caprock edge or eastern escarpment of the High Plains. Saturated thickness of the aquifer is variable across the region but is greatest where sediments have filled previously eroded drainage channels. Well yields range from as little as 10 gallons per minute (gpm) to more than 1,000 gpm (TWDB 2006).

In 2010, the Ogallala was estimated to have a storage capacity of about 2.52 million acre-feet in Potter County, with a depletion rate of about 6.64 percent in a 10 year period. Recharge to the Ogallala occurs primarily by infiltration of precipitation from the surface and, to a lesser extent, by upward leakage from underlying formations. It is estimated that the long term average annual recharge is less than 3 inches per year (TWDB 2006).

The Dockum minor aquifer also underlies the project area. The Dockum is a minor aquifer which underlies the Ogallala Aquifer and extends laterally into parts of west Texas and New Mexico. The primary water-bearing zone in the Dockum Group, commonly called the "Santa Rosa," consists of up to 700 feet of sand and conglomerate interbedded with layers of silt and shale. Aquifer permeability is typically low, and well yields normally do not exceed 300 gpm. The Dockum has an estimated 3,051,500 acre-foot storage capacity in Potter County, with an annual recharge of about 300 acre-feet.

3.4 Heritage Resources

3.4.1 Cultural Resources

The survey area has not been previously formally inventoried according to the Texas Historical Sites Atlas (accessed May 1, 2014) and records on file at the BLM-Oklahoma Field Office. Previous archeological reports in the general survey areas are sparse despite several sites having been recorded. Multiple historic and prehistoric sites are located within the project area. A thorough summary of area research and cultural resources for the region is included in Lintz et al. (2001). More recently, two excellent master's theses, Meier (2007) and Weinstein (2005), have researched the Antelope Creek Phase structure (41PT109) on the Cross Bar.

Cultural resources in the general area are of probable historical significance include portions of a trail route to California, which follows the Canadian River just north of the study area, and several military expeditions/campaigns trails that crossed the general area during the nineteenth century. A number of Cold War Era helium wells, including some in underground bombproof bunkers, are also located near the project area.

To comply with Section 106 of the National Historic Preservation Act, as amended, an on-the-ground cultural resources survey was conducted in addition to the records review. An intensive Class III inventory of 31.05 acres was completed April 29-30, 2014 (CRR# NM-040-2014-66). The inventory located two new sites (41PT507 and 41PT508). Site 41PT507 is a small lithic scatter and is not recommended as eligible on the National Register of Historic Places (NRHP). Site 41PT508 is a larger lithic scatter with a hearth feature, and is recommended eligible on the NRHP due to the possibility of dating the feature and the potential for intact buried deposits.

3.4.2 American Indian Religious Concerns

Traditional Cultural Properties (TCPs) are places that have cultural values that transcend the values of scientific importance that are normally ascribed to cultural resources such as archaeological sites. Native American communities are most likely to identify TCPs, although TCPs are not restricted to those associations. Some TCPs are well known, while others may only be known to a small group of traditional practitioners, or otherwise only vaguely known.

There are several pieces of legislation or Executive Orders that should be considered when evaluating Native American religious concerns. These govern the protection, access and use of sacred sites, possession of sacred items, protection and treatment of human remains, and the protection of archaeological resources ascribed with religious or historic importance. These include the following:

- The American Indian Religious Freedom Act of 1978 (AIRFA; 42 USC 1996, P.L. 95-431 Stat. 469).
- Executive Order 13007 (24 May 1996).
- The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA; 25 USC 3001, P.L. 101-601).
- The Archaeological Resources Protection Act of 1979 (ARPA; 16 USC 470, Public Law 96-95).
- Memorandum of Understanding Among the U.S. Department of Defense, U.S. Department of the Interior, U.S. Department of Agriculture, U.S. Department of Energy, and the Advisory Council on Historic Preservation Regarding Interagency Coordination and Collaboration for the Protection of Indian Sacred Sites.

As described above, approximately 31.05 acres have been inventoried for cultural resources for the proposed access road. The proposed action would result in short-term and long-term change and altered utilization of the site and immediate surrounding area.

