ENVIRONMENTAL ASSESSMENT
(REVISED)

NM 120468

COF 658 Powerline Right-of-Way to the
Devon NEBU No. 466A Well Pad
And

NM 121525

COF 679 Powerline Right-of-Way to the
Devon NEBU No. 417A Well Pad

Farmington Electric Utility System

Proposed Action
Right-of-Way Locations:

COF 658 to Devon NEBU No. 466 A: NENE & NWNE, Section 3; Township 30 North, Range 7 West

COF 679 to Devon NEBU No. 417A: NWNW, Section 2 & NENE, Section 3, Township 30 North, Range 7 West

New Mexico Principal Meridian,
Rio Arriba County, New Mexico

U. S. Department of the Interior

Bureau of Land Management

Farmington Field Office

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BUREAU OF LAND MANAGEMENT
FARMINGTON FIELD OFFICE

ENVIRONMENTAL ASSESSMENT (EA) FOR FARMINGTON ELECTRIC UTILITY SYSTEM COF 658 and 679 RIGHTS-OF-WAY TO Devon NEBU No. 466A and Devon NEBU No. 417A Well Pads

1.0 Introduction

1.1 The Proposal

The City of Farmington Electric Utility System (FEUS) has applied for one (1) powerline right-of-way (ROW) grant with the Bureau of Land Management's Farmington Field Office (BLM-FFO). The proposed action consists of two (2) individual electric powerline extensions, COF 658 and COF 679, proposed to bring power to two (2) individual Devon Energy Corporation (Devon) wells. COF 679 is contingent upon the construction of COF 658. This assessment will analyze the construction, operation, maintenance, and final abandonment of the two (2) powerline extensions to the Devon wells. The proposed action is being proposed on public lands administered by the BLM-FFO and managed by the U.S Bureau of Reclamation (BOR).

This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the Farmington Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) approved as per the September 29, 2003 Record of Decision (ROD) as the Resource Management Plan/ Environmental Impact Statement (RMP/EIS), pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21 (BLM 2003a). This document is available for review at the BLM-FFO, Farmington, New Mexico or online at http://www.nm.blm.gov/ffo/ffo_home.html. This environmental assessment (EA) addresses site-specific resources and effects of the proposed action that were not specifically covered within the FRMP/FEIS, as required by the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-90, 42 United States Code [USC] 4321 et seq.).

1.2 Purpose and Need

The purpose of the proposed action would be to provide power to two (2) existing natural gas wells (Devon Northeast Bancos Unit (NEBU) No.466A and NEBU No.417A). The proposed action would connect the aforementioned wells to existing, operating powerlines. An approved ROW grant, issued by the BLM-FFO, would authorize the applicant to construct, operate, maintain, and finally abandon the proposed powerline extensions.

1.3 Conformance with Applicable Land Use Plan and Other Environmental Assessments

As required by 43 CFR 1610.5, the proposed action is in conformance with the terms and the conditions of the RMP/EIS as approved by the ROD and signed September 29, 2003 (BLM 2003b). Specially Designated Areas (SDAs) and Areas of Critical Environmental Concern (ACECs) were identified in the RMP/EIS under authority of the Federal Land Policy and Management Act (FLPMA) of 1976 (Public Law 94-579, 43 USC 1701 et seq.) allowing for multiple use of lands administered by the BLM. Specially designated resource/management areas were also identified in the Navajo Reservoir Resource

Management Plan, Final Environmental Assessment, and Finding Of No Significant Impact (Navajo Reservoir RMP/FEA, FONSI 2008). The southwestern portion of COF 658 is within the San Juan No. 1 Bald Eagle ACEC buffer zone. Both proposed project areas are within Rosa Mesa Wildlife Area SDA and the Mule Deer Winter Concentration area.

The southwestern portion of the proposed COF 658 project area is located within the buffer zone of the San Juan No.1 Bald Eagle Area of Critical Environmental Concern (ACEC) (See Appendix B, Figure 3). This ACEC is managed "to protect the most important bald eagle wintering habitat, as well as [to protect]…the bald eagles that use these areas in the winter." The following management prescriptions in the buffer zone of the ACEC are applicable to the proposed project:

- Existing oil and gas leases are managed under Controlled Surface Use constraints, including timing limitations from November 1 through March 31 in buffer areas.
- New oil and gas leases are managed under Controlled Surface Use constraints, including timing limitations from November 1 through March 31 in buffer areas.
- ROWs are permitted on a case-by-case basis with special management constaints and migitation in buffer areas.
- The Animas Units and Navajo Lake Units are designated as Class II VRM Areas.

The proposed COF 658 and 679 project areas are both located within Rosa Mesa Wildlife Area SDA. The management goal of Rosa Mesa Wildlife Area SDA is "to preserve and protect local wildlife and their habitat" (BLM 2003b). Management prescriptions related to ROW development in this SDA include the following:

- For new and current oil and gas leases, seasonal timing limitations exist on drilling and construction from December 1 through March 31 in the area north of Frances Canyon Wash and south of Cabresto/Bancos Canyons.
- New oil and gas leases are managed under Controlled Surface Use constraints.
- Leasable and salable minerals are managed under Controlled Surface Use constraints.
- Right-of-ways are allowed on a case-by-case basis with special management constraints and mitigation.
- Visual Resource Management Class II and IV designations are implemented.
- Key browse species are managed to meet the needs of wintering deer. This includes big sagebrush, antelope bitterbrush, and mountain mahogany.

Both proposed project areas are also in the "Mule Deer Winter Concentration" area, identified in the Navajo Reservoir Resource Management Plan, Final Environmental Assessment, and Finding Of No Significant Impact (Navajo Reservoir RMP/FEA, FONSI 2008). Management prescriptions related to ROW development in this wildlife area include the following:

- No construction, surface disturbing, drilling, completion, reclamation, or revegetation activities shall be conducted between December 1 and March 31 within elk and deer winter range.
- The operator/holder shall schedule regular facility maintenance outside of any crucial wildlife use periods.

1.4 Federal, State, or Local Permits, Licenses, or Other Consultation Requirements

FEUS would comply with all applicable federal and State of New Mexico laws and regulations (Appendix A). Non-point source pollution is an identified problem in the planning area that is directly associated with soil stability. Mandated by the Clean Water Act (CWA), efforts to reduce non-point source pollution through implementation of erosion control and management practices are an important part of BLM's management activities. Industrial activities disturbing land may require permit coverage through the National Pollution Discharge Elimination System (NPDES) Stormwater Program. Depending on the acreage disturbed, either a Phase I (five or more acres disturbance) or a Phase II (between one and five acres disturbance) permit may be required through the US Environmental Protection Agency (EPA).

Consultation with the U.S. Fish and Wildlife Service (USFWS), as required by Section 7 of the Endangered Species Act, was conducted as part of the Farmington PRMP/FEIS (Consultation No. 2-22-01-1-389) to address cumulative effects of RMP implementation. The consultation is summarized in Appendix M of the RMP/EIS. Review of current USFWS Federally Listed Species and onsite evaluation of habitat for the proposed project indicate no need for additional Section 7 consultation. Biological Survey Reports have been prepared for each of the two (2) powerline extensions (Appendix C).

Compliance with Section 106 responsibilities of the National Historic Preservation Act are adhered to by following the BLM – New Mexico SHPO protocol agreement, which is authorized by the National Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of Council of State Historic Preservation Officers.