For the Proposed Action, identification of TCPs were limited to reviewing existing published and unpublished literature, and BLM tribal consultation efforts specific to this proposed action with the Comanche Nation in Texas. No TCPs are known to exist within the APE.

3.4.3 Paleontology

31.05 acres have been inventoried for cultural and paleontological resources for the proposed access road, drill pad, and pipeline construction. No paleontological resources have been identified within the proposed project area. Paleontological Resources are of scientific interest and may require protection. The management of paleontological resources is directed under FLPMA, NEPA, and Paleontological Resources Preservation Act (PRPA), formally known as Paleontological Resources Preservation subtitle of the Omnibus Public Land Management Act of 2009 (16 USC 470aaa et seq.). In accordance with the PRPA, paleontological resources on Federal land must be managed and protected using scientific principles and expertise.

3.5 Vegetation - Invasive, Non-native Species

Noxious weeds can have a disastrous impact on biodiversity and natural ecosystems. Noxious weeds affect native plant species by out-competing native vegetation for light, water and soil nutrients. Noxious weeds cause $2 to $3 million in estimated losses to producers annually. These losses are attributed to: (1) decreased quality of agricultural products due to high levels of competition from noxious weeds; (2) decreased quantity of agricultural products due to noxious weed infestations; and (3) costs to control and/or prevent the spread of noxious weeds.

The Early Detection & Distribution Mapping System (2013) at the University of Georgia has identified plant species in each state as occurring in the county and being exotic to the US and listed as a problem somewhere in the US. These plant species are potentially invasive; however, may have little to no effect in the counties where they were observed.

3.6 Wildlife

3.6.1 Threatened and Endangered Species

Approximately 1300 endangered or threatened species occur in the United States today. Endangered species are plants and animals that have become so rare that they are in danger of becoming extinct or are considered extinct in the wild. Threatened species are plants and animals that are likely to become endangered within the foreseeable future throughout its range (EPA.gov). The Endangered Species Act of 1973 is designed to protect critically imperiled species from the consequences of anthropogenic activities. The Act is administered by the United States Fish and Wildlife Service and the National Oceanic and Atmospheric Administration.

3.6.2 Special Status Species

Special status species is a universal term used in the scientific community for species that are considered sufficiently rare that they require special consideration and/or protection and should be, or have been, listed as rare, threatened, or endangered by the Federal and/or State governments. The authority for this policy and guidance regarding the evaluation of SSS comes from the Endangered Species Act of 1973, as amended; the Federal Land Policy and Management Act (FLPMA) of 1976; and Department of Interior, Bureau of Land Management, Special Status Species Management (Manual 6840). There are no Wilderness Study Areas (WSA's) or Special Management Areas (SMA's) within the proposed area.

3.6.3 Migratory Birds

The central flyway is a bird migration route that begins in the north in Canada and generally meanders along the Great Plains and goes through the Gulf of Mexico. Migrating birds use this flyway between breeding and wintering seasons and often use the region as a stop-resting and foraging ground. Common migratory bird species that occur near the proposed project area are too numerous to list in this document, however, migrating birds observed at the specific site are protected under the Migratory Bird Treaty Act of 1918. The Migratory Bird Treaty Act makes it unlawful, without a waiver, to pursue,

hunt, take, capture, kill, or sell birds that are considered migratory. The statute does not discriminate between live or dead birds and also grants full protection to any bird parts including feathers, eggs, and nests. There are currently over 800 species on this list, several species of which have been observed in the proposed project area.

3.7 Visual Resources

BLM Manual H-8410-1 lays out the visual resource inventory process for determining visual values. The inventory consists of scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. The purpose of the analysis is to determine the area's Visual Resource Management Class (VRM), which defines the degree of acceptable visual change within a characteristic landscape on BLM lands. Because this action, is occurring on private surface a VRM class has not been established for the proposed project area.

Land uses surrounding the CBMA are predominantly ranching, cattle grazing, and farming. Residential areas within 10 miles of the CBMA the northern city limits of Amarillo, and the Valley de Oro community to the west.

3.8 Environmental Justice

Executive Order 12989, issued on 11 February 1994, addresses concerns over disproportionate environmental and human health impacts on minority and low-income populations. The impetus behind environmental justice is to ensure that all communities, including minority, low-income or federally recognized tribes, live in a safe and healthful environment.

3.9 Recreation

The BLM is a multi-use agency where all aspects of land management are analyzed and implemented. On approximately 250 million acres of public lands, visitors enjoy various types of outdoor activities including camping, hiking, hunting, fishing, horseback riding, and many more. As the western United States becomes more urbanized, the recreational opportunities and landscape settings are becoming more vital to the quality of life. These recreational opportunities are offered to all citizens and to international visitors.

The CBMA is the only BLM land in the entire state of Texas and is increasingly becoming more desired by multiple outdoor recreation groups for the opportunities the property offers.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Effects of Alternative A – Proposed Action

4.1.1 Air Resources

4.1.2 Air Quality

There are no anticipated impacts to air quality as a result of the proposed action as this action is simply an administrative action free from surface disturbance. A more detailed assessment will be conducted as the BLM nears the point of construction and understands exactly where the access route will be placed.

4.1.3 Climate

The assessment of GHG emissions, their relationship to global climatic patterns, and the resulting impacts is an ongoing scientific process. It is currently not feasible to know with certainty the net impacts from the proposed action on climate—that is, while BLM actions may contribute to the climate change phenomenon, the specific effects of those actions on global climate are speculative given the current state of the science. The BLM does not have the ability to associate a BLM action's contribution to climate change with impacts in any particular area. The science to be able to do so is not yet available. The inconsistency in results of scientific models used to predict climate change at the global scale coupled with the lack of scientific models designed to predict climate change on regional or local scales, limits the ability to quantify potential future impacts of decisions made at this level and determining the significance of any discrete amount of GHG emissions is beyond the limits of existing science. When further information on the impacts to climate change is known, such information would be incorporated into the BLM's planning and NEPA documents as appropriate.

There is an assumption, however; that certain related activities in the proposed action would contribute to short-term emissions. Examples of some of these short term activities or sources, which may contribute to GHS, include small particulates from dust from the construction of the road and from vehicle emissions.

Mitigation

No mitigation measures have been identified.

4.2 Major Land Resource Areas

Direct impacts resulting from the proposed action do not exist. However, an increase in surface runoff can be expected in the future when construction commences, potentially causing increased sheet, rill, and gully erosion although the degree and extent of each is anticipated to be negligible because of the topography and inconsistent precipitation on the area.

Secondary impacts, including the loss of soils to wind, rain, and other erosive forces following surface disturbance, can occur because of exposed soils. Because disturbance would be located on soils with

moderate risk of erosion and very gentle slopes, the loss and subsequent movement of soil is anticipated to be negligible and can be minimized.

Mitigation

The impacts of the surface disturbance as a result of road construction will be identified and mitigated at before construction begins. At this point is the NEPA process, there is no surface disturbing activity therefore, mitigation is unnecessary.

4.3 Water Resources (Riparian/Aquatic)

According to the Texas State Historical Association East Amarillo Creek, also known as Hedrio Creek, rises north of the Amarillo city limits in Potter County (at 35°13' N, 101°50' W) and runs north-northwest for about fifteen miles to its mouth on the Canadian River, a half mile from West Amarillo Creek, west of U.S. Highway 87 and almost directly north of Amarillo (at 35°27' N, 101°52' W). For most of the stream's length the flat terrain is surfaced by leveled sand dunes, with some low-rolling to flat, locally dissected areas surfaced by clay loam and sandy loam; at the stream's mouth the soil is loose sand. Vegetation along the creek bed includes scrub brush and grasses. The creek, once a favorite haunt of Indians and hide hunters, was later part of the LX Ranch range.

The intersection of East Amarillo Creek and the Canadian River is frequented by overnight campers and OHV recreationists (*see attachment*). The proposed easement is routed through this area. As a result, road construction planning will have to design a method for vehicle to cross this creek. Some options include constructing large box culverts, constructing a bridge, or creating a low water crossing. Once the easement is secured, construction companies will have an opportunity to bid on road construction design. It will be a requirement of the contract to identify the most economical and efficient means for crossing this creek.