Additionally, FEUS would:

- Comply with all applicable Federal, State of New Mexico, and local laws and regulations. A listing of federal laws and regulations applicable to the proposed action can be found in Appendix D.

- Obtain applicable permits for the construction, operation, and final abandonment of the ROW grant.

2.0 Alternatives Including the Proposed Action

2.1 Alternative A - No Action

The BLM NEPA Handbook (H-1790-1) states that for EAs on externally initiated proposed actions, the No Action Alternative generally means that the proposed activity would not take place. This alternative would deny the approval of the proposed ROW grant, and current land and resource uses would continue to occur in the proposed project areas. No mitigation measures would be required. ROW actions are discretionary on the part of the federal agency. The No Action Alternative provides a reference, enabling decision maker to compare the magnitude of environmental effects of the alternatives.

2.2 Alternative B - Proposed Action

General Location and Description

FEUS has proposed the construction, operation, maintenance, and final abandonment of two (2) powerline extensions and associated facilities. The two (2) powerline extensions would be issued under one ROW grant analyzed in this EA. The ROWs are proposed within the northern reaches of the San Juan Basin of northwestern New Mexico in Rio Arriba County. The proposed projects are approximately 17 miles northeast of the town of Blanco (Figure 1, page 5). More specific site descriptions follow Figure 1.

COF 658 to the Devon NEBU No. 466A

The proposed project is located in the San Juan Basin of northwestern New Mexico, approximately 17 miles northeast of the city of Blanco and approximately 0.25 mile south of the San Juan River/Navajo Reservoir (see Figure 1, page 5). The elevation of the Devon NEBU No.466A well pad is approximately 6300 feet. The proposed project area is located on a northwestern finger of Sims Mesa, overlooking the San Juan River to the north, west, and southwest. Specifically, the powerline extension would be located within the Northeast Quarter of Section 3, Township 30 North, Range 07 West, New Mexico Principal Meridian, Rio Arriba County, New Mexico The proposed location is plotted on the Navajo Dam, New Mexico, 7.5-Minute U.S. Geological Survey Quadrangle (Figure 2, page 8).

The proposed powerline would measure 1565.14 feet in length on public lands (administered by the BLM-FFO and managed by the BOR); anchors would require an additional 285 feet of ROW length, resulting in a total length of 1850.14 feet. The proposed Devon NEBU No. 466A new line extension would have a 25-foot-wide permanent ROW; a 12.5-foot-wide temporary use area (TUA), used during construction only, would be present on either side of the permanent ROW. Thus, the permanent ROW would be approximately 1.06 acres; the temporary ROW would add an additional 1.06 acres of potential new disturbance. On public land, the ROW crosses an existing access road at three (3) points. The entirety of the ROW parallels existing roads, which would provide access to the proposed project area. Five (5) new power poles would be required on public land.

General topography of the proposed project area is rolling terrain. The proposed beginning of line (BOL) starts at an existing pole and proceeds northwest for 115 feet, turns west for 320 feet to skirt a large hill, and then resumes a northwestern route to the end of line (EOL) south of the Devon NEBU No.466A well pad. The line parallels a previously disturbed pipeline ROW, a well location, and an access road.

Figure 1: Vicinity Map
City of Farmington
Proposed COF 658 & COF 679
T30N, R07W, Sections 02 & 03, NMPM
Rio Arriba County, New Mexico

Habitat within the proposed project area is piñon-juniper woodland. The ROW slopes gently to the west and southwest.

COF 679 to the Devon NEBU No. 417A

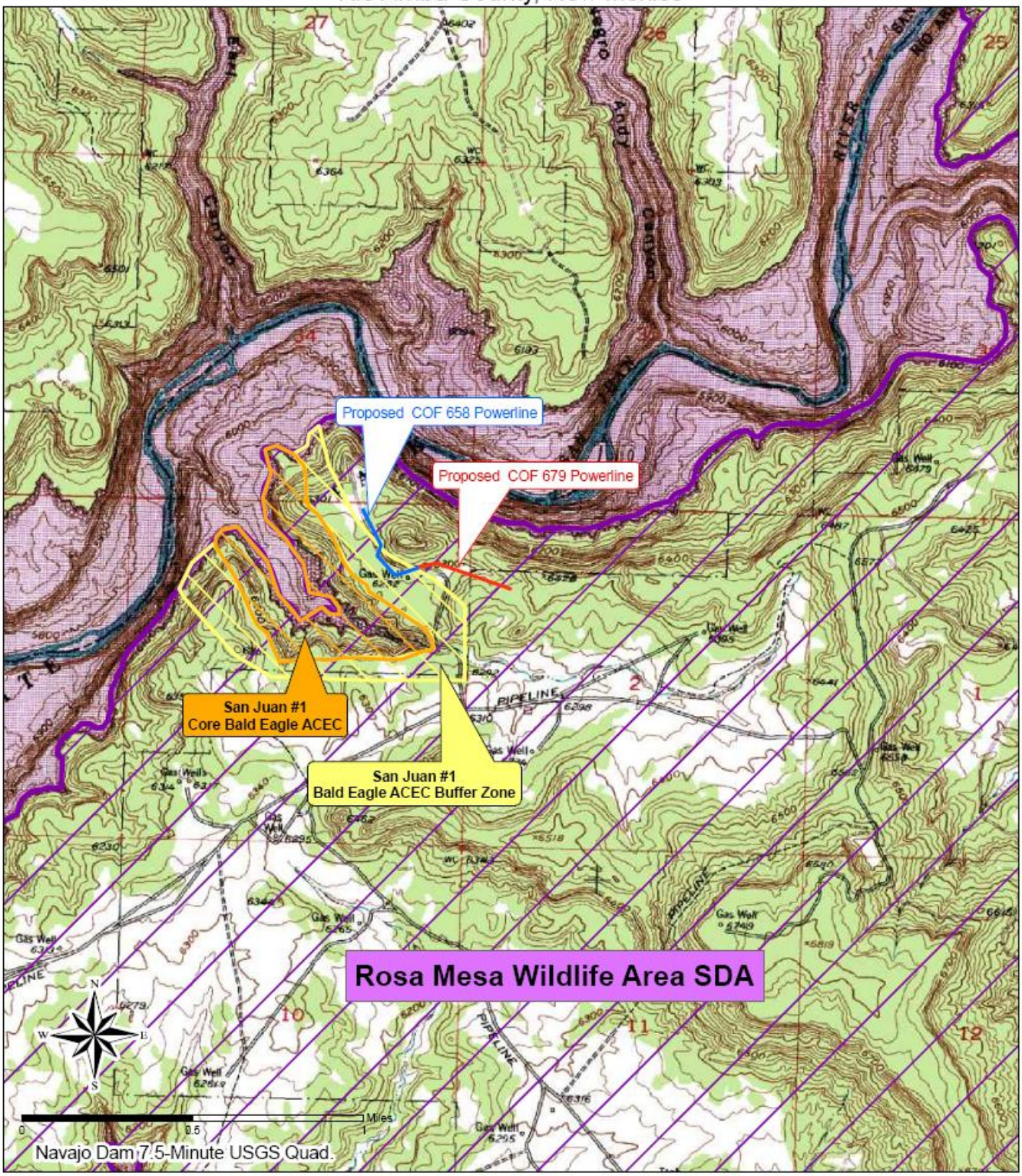
The proposed project is located in the San Juan Basin of northern New Mexico, approximately 17 miles northeast of the city of Blanco and approximately 0.50 mile southeast of the San Juan River/Navajo Reservoir. The elevation of the Devon NEBU No. 417A well pad is approximately 6360 feet. Specifically, the powerline extension would be located within the Northeast Quarter of Section 3 and the Northwest Quarter of Section 2, Township 30 North, Range 07 West, New Mexico Principal Meridian, Rio Arriba County, New Mexico. The proposed ROW location is plotted on the Navajo Dam, New Mexico, 7.5-Minute U.S. Geological Survey quadrangle map (Figure 2, page 8).

The proposed powerline extension would measure 1452.65 feet in length on public lands (administered by the BLM-FFO and managed by the BOR). Anchors would require an additional 171.11 feet of ROW length for a total of 1623.76 feet. The proposed Devon NEBU No. 417A line extension would have a 25-foot permanent right-of-way (ROW) width; a 12.5-foot-wide TUA, used during construction only, would be present on either side of the permanent ROW. Thus, the permanent ROW would be approximately 0.93 acres; the temporary ROW would be an additional 0.93 acres. The ROW crosses one existing access road at four (4) points. The majority of the ROW parallels existing access roads, which would provide access to the proposed project area. Four (4) new power poles would be required. Pole No. 1, at the beginning of the line (BOL), was previously inventoried in the COF 658 survey and is not included in the tally.

Two (2) new temporary access roads, totaling 409.69 feet in length, would be required to access Poles No. 2 and No. 4. The temporary access roads would have a 25-foot temporary ROW width, totaling 0.24 acres of potential, temporary disturbance.

General topography of the proposed project area is rolling terrain. The BOL (also Pole No. 8 of COF 658) is located on a talus slope on the northeast side of the primary access road. This is a very eroded and sheet washed area moderately draining south. From this point, the line travels northeast 330 feet to Pole No. 2, where it turns to the southeast, crossing a southwest-flowing drainage and an access road to reach Pole No. 3. The line continues southeast from Pole No. 3, up a steep slope covered in deadfall, large cobbles, and rock to Pole No. 4 atop a ridge. This area drains northwest and west. From Pole No. 4, the line continues southeast, crossing to the north side of the access road and ending west of the NEBU No. 417A well pad at Pole No. 5, EOL.

Figure 2: Project Area Map
City of Farmington
Proposed COF 658 & COF 679
T30N, R07W, Sections 02 & 03, NMPM
Rio Arriba County, New Mexico



Construction Phase

Alternative B involves the construction of two (2) powerline extensions. Less than two (2) days of construction is expected to be required for each of the projects. A maximum of two (2) trucks would be used in each proposed project area: one pickup truck and one digger derrick truck. A wire trailer would be placed at one end of each ROW. Stringing would be accomplished with the pickup truck and/or by hand. Holes would be dug and single poles and anchors would be set by the digger derrick truck. Vehicle access to the proposed project areas would be provided by existing roads and well pads; two (2) new temporary access roads would be required for COF 679. No grading is required for this project. Vegetation removal is expected to be minimal and only in the vicinity of single pole or anchor installation. A detailed description of construction designs associated with the proposed actions are contained in the ROW application project plans, which are on file at the BLM-FFO in Farmington, New Mexico. Mitigation measures would be implemented as stipulations to the ROW grant.

The permanent ROW width for both powerline extensions is 25 feet. The total ROW length required for the overhead powerlines would be 3017.79 feet on BLM-FFO-managed surface. Eight (8) anchors would be installed on BLM-FFO managed surface, adding an additional 456.11 feet to the ROW length. Thus, the total 3473.90 feet of ROW length on BLM-FFO surface would result in a total permanent ROW of 1.99 acres.

In addition to the permanent ROW, a 12.5-foot-wide TUA would be required on either side of the permanent ROW. The TUAs would add an additional 1.99 acres of potential, temporary disturbance. The two (2) temporary access roads would total 409.69 feet in length and 25 foot in width for a total of 0.24 acres. Thus, the total area of potential, temporary disturbance would be 2.23 acres on BLM-FFO-managed surface.

Actual direct disturbance associated with the installation of the powerline extensions is expected to be minimal. Disturbance would result from the installation of single power poles and anchors, and from two vehicles driving within the permitted powerline ROW (including TUAs) and on the temporary access roads. A total of nine (9) new poles and eight (8) anchors would be installed on BLM-FFO surface. Direct disturbance from the installation of each pole or anchor is approximated at less than nine (9) square feet each. Thus, estimated direct disturbance from installation of the power poles and anchors is less than 0.01 acre. Table 2.0 illustrates surface disturbance associated with each powerline extension.

TABLE 2.0 PERMITTED DISTURBANCE ON BLM-FFO LAND - LENGTHS AND ACREAGES FOR ALTERNATIVE B (PROPOSED ACTION)

Project	Direct Disturbance			Permitted ROW						
				Permanent			Temporary			
	No. Poles	No. Anchors	Total Acreage (at 9 ft^2 per pole/ anchor)	Overhead Line Length (ft)	Anchor (Guy) Length (ft)	Total Perm ROW (25-ft width) (acres)	Temp ROW (25-ft width) (acres)	Temp Access Road Length (ft)	Temp Access Road (25-ft width) (acres)	Total Temp ROW (acres)
COF 658 to NEBU No. 466A	5	5	.002	1565.14	285.00	1.06	1.06	N/A	N/A	1.06
COF 679 to NEBU No. 417A	4	3	.001	1452.65	171.11	0.93	0.93	409.69	0.24	1.17
TOTALS	**9**	**8**	**<.01**	**3017.79**	**456.11**	**1.99**	**1.99**	**409.69**	**0.24**	**2.23**
TOTAL LENGTH & ACREAGE				**3473.90**						

Operation Phase

FEUS personnel would occasionally utilize the proposed powerline extension ROWs in order to perform routine or emergency maintenance.

Abandonment Phase

When the powerline extensions are no longer necessary and not expected to be utilized in the foreseeable future, they would be abandoned. Abandonment would be carried out under current BLM regulations. Powerlines, power poles, lift poles, anchors, wires, and other equipment would be removed.

2.3 Alternatives Considered but not Analyzed in Detail

The ROW extension placements for the proposed projects represent the most economical and direct routes based on existing well pad locations, existing powerline locations, existing disturbance, sensitive surface resources, and terrain. No other alternatives were located that represent a more environmentally sound option to fulfill the purpose and need of the proposed actions.

3.0 Description of Affected Environment

This section describes the environment that may be affected by implementation of the proposed action and any alternatives described in Section 2. If critical resource elements are present or have the potential to be affected by the proposed action or alternatives, the elements require analysis under BLM policy. These elements are included below in Table 3.0. Following the table, those resources that have the potential to be affected by the proposed action are discussed.