Mitigation for Water Resources and Riparian/Aquatic Areas

While there are no mitigation measures identified for phase 1 there will be mitigation measures identified for phase 2 as the drainage of East Amarillo Creek will most definitely be affected. Consultation with the Army Corp of Engineers, Texas Commission on Environmental Quality, Texas Parks and Wildlife, and the Canadian River Water Authority will be conducted before any surface disturbing activity is initiated.

4.5 Vegetation - Invasive, Non-native Species

Under the Proposed Action there will be no affects concerning vegetation as this phase is administrative only. During Phase 2, all consultations and surveys will be conducted and potential effects and mitigation measures will be identified in the NEPA process.

4.6 Wildlife

4.6.1 Wildlife

The proposed action would have no immediate effect on wildlife as it is only an administrative action with no immediate surface disturbing action. The purpose of securing the easement in Phase 1 is to plan for future construction of a public access road into the CBMA. The purpose of the access road is to create more recreation opportunities for the general public. This translates into more anthropogenic influences in a habitat where human presence is limited which has the potential to effect wildlife and their habitats in general. This potential effect will be addressed in phase 2 of the easement NEPA process.

4.6.2 Special Status Species

The Arkansas River Shiner has been known to occur in the Canadian River and in West and East Amarillo Creek, however; there patterns are cyclical as both the Canadian River and the creeks have experienced lower than average water levels. The Canadian River is highly used by motorized recreational vehicles on daily basis. Any effects on the Arkansas River Shiner in the future as a result of this project will be addressed and the BLM will consult with the US Fish and Wildlife Service which is the authority on special status species.

Mitigation

No mitigation measures have been identified for wildlife or special status species as this proposed action is strictly administrative. Phase 2 will evaluate mitigation measures as some impacts can result from road construction.

4.6.3 Migratory Birds

Migratory birds occur throughout the CBMA as it is located in the central flyway. The list of migratory birds is too numerous to list in this document; however, birds common to the area have been observed and documented through state and federal wildlife departments.

Mitigation

There are no mitigation measures to evaluate for this proposed action. However, any action that occurs on the CBMA includes monitoring for migratory bird movement and nesting before and during their nesting periods. Encounters of migratory bird nests on the proposed project area are not expected, however, if a raptor nest is encountered an evaluation for disturbance and avoidance will be conducted.

4.7 Visual Resources

No impacts to visual resources are expected during Phase 1 of securing the easement. Typically, road design and placement is evaluated prior to road construction to appease the requirements of visual resource management. During Phase 2, the IDT will evaluate visual resources. The Canadian River bottom is heavily utilized by OHV and recreationists. The value of visual resources is already low due to

the activity on the river. This access road will however, be scenic and will provide wonderful viewsheds for the visitors of the CBMA.

4.8 Environmental Justice

No minority or low income populations would be affected as a result of implementing the proposed action. Implementation of the project would positively impact the local economy of Potter County through the renting of hotels and the dining at local restaurants. Further, after the CBMA is open for public use, it will provide a low cost, outdoor recreation option for all income levels.

Mitigation

No mitigation measures specific to socio-economics and environmental justice would be required.

4.9 Alternative B: No Action

4.9.1 Air Resources

4.9.1.2 Air Quality

The No Action alternative would have no impact on air quality.

4.9.1.3 Climate

The No Action alternative would have no impact on climate.

4.9.2Major Land Resource Areas

The No Action alternative would have no impact on Major Land Resource Areas.

4.9.3 Water Resources (Riparian/Aquatic)

The No Action alternative would have no impact on water resources.

4.9.4 Heritage Resources

4.9.4.2 Cultural Resources

The proposed action would result in short-term and long-term change and utilization of the project area. After the literature review and on-the-ground survey, it was determined that the proposed access route would be rerouted to avoid both archaeological sites in the APE. A finding of no historic properties affected has been determined for all resources. The Texas Historical Commission has been consulted and Section 106 of the NHPA, as amended, compliance has been completed.

Many cultural resource issues exist beyond the National Historic Preservation Act, such as state and municipal registers of historic sites, National Heritage Areas, National Trails, or other heritage designations. This action does not affect any of these other types of cultural resources.