TABLE 3.0 – DETERMINATION OF RESOURCES WITHIN THE PROPOSED PROJECT AREAS

RESOURCE	POTENTIAL TO OCCUR IN THE PROPOSED PROJECT AREAS (PPAs) OR TO BE AFFECTED BY THE PROPOSED ACTIONS	FURTHER ANALYSIS?
CRITICAL RESOURCE ELEMENTS		
Air Quality	Construction activities are potential emission sources.	YES
Surface and Groundwater Quality and Quantity	Construction activities may result in sedimentation, which could affect water quality downgradient of the PPAs.	YES
Hazardous and Solid Wastes	No federally listed hazardous or solid wastes would be used, produced, or transported during the proposed project.	NO
Environmental Justice/Socio-Economics	The regional population includes minority and low-income groups.	YES
Cultural Resources	A project-specific cultural resources inventory is required for all ground-disturbing activity.	YES
Native American Religious Concerns	Native American Religious Concerns have been evaluated on a regional and local scale within the BLM-FFO management area. These concerns may be analyzed in detail on a site-specific basis.	YES
Federally Listed Species	Federally Listed Species habitat is present within BLM-FFO boundaries and evaluated on a project-specific basis.	YES
Invasive, Non-native Species	The potential for introduction of invasive, non-native species exists through ground disturbance, as well as through transportation of equipment and facilities.	YES
Areas of Critical Environmental Concern (ACEC)	A portion of the COF 658 falls within the San Juan No.1 Bald Eagle ACEC buffer zone.	YES
Wilderness	The PPAs are not located in or near any designated Wilderness Areas, nor would the project affect any Wilderness Areas.	NO
Wild and Scenic Rivers	No Congressionally-designated or potentially eligible Wild and Scenic Rivers exist within BLM-FFO boundaries; such areas would not be affected by the proposed project.	NO
Floodplains	No floodplains (as defined by Executive Order No. 11988) are present in the PPAs; such areas would not be affected by the proposed project.	NO
Farmlands, Prime and Unique	No farmlands (as defined by 30 U.S.C. 1201 et seq. and 7 U.S.C. 4202 et. seq.) are present in the PPAs; such areas would not be affected by the proposed project.	NO
Wetlands/ Riparian Zones	The proposed project areas have no surface water resources, seeps, or springs present; no such resources would be affected by the proposed project.	NO

RESOURCE	POTENTIAL TO OCCUR IN THE PROPOSED PROJECT AREAS (PPAs) OR TO BE AFFECTED BY THE PROPOSED ACTIONS	FURTHER ANALYSIS?
NON-CRITICAL RESOURCE ELEMENTS		
Mineral Resources/ Geology	The proposed project would not affect mineral resources.	NO
Soils	Construction of the facilities includes the disturbance, mixing, and compaction of local soils.	YES
Watershed/ Hydrology	Alterations to soils and vegetation may result in sedimentation downgradient of the PPAs, consequently affecting local hydrology.	YES
Vegetation/ Forestry	Construction may include the removal of some local vegetation, ultimately changing the species composition.	YES
Wildlife	The PPAs are within Rosa Mesa Wildlife Area SDA and the Mule Deer Winter Concentration area. The proposed project may result in a change in habitat composition, which may affect local wildlife species.	YES
Migratory Birds	The proposed project may result in a change in habitat composition, which may affect migratory birds.	YES
Range	The PPAs are located within a BLM-FFO range allotment, and livestock may be present during construction.	YES
Special Management Species	Special management species habitat is present within BLM-FFO boundaries and is evaluated on a project-specific basis.	YES
Wild Horses and Burros	No wild horses or burros are present in the proposed project areas; these animals would not be affected by the proposed project.	NO
Recreation	The proposed project is not within any designated recreation areas.	NO
Visual Resources	The proposed project may result in visual changes within the local topography.	YES
Noise	Construction activities may result in a change in area noise for the short term.	YES
Paleontology	Paleontological resources may exist within the PPAs.	YES

3.1 Air Resources

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

The 2003 RMP discussed ozone in the Baseline Air Quality and Impact Assessment sections. The National Ambient Air Quality Standard (NAAQS) at the time was 0.084 ppm. In March of 2008, the Environmental Protection Agency (EPA) announced a new primary 8-hour standard of 0.075 ppm.

In addition, the Environmental Protection Agency (EPA), on October 17, 2006, issued a final ruling on the lowering of the National Ambient Air Quality Standard (NAAQS) for particulate matter ranging from 2.5 micron or smaller particle size. This ruling became effective on December 18, 2006, stating that the 24-hour standard for PM2.5, was lowered to 35 ug/m³ from the previous standard of 65 ug/m³. This revised PM2.5 daily NAAQS was promulgated to better protect the public from short-term particle exposure.

Air quality and climate are the components of air resources, which include applications, activities, and management of the air resource. 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.

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality, including seven nationally regulated ambient air pollutants. Regulation of air quality is also delegated to some states of which New Mexico is one. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility. Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. Greenhouse gases and the potential effects of GHG emissions on climate are not regulated by the EPA, however climate has the potential to influence renewable and non-renewable resource management.

Air Quality

The area in which the proposed actions are located is considered a Class II air quality area. A Class II area allows moderate amounts of air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment.

Air quality in the area near the proposed projects is generally good and is not designated by the Environmental Protection Agency as a "non-attainment area" for any listed pollutants regulated by the Clean Air Act. During the summers of 2000 through 2002, ozone levels in San Juan County were approaching non-attainment. Additional modeling and monitoring was conducted by Alpine Geophysics, LLC and Environ International Corporations, Inc., in 2003 and 2004. Results of the modeling suggest the episodes recorded in 2000 through 2002 were attributable to regional transport and high natural biogenic source emissions. The model also predicted that the region will not violate the ozone NAAQS through 2007 and that the trends in the 8-hr ozone values in the region will be declining in the future. At the present time, the San Juan County is classified as in attainment with the revised federal ozone standard of 0.075 ppm. Rio Arriba County is unclassified because of there are no ozone monitors sited in Rio Arriba County.

Greenhouse gases, including carbon dioxide (CO_2) and methane (CH_4), and the potential effects of GHG emissions on climate, are not regulated by the EPA under the Clean Air Act. However, climate has the potential to influence renewable and non-renewable resource management. The EPA's Inventory of US Greenhouse Gas Emissions and Sinks found that in 2006, total U.S. GHG emissions were over 6 billion metric tons and that total U.S. GHG

emissions have increased by 14.1% from 1990 to 2006. The report also noted that GHG emissions fell by 1.5% from 2005 to 2006. This decrease was, in part, attributed to the increased use of natural gas and other alternatives to burning coal in electric power generation.

The levels of these GHGs are expected to continue increasing. The rate of increase is expected to slow as greater awareness of the potential environmental and economic costs associated with increased levels of GHG's result in behavioral and industrial adaptations.

Climate

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 systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHGs are likely to accelerate the rate of climate change.

In 2007, the Intergovernmental Panel on Climate Change (IPCC) predicted a warming of about 0.2°C per decade for the next two decades, and then a further warming of about 0.1°C per decade. 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 increases in daily minimum temperatures are more likely than increases in daily maximum temperatures.

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." It is not, however, possible to predict with any certainty regional or site specific effects on climate relative to the proposed action and subsequent actions.

3.2 Surface and Groundwater Quality and Quantity

The proposed projects are in the Colorado River Drainage Basin, in which the Animas and San Juan Rivers are the largest perennially flowing streams. Most stream and wash channels in the region are ephemeral. The proposed COF 658 and 679 powerline extensions to the Devon NEBU No. 466A and No. 417A are within the Navajo Reservoir Watershed. The powerline extensions are located less than 0.5 mile south of the San Juan River/Navajo Reservoir.

Natural soil erosion compounded by man-made barren surfaces and historic livestock grazing has led to high sedimentation of drainages. The quantity of surface water can reach flash flood levels during thunderstorms or rapid snowmelts. Runoff and sedimentation in washes during precipitation events can be considerable. Generally, surface water quality in drainages is extremely poor following storm/flood/rapid snowmelt events. Key features that adversely influence the surface water quality include ephemeral water sources, sparse vegetative cover, highly erosive and saline soils, and rapid runoff.

Erosion conditions promote the formation of canyons, arroyos, and gullies, further contributing to poor water quality.

The BLM-FFO has estimated that surface runoff frequently contains more than 10,000 milligrams per liter (mg/L) of suspended sediment and more than 1,000 mg/L total dissolved solids (TDS). Public Law 93-320 mandated control of salinity runoff into the Colorado River Basin. A 1984 amendment to the Colorado River Salinity Control Act of 1974 "…specifically requires the Director of the BLM to develop a comprehensive program for minimizing salt contributions to the Colorado River and their tributaries from BLM administered lands" (BLM 1988). No specific quantifiable water quality or quantity data for the proposed project area is available.

Groundwater supplies are deep and limited. The major groundwater aquifer beneath the proposed project areas is the alluvium and fluvial sandstones of the San Jose Formation. Aquifers within this formation produce from shallow zones of 200 to 600 feet, but useable water can occur at up to 3,000 feet. Both the San Jose and Ojo Alamo Formations also contain useable aquifers. The Nacimiento Formation produces water of lower quality.

3.3 Environmental Justice/Socio-Economics

On February 11, 1994, the President issued Executive Order No. 12898 concerning Environmental Justice and impacts on minority and low-income populations. The purpose of this order is to identify and address disproportionately high or adverse human health and environmental effects from programs, policies, or activities on minority or low-income populations.

In the region around the proposed action, statistically significant populations include Native Americans, Hispanics, and white Euro-Americans. Some members of these populations are within financially low-income groups.

3.4 Cultural Resources

The proposed project area is located within the archeologically rich San Juan Basin. The pre-history of the San Juan Basin can be divided into five major periods:

- PaleoIndian (cs. 10,000 B.C. to 5,500 B.C.)
- Archaic (ca. 5,500 B.C. to A.D. 400)
- 3. & 4. Basketmaker II-III and Pueblo I-IV periods (A.D. 1 to 1540),
- Historic (Native American as well as later Hispanic and Euro-American settlers) (A.D. 1540 to present)

Detailed descriptions of these various periods, and the select phases within each period, are provided in the BLM-FFO's PRMP/FEIS (BLM 2003b).

The BLM-FFO has categorized variability in archeological sites by major time period, cultural affiliations/components, average size, and occurrence of features in each of the 20 watersheds within the BLM-FFO's jurisdiction (BLM 2003b:3-88). The proposed project area is within the Navajo Reservoir Watershed. Based on the PRMP/FEIS, a total of 4329 sites, representing 1608 temporal/cultural components, have been documented within the watershed (BLM 2003b). Of the 19 categories of sites defined based on temporal/cultural affiliation (Table 3-18 of the PRMP/FEIS; page 3-89), 17 are represented in the watershed. Lacking in the Watershed are sites attributed to

Paleo and Ute occupations. The most frequently occurring sites with identifiable cultural affiliations recorded are Anasazi Pueblo I period components (BLM 2003b:3-9).

The BLM-FFO requires site-specific surveys in advance of oil- and gas-related, ground-disturbing activities. San Juan College Cultural Resources Management Program (CRMP) conducted a literature review and a cultural resource inventory of the proposed project area. . Reports No. 2007-SJC-060 and 2008-2008-SJC-050 were submitted for review. The BLM-FFO field-checked the location and recorded its determination in BLM Report Nos.2008 III)028F and 2009(II)022F. With site-specific mitigation, cultural clearance has been recommended.

The proposed COF 658 was surveyed on December 4 and 5, 2007; the proposed COF 679 was surveyed on September 1, 2008. The surveyed area for each site was a 150-foot-wide corridor, including the 25-foot-wide permanent ROW, the 12.5-foot-wide TUA on either side of the permanent ROW, and a 50-foot-wide cultural buffer zone on either side of the TUAs. The two (2) proposed temporary access roads associated with the COF 679, including cultural buffer zones, were also surveyed. The inventory of the two (2) proposed COF powerline extensions discussed in this EA yielded no new cultural sites on BLM-FFO-managed land; one (1) isolated manifestation (IM) was discovered within the proposed COF 679 ROW, on BLM-FFO-managed surface.

3.5 Native American Religious Concerns

"Traditional Cultural Prosperities" (TCPs) is a term that has emerged in historic preservation management and the consideration of Native American religious concerns. TCPs are places that have cultural values that transcend, for instance, the values of scientific importance that are normally ascribed to cultural resources such as archaeological sites. The National Park Service has defined TCPs as follows:

> A Traditional cultural property...can be defined generally as one [a property] that is eligible for the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community (National Register Bulletin 38).

Native American cultural associations are the "communities" most likely to identify TCPs, although TCPs are not restricted to this group. Some TCPs are well known, while others may only be known to a small group of traditional practitioners with the specific site known or vague.

There are several pieces of legislation or Executive Orders that should be considered when evaluating Native American religious concerns. These govern access and use of scared 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)

For the proposed project area, identification of TCPs was limited to reviews of existing published and unpublished literature and the site-specific cultural resources inventory conducted for the proposed action. In addition, the BLM-FFO archaeologist was contacted for information regarding the presence of TCPs identified through the BLM's tribal consultation. There are no known TCPs within the proposed project area.

3.6 Federally Listed Threatened or Endangered Species

According to the U.S. Fish and Wildlife Service, five (5) federally listed Threatened or Endangered species (TES) and three (3) Candidate species have the potential to occur in Rio Arriba County, New Mexico. Table 3.1 lists these species along with their status, habitat, and potential to occur within the proposed project areas.

TABLE 3.1: FEDERALLY LISTED (USFWS) THREATENED AND ENDANGERED SPECIES WITH POTENTIAL TO OCCUR IN RIO ARRIBA COUNTY

Species	Federal Status	Habitat	Potential to Occur in Proposed Project Area (PPA)
FISH			
Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis)*	Candidate	Small streams and lakes at high elevations (7,500 - 10,750 feet)	UNLIKELY: No streams within PPA or within immediate vicinity of PPA
Rio Grande silvery minnow *(Hybognathus amarus)*	Endangered	Streams with slow to moderate current over silty or sandy substrate; depth of stream typically less than 50 cm Current known distribution: perennial sections of Rio Grande and associated canals	UNLIKELY: No streams within PPA or within immediate vicinity of PPA
BIRDS			
Interior least tern *(Sterna antillarum)*	Endangered	Lakes and rivers with sandy beaches and mudflats; Nesting: riverine sandbars or salt flats Winters: out of region	UNLIKELY: No lake or river margins within PPA or within immediate vicinity of PPA
Mexican spotted owl (*Strix occidentalis lucida)*	Threatened & Critical Habitat	Old growth or mature forests with complex structural components (uneven aged stands, high canopy closure, multi-storied levels, high tree density), preferring canyons with riparian or conifer habitats Nesting: trees, cliff ledges, or caves	UNLIKELY: No structurally complex forests or canyons within PPA or within immediate vicinity of PPA
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered & Critical Habitat	Breeding: Dense, riparian habitats Winters: out of region	UNLIKELY: No riparian areas within PPA or within immediate vicinity of PPA
Yellow-billed cuckoo *(Coccyzus americanus)*	Candidate	Breeding: tall cottonwood, mature willow riparian, or deciduous woodlands; moist thickets; orchards; or overgrown pastures Winters: out of region	UNLIKELY: No cottonwood, riparian, or deciduous woodlands; moist thickets; orchards; or overgrown pastures within PPA or within immediate vicinity of PPA
MAMMALS			
Black-footed ferret *(Mustela nigripes)*	Endangered	Grasslands, steppe, and shrub steppe; closely associated with	UNLIKELY: No prairie dog burrows within PPA or within