Mitigation Measures for Impacts of Cultural Resources

Sites 41PT507 and 41PT508 will be flagged off prior to the beginning of mechanical construction of the new access road. The flags will be a minimum of 25 feet outside of the established site boundaries and heavy equipment will not be allowed on those sites. Based In the event that ground disturbing activities have an adverse effect on significant cultural resources, the BLM will stop construction and, in consultation with the affected tribe(s) and the Texas Historical Commission, will take action to mitigate or negate those effects. Measures include, but are not limited to physical barriers to protect resources, relocation of practices responsible for the adverse effects, or other treatments as appropriate.

If archeological materials such as chipped stone tools, pottery, bone, historic ceramics, glass, metal, or building structures are exposed during construction; stop work at that spot immediately and contact the BLM archeologist at (918) 621-4100.

4.2.4.2 American Indian Religious Concerns

The Comanche Nation was notified of the proposed project. The proposed action is not known to physically threaten any TCPs, prevent access to sacred sites, prevent the possession of sacred objects, or interfere or otherwise hinder the performance of traditional ceremonies and rituals pursuant to AIRFA or EO 13007. There are currently no known remains that fall within the purview of NAGPRA or ARPA that are threatened by leasing.

The proposed action is not known to physically threaten any TCPs, prevent access to sacred sites, prevent the possession of sacred objects, or interfere or otherwise hinder the performance of traditional ceremonies and rituals pursuant to AIRFA or EO 13007. There are currently no known remains that fall within the purview of NAGPRA or ARPA that are threatened by leasing. It is anticipated that implementation of either alternative would have no impact on the resource.

4.2.4.3 Paleontology

No concentrations of vertebrate fossils or bone beds are known to occur within the APE, and there is a very low probability of any occurring within the APE, thus there would be no impact from implementation of either alternative.

Mitigation Common to ALL Heritage Resources

In the event that the proposed project is found in the future to have an adverse effect on significant cultural resources, the operator and the BLM, in consultation with the Comanche Nation and the Texas Historical Commission, will take action to mitigate or negate those effects. Measures include, but are not limited to physical barriers to protect resources, relocation of practices responsible for the adverse effects, or other treatments as appropriate

If archeological materials such as chipped stone tools, pottery, bone, historic ceramics, glass, metal, or building structures are exposed during construction; stop work at that spot immediately and contact the BLM archeologist at (918) 621-4100.

4.9.5 Vegetation

4.9.5.2 Invasive Plants

The No Action alternative would have no impacts on vegetation.

4.9.6 Wildlife

4.9.6.2 Wildlife

The No Action alternative would have no impacts on wildlife.

4.9.6.3 Threatened and Endangered Species

The No Action alternative would have no impacts on threatened or endangered species.

4.9.6.4 Special Status Species

The No Action alternative would have no impact on special status species.

4.9.6.5 Migratory Birds

The No Action alternative would have no impact on migratory birds.

4.9.7 Visual Resources

The No Action alternative would leave the CBMA and the LX Ranch in its current condition thus having no impact on visual resources. However, by not securing the proposed donated easement, the general public will remain isolated from the natural landscapes the CBMA has to offer.

4.9.8 Environmental Justice

Under the No Action alternative there would be no direct impact to environmental justice.

4.9.9 Recreation

Under the No Action alternative the CBMA will remain limited for outdoor recreation opportunities for the general public. It is currently only accessible to people with off-road vehicle capabilities that can traverse the ever changing conditions of the Canadian River. Those who are able to traverse the river are only able to drive up to the fence and then are required to hike in. Without an easement, the general public will never have an opportunity to enter the property to enjoy the various recreation activities it has to offer. This surveyed easement is literally the only way for the BLM to make the CBMA accessible to the tax payer.

5.0 Cumulative Effects

A cumulative impact, as defined in 40 CFR 1508.7, is the impact on the environment which 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.

5.1 Cumulative Actions

5.1.1 Past, Present, and Reasonably Foreseeable Actions

The CBMA has been managed by the BLM for 16 years. In that time, the BLM has work diligently towards restoring the property back to a native short grass prairie. In doing so, the BLM has increased wildlife species diversity and density. The goals for the CBMA are to decrease mesquite and cholla cactus densities by 80%, increase native species diversity, re-introduce grazing (for research), increase recreation opportunities such as camping, hiking, horseback riding, mountain biking, and hunting, and increase outdoor education opportunities.