Species	Federal Status	Habitat	Potential to Occur in Proposed Project Area (PPA)
		prairie dog colonies (preferably colonies larger than 80 hectares)	immediate vicinity of PPA
New Mexico meadow jumping mouse (*Zapus hudsonius luteus)*	Candidate	Herbaceous wetland areas in valleys and mountains	UNLIKELY: No riparian or wetland habitat in PPA

Species Considered in Further Detail

None of the federally listed threatened or endangered species have the potential to occur within the proposed project areas. There was no evidence of any other federal threatened or endangered species or potential habitats in the proposed project areas. Please refer to the Biological Species Accounts (Appendix C) for a complete account of flora and fauna observed within each proposed project area.

3.7 Invasive, Non-Native Species

Management of invasive and non-native species is mandated under the Lacey Act, as amended; the Federal Noxious Weed Act of 1974, as amended; and Executive Order 13112, Invasive Species (February 3, 1999). Invasive plants are found in the San Juan Basin, particularly in areas disturbed by surface activities. These plants displace native plant communities and degrade wildlife habitat. A total of 212 invasive and poisonous weeds have been identified on public land administered by the BLM-FFO (Heil and White 2000).

Cheatgrass (*Bromus tectorum*) and Russian thistle (*Salsola iberica*) were found in both proposed project areas. Both species are commonly known to invade disturbed areas and outcompete native vegetation throughout the Four Corners Region.

3.8 Areas of Critical Environmental Concern

The southwestern portion of the proposed COF 658 project area falls within the San Juan No.1 Bald Eagle ACEC buffer zone. This ACEC is managed "to protect the most important bald eagle wintering habitat, as well as [to protect]…the bald eagles that use these areas in the winter." The following management prescriptions in the buffer zone of the ACEC are applicable to the proposed project:

- Existing oil and gas leases are managed under Controlled Surface Use constraints, including timing limitations from November 1 through March 31 in buffer areas.
- New oil and gas leases are managed under Controlled Surface Use constraints, including timing limitations from November 1 through March 31 in buffer areas.
- ROWs are permitted on a case-by-case basis with special management constaints and migitation in buffer areas.
- The Animas Units and Navajo Lake Units are designated as Class II VRM Areas.

3.9 Soils

The Soil Conservation Service, now known as the Natural Resource Conservation Service (NRCS), has surveyed the soils in the proposed action areas. Complete soil information is available in the Soil Survey of Rio Arriba County, New Mexico, developed by the United States Department of Agriculture, NRCS. Soils of both

proposed action areas are mapped as the Vessilla-Menefee-Orlie complex, 1 to 30% slopes. The unit is 45% Vessilla and similar soils, 1 to 30% slopes; 25% Menefee and similar soils, 2 to 30% slopes; 20% Orlie and similar soils, 1 to 8 % slopes; and 10% minor components.

- Vessilla soils, located on breaks, are formed from slope alluvium over residuum derived from sandstone. These soils are well drained and have a very low water capacity, moderately rapid permeability, and a low shrink-swell potential. The runoff class for these soils is medium.

- Menefee soils, located on breaks, are formed from colluvium over residuum derived from shale. These soils are well drained and have a very low water capacity, slow permeability, and a moderate shrink-swell potential. Runoff for this unit is high.

- Orlie soils, located on summits of plateaus and mesas, are formed from slope alluvium derived from sandstone and shale. These soils are well drained and have a high available water capacity, moderately slow permeability, and a moderate shrink-swell potential. The runoff class for this unit is medium.

- Minor components consist of Rock outcrop (4%), Pinavetes and similar soils (3%), and Gobernador and similar soils (3%). Rock outcrop consists of barren or nearly barren areas of exposed bedrock on ridges, ledges, and escarpments. Pinavetes and similar soils have a 0 to 3% slope and are excessively drained. Gobernador and similar soils have a 0 to 2% slope and are well drained.

3.10 Watershed/Hydrology

The proposed projects are located in the Navajo Reservoir Watershed. The proposed COF 658 and COF 679 project areas drain toward the San Juan River/Navajo Reservoir, located less than 0.5 mile to the north and northwest.

In the Navajo Reservoir Watershed, the San Juan River arm of Navajo Reservoir is the major surface waterway. The San Juan River is a major tributary to the Colorado River. Its headwaters are in the San Juan Mountains of southwestern Colorado, north of Pagosa Springs. From its headwaters, the San Juan River flows south and enters northwestern New Mexico through Navajo Reservoir, or Navajo Lake. Navajo Dam has controlled flow in the San Juan River since 1963, when it was constructed by the Bureau of Reclamation for irrigation, sediment and flood control, and recreation. The San Juan-Chama Project has diverted water upstream of Navajo Dam east to the Rio Grande drainage since 1971. Since 1976, water from Navajo Reservoir has been diverted to irrigate land on the Navajo Indian Irrigation Project, which is south of the San Juan River on Mesa Portales. There are several major tributaries of the San Juan River that flow into Navajo Reservoir. From the north, the Pine River flows into Navajo Reservoir in Colorado; Negro Andy and Cottonwood Canyon flow into the Reservoir in New Mexico; Canon Bancos, Cabrestro Canyon, and Laguna Seca, all ephemeral streams, flow into the Reservoir from the east and southeast in New Mexico. Frances Canyon and La Jara Creek flow into the lake from the south. Landowners/managers surrounding the Reservoir include private individuals, the BLM-FFO, the Bureau of Reclamation, Carson National Forest, and the Jicarilla Apache Indian Tribe.

3.11 Vegetation/Forestry

Habitat in the region surrounding the proposed project areas is an open piñon-juniper woodland with a sagebrush and bunchgrass understory. Dominant flora species observed within and immediately surrounding the proposed project area consisted of piñon pine (*Pinus edulis*), one-seed juniper (*Juniperus monosperma*), big sagebrush (*Artemisia tridentate),* mountain mahogany (*Cercocarpus montanus),* rubber rabbitbrush (*Ericameria nauseos),* broom snakeweed (*Gutierrezia sarothrae*), and antelope bitterbrush (*Purshia tridentate).* Dominant grass species observed were blue grama (*Bouteloua gracilis)* and galleta *(Hilaria jamesii).* Ground cover (including litter) varies from approximately 5% to 40% within the proposed project areas.

No unique, riparian, or aquatic vegetation is found within either of the proposed project areas. Please refer to the Biological Species Accounts (Appendix C) for a complete description of local flora and fauna occurring in each of the proposed project areas.

3.12 Wildlife

Both proposed project areas are within Rosa Mesa Wildlife Area SDA, north of Frances Canyon Wash and south of Cabresto and Bancos Canyons. The management goal of Rosa Mesa Wildlife Area SDA is "to preserve and protect local wildlife and their habitat" (BLM 2003b). Management prescriptions related the proposed projects in this SDA include the following:

- For new and current oil and gas leases, seasonal timing limitations exist on drilling and construction from December 1 through March 31 in the area north of Frances Canyon Wash and south of Cabresto/Bancos Canyons.
- New oil and gas leases are managed under Controlled Surface Use constraints.
- Leasable and salable minerals are managed under Controlled Surface Use constraints.
- Right-of-ways are allowed on a case-by-case basis with special management constraints and mitigation.
- Visual Resource Management Class II and IV designations are implemented.
- Key browse species are managed to meet the needs of wintering deer. This includes big sagebrush, antelope bitterbrush, and mountain mahogany.

Both proposed project areas are also within the "Mule Deer Winter Concentration" area identified in the Navajo Reservoir Resource Management Plan, Final Environmental Assessment, and Finding Of No Significant Impact (Navajo Reservoir RMP/FEA, FONSI 2008). Management prescriptions related to the proposed projects in this area include the following:

- No construction, surface disturbing, drilling, completion, reclamation, or revegetation activities shall be conducted between December 1 and March 31 within elk and deer winter range.
- The operator/holder shall schedule regular facility maintenance outside of any crucial wildlife use periods.

The proposed project areas provide habitat for both migratory and resident mule deer (*Odocoileus hemionus*) and Rocky Mountain elk (*Cervus elaphus*). The locations are within New Mexico Department of Game and Fish (NMDGF) Management Unit 2B. The NMDGF monitors big game population trends in the area. Depending on winter

weather conditions and snow depths, deer and elk move on to their winter ranges from high elevations during late November and December, and move out in March or April. Twenty-five years of NMDGF aerial survey information for Unit 2 indicates that mule deer and elk winter populations have fluctuated over the years, with no evident population trend. Deer numbers counted appear to be most strongly linked with the severity of winter conditions. The data does not appear to support any cause or effect relationship between wintering deer populations and the level of oil and gas development. Elk numbers also fluctuate with severity of winter, but general trends observed over the years, combined with the professional observations of BLM-FFO staff, indicate that elk use and resident elk populations have expanded in the BLM-FFO jurisdictional area during the past 25 years (BLM-FFO unpublished file records).

Based on the habitat within the proposed project areas, common mammal species most likely to occur would be desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus),* and coyote *(Canis latrans).* Tracks and scat associated with cottontail or jackrabbit and with mule deer were observed within the proposed project areas. One red-tailed hawk (*Buteo jamaicensis)* and several turkey vultures (*Cathartes aura)* were observed during the survey of the COF 658 proposed project area. One common raven (*Corvus corax)* was observed within the COF 679 proposed project area. No prairie dogs or evidence of burrows or colonies were observed. The Biological Species Accounts (Appendix C) provide a list and description of flora and fauna observed in the proposed project areas.

3.13 Migratory Birds

The piñon-juniper woodland habitat found in the proposed project areas supports an array of avian species. Executive Order 13186, dated January 17, 2001, calls for increased efforts to fully implement the Migratory Bird Treaty Act (MBTA) of 1918. New Mexico Partners In Flight lists 20 Priority Avian Species that have the potential to occur within the state of New Mexico's piñon-juniper woodland habitat (New Mexico Partners in Flight, 2008). Based on the associated Biological Survey Report and the on-site investigation of the habitat within and immediately surrounding the proposed project areas, the species most likely to nest in the areas are grey vireo, chipping sparrow, house finch, common raven, and lesser goldfinch. Only the grey vireo is a New Mexico Partners In Flight Priority Avian Species. The grey vireo is also designated as a Threatened species by the State of New Mexico.

Based on the best available data, the average grey vireo nesting territory would encompass approximately 17.37 acres of piñon-Juniper woodland habitat (Barlow, J. C., S. N. Leckie, and C. T. Baril. 1999).

Based on descriptions contained in *Birds of North America* species accounts for the species most likely to nest in the project area (Barlow, J. C., S. N. Leckie, and C. T. Baril. 1999, Boarman, W. I., and B. Heinrich. 1999, Hill, G. E. 1993, Middleton, A. L. 1998, Watt, D. J., and E. J. Willoughby. 1999) average nesting territory size in habitats similar to those of the project area are projected as:

Grey vireo	Approx. 17.37 acres
Chipping sparrow	Approx. 1.0 acre
House finch	Approx. 0.01 acres
Common raven	Approx. 0.22 acres

Lesser goldfinch	Approx. 0.01 acres

Long-term monitoring data for survey routes of the North American Breeding Bird Survey (www.mbr-pwrc.usgs.gov/bbs) where these species were recorded showed the following average number of birds per 24.5-mile-long survey route:

Grey vireo	Approx. 1.41	average per transect
Chipping sparrow	Approx. 4.43	average per transect
House finch	Approx. 20.49	average per transect
Common raven	Approx. 7.75	average per transect
Lesser goldfinch	Approx. 1.46	average per transect

One red-tailed hawk (*Buteo jamaicensis)* and several turkey vultures (*Cathartes aura)* were observed during the survey of the COF 658 proposed project area. One common raven (*Corvus corax)* was observed within the COF 679 proposed project area. Turkey vultures are typically summer residents of the area; red-tailed hawks and common ravens can be found year-round in the region.

3.14 Range

There are 167 grazing allotments managed by the BLM-FFO, with 351 grazing authorizations that permit cattle, sheep, and horse grazing within the resource area. Of the 351 grazing authorizations, 317 are permitted under section 3 of the Taylor Grazing Act. Of the 167 grazing allotments, there are four (4) authorizations issued under section 15 of the Taylor Grazing Act to the Navajo Tribe that authorizes grazing on 35 allotments. There are an additional 30 section 15 authorizations that permit grazing on 30 allotments in the Lindrith, New Mexico area.

The proposed projects are located within BLM-FFO Grazing Allotment No. 5064, Simms Mesa, currently leased to Cora V. Gomez and C.V. Gomez. This allotment contains two (2) grazing authorizations, 3000124 and 3000126, which are 81% and 64% public, respectively. Grazing authorization 3000124 is permitted for 71 head of cattle from November 1 through June 15, annually; 429 federal Animal Unit Months (AUMs) are provided by this authorization. Grazing authorization 300126 is permitted for 90 head of cattle from November 1 through June 15, annually; 430 AUMs are provided by this authorization. No permanent livestock water sources are within the immediate area.

3.15 Special Management Species

The BLM-FFO has prepared a list of special management species (SMS) to focus species management efforts toward maintaining habitats under a multiple use mandate, called BLM-FFO SMS. The authority for this policy and guidance is established by the Endangered Species Act of 1973, as amended; Title II of the Sikes Act, as amended; the Federal Land Policy and Management Act (FLPMA) of 1976; and Department of Interior Manual 235.1.1A. BLM-FFO SMS with the potential to occur in San Juan County, New Mexico are listed below in Table 3.3. Those species warranting further evaluation can be found following Table 3.3.