The CBMA is the only BLM managed land in the State of Texas. The BLM has a multi-use mission in which the objectives are to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations.

After this proposed action is completed, the BLM will move towards designing and constructing a public access road through the secured easement boundaries. Any cumulative effects, positive or negative, will be evaluated and mitigated. This proposal will guide the CBMA in a new direction in which it will be enjoyed by the local community and the country as a whole. The BLM has reached out to all necessary parties and is coordinating efforts with them, specifically the Texas Parks and Wildlife Department Parks Division.

5.1.2 Cumulative Effects

5.1.2.1 Air Resources

Phase 1 will have no cumulative effects on air resources.

5.1.2.2 Climate

The incremental contributions to global GHG gases as a result of the proposed alternative cannot be translated into effects on climate change globally or in the area of this site-specific action. As stated in the direct/indirect effects section under climate change, the assessment of GHG emissions and the resulting impacts on climate is an ongoing scientific process. It is currently not feasible to know with certainty the net impacts from the proposed action on global or regional climate—that is, while BLM actions may contribute to the climate change phenomenon, the specific effects of those actions on global climate are speculative given the current state of the science. Therefore, the BLM does not have the ability to associate an action's contribution in a localized area to impacts on global climate change.

5.1.2.3 Water Resources

Cumulative effects to riparian and aquatic ecosystems from the actual implementation of this action will be non-existent. However, phase 2 will have impacts and they will be analyzed at the appropriate time.

5.1.2.4 Cultural Resources

BLM staff archaeologists have been integrated into the assessment process to promote proactive, long-term management of cultural resources. Proposed activity areas, which have not been intensively inventoried, and at-risk resources would be delineated for minimizing activity impacts within their perimeters. No cumulative impacts to cultural resources within the project area would occur under either alternative.

5.1.2.5 Vegetation

There are no cumulative effects anticipated as a result of this proposed action. Phase 2 will involve surface disturbance activities and those disturbances will be evaluated and mitigated at the appropriate time.

5.1.2.6 Wildlife, Special Status Species and Migratory Birds

No cumulative effects are anticipated as a result of this proposed action. Phase 2 will involve surface disturbance activities and minimal habitat fragmentation. Those disturbances will be evaluated and mitigated at the appropriate time.

5.1.2.7 Visual Resources

Visual resources will not be affected as a result of this proposed action; however, the future development of a public access road could potentially impact these resources. Those impacts will be further evaluated during Phase 2 NEPA assessments.

5.1.2.8 Environmental Justice

There are no cumulative effects to environmental justice as a result of this proposed action.

5.1.2.9 Recreation

The results of securing an easement for the purposes of constructing a public access route to the CBMA will only enhance outdoor recreation opportunities for the general public. The cumulative effects are positive.

6.0 CONSULTATION/COORDINATION

This section includes the resource specialists located within the AmFO and the OFO that specifically participated and provided input in review of the proposed project and development of this EA document (Table 3).

Table 2. Specialists participating in the review of the proposed project.

Resources	Not Present on Site	No Impacts	May Be Impacts	Mitigation Included	BLM Reviewer	Date
Air Quality		X			Adrian Escobar NRS	
Soil		X				
Watershed Hydrology		X				
Floodplains		X				
Water Quality - Surface		X				
Water Quality - Ground		X				
Cultural Resources		X			Stephanie Bergman Archaeologist	
Native American Religious Concerns		X				
Paleontology		X				
Areas of Critical Environmental Concern	X				Adrian Escobar NRS	
Farmlands, Prime or Unique	X					
Invasive, Non-native Species		X				
Vegetation		X				
Livestock Grazing		X				
Threatened or Endangered Species		X			George Thomas Wildlife Biologist	
Special Status Species		X				
Wildlife/Migratory Birds		X				
Wetlands/Riparian Zones		X				
Wild and Scenic Rivers		X			Adrian Escobar NRS	
Wilderness	x					
Recreation		X				
Visual Resources		X				
Cave/Karst	x					
Wastes, Hazardous or Solid	x					
Environmental Justice			x			
Recreation		X				
Fluid Mineral Resources	x					
Rights-of-Way	x					

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