Table 3.3 BLM-FFO Special Management Species Warranting Further Evaluation

Species	Conservation Status		Habitat	Potential to Occur in Proposed Project Area (PPA)
	BLM[1]	NM[2]		
PLANTS				
Aztec gilia (*Aliciella formosa*)	SMS	Endangered	Sandy-clay hills of the Nacimiento formation, desert scrub habitat; elevation 5000-6400 ft	UNLIKELY: PPA is not located within BLM-designated potential habitat area for *Aliciella formosa*
Brack's fishhook cactus (*Sclerocactus cloveriae* var. *brackii*)	SMS	Endangered	Sandy clay hills of the Nacimiento formation in desert scrub habitat; 5000-6400 ft	UNLIKELY: PPA is not located within BLM-designated potential habitat area for *Sclerocactus cloveriae* var. *brackii*
BIRDS				
American peregrine falcon *(Falco peregrinus anatum)*	SMS	Threatened	Open habitats (steppes, mountains, open forest, farmland, broad river valleys), preferably areas with nesting cliffs; Nesting: ledges or holes in rock faces; Winters: Out of region	POSSIBLE: Foothill habitat within PPA provides potential foraging habitat
Bald eagle (*Haliaeetus leucocephalus)*	SMS	Threatened	Breeding: typically within 2.5 mi of river or lake that supports fish or waterfowl; Nesting: tall trees or cliffs near perennial water; Winter: Open water or areas where other resources (such as carrion) available	POSSIBLE: No perennial water sources within PPA or within immediate vicinity of PPA. Foothill habitat within PPA provides potential winter foraging habitat
Burrowing owl *(Athene cunicularia)*	SMS		Open grasslands; Nesting: abandoned or active mammal burrows, most usually active prairie dog colonies	UNLIKELY: No active prairie dog colonies or suitable burrows within PPA or within immediate vicinity of PPA
Ferruginous hawk (*Buteo regalis*)	SMS		Open, arid habitats including grasslands and badlands; Nesting: elevated landforms in large open areas (tall trees along rivers or on steep slopes; cliff ledges; river-cut banks; hillsides; powerline towers; on ground in plains or open desert)	UNLIKELY: No badlands present in or surrounding PPA
Golden eagle *(Aquila chrysaetos)*	SMS		Open habitats, including deserts, mountains, plateaus, and steppes; Nesting: cliff ledges and trees	POSSIBLE: Foothill habitat within PPA provides potential foraging habitat
Mountain plover (*Charadrius montanus*)	SMS		Short-grass plains, sandy desert, and agricultural lands; Nesting: areas with short vegetation, significant areas of bare ground, and flat or gentle slopes; often associated with prairie dog colonies; Winter: Out of region	UNLIKELY: No short-grass prairie, agricultural fields, sandy desert, or prairie dog colonies in PPA

Species	Conservation Status		Habitat	Potential to Occur in Proposed Project Area (PPA)
	BLM[1]	NM[2]		
Prairie falcon (*Falco mexicanus*)	SMS		Open habitats, especially in mountainous areas, steppe, plains, or prairies; Nesting: sheltered ledges on cliffs or embankments	POSSIBLE: Foothill habitat within PPA provides potential foraging habitat
Yellow-billed cuckoo (*Coccyzus americanus)*	SMS		Breeding: tall cottonwood, mature willow riparian, or deciduous woodlands; moist thickets; orchards; or overgrown pastures Winters: out of region	UNLIKELY: No cottonwood, riparian, or deciduous woodlands; moist thickets; orchards; or overgrown pastures within PPA or within immediate vicinity of PPA

[1] Bureau of Land Management (BLM) S = sensitive; SMS = special management status
[2] State of New Mexico (NM) E = endangered; T = threatened; S = sensitive

There was no evidence found of any SMS, sensitive species, or species of concern in the proposed project areas during the biological surveys. No New Mexico State listed species were located within the proposed project area. Those species warranting further analysis are discussed below.

American Peregrine Falcon (*Falco peregrinus anatum)*
Peregrine falcons occur most frequently along mountain ranges, river valleys, and coastlines. The nest is a scrape or depression dug in gravel on a cliff ledge. Rarely, peregrines will nest in a tree cavity or an old stick nest. Some peregrines have readily accepted man-made structures as breeding sites. For example, skyscraper ledges, tall towers, and bridges serve as the ecological equivalent of a cliff ledge. No evidence of this species was observed during the field inspections of the proposed project areas.

Bald Eagle (*Haliaeetus leucocephalus)*
Bald eagles typically breed in areas close to (within 2.5 miles of) coastal areas, bays, rivers, lakes, or other bodies of water that provide fish or waterfowl. Nesting most often occurs in tall trees or on cliffs near water. During the winter, eagles choose roost sites within the proximity of food resources—typically, these locations will be associated with open water, though in some areas eagles use habitat with little or no open water if other food resources (such as carrion) are available. This species prefers to roost in conifers or other sheltered sites in the winter. No evidence of this species was observed during the field inspections of the proposed project areas.

The southwestern portion of the proposed COF 658 powerline falls within the San Juan No.1 Bald Eagle ACEC buffer zone. This ACEC is discussed in Section 3.8, Areas of Critical Environmental Concern.

Golden Eagle (*Aquila chrysaetos*)
The golden eagle nests on steep cliffs, typically greater than 30 meters in height, although shorter cliffs (greater than 10 meters) are infrequently used. Nesting cliffs are normally directly adjacent to foraging habitat of desert grasslands or desertscrub, with only sparse shrubs if present, that provides prey of cottontail and jackrabbits. Nests are usually placed in the middle to upper parts of cliffs in

sheltered ledges, potholes, or small caves that provide protection from the elements. No rock ledges suitable for nesting were observed within or immediately surrounding the project area. No golden eagles or nests were observed during the field inspections of the proposed project areas.

Prairie Falcon (*Falco mexicanus*)
The prairie falcon inhabits dry grasslands and prairies of western North America, feeding on medium-sized mammals and birds. Nesting habitat usually contains cliffs or ledges. The open shrublands within and surrounding the proposed project area provides potential foraging habitat. However, no prairie falcon nests are known within the vicinity. No evidence of this species was observed during the field inspections of the proposed project areas.

3.16 Visual Resources

The BLM has developed a Visual Resource Management (VRM) classification designed to maintain or enhance visual qualities and describe the different degrees of modification to the landscape. Both proposed project locations are within VRM Class II, which is "…managed to retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape" (BLM 2003a).

3.17 Noise

Increases in the level of sound (noise) generated from the production and pipeline transportation of oil and gas has occurred in the San Juan Basin over the last several years. These increases are generated primarily from the escalating need to use equipment such as compressors and pumping units, which operate on a continual basis. The increase in noise affects natural resource values and management of a number of agency SDAs, ACECs, research natural areas (RNAs), etc. A portion of the proposed COF 658 powerline is located in the San Juan No. 1 Bald Eagle ACEC buffer zone. Both proposed projects are located within Rosa Mesa Wildlife Area SDA.

3.18 Paleontology

The BLM uses the Potential Fossil Yield Classification (PFYC) system to identify areas with a high potential to produce significant fossil resources (IM 2008-009). This system has ranked all lands within the BLM-FFO management area as a Class 5 designation. Class 5 designations are described as being Very High Potential paleontological resource areas, thus requiring an assessment at the project level (IM 2008-011). The proposed project areas are located within the paleontological-rich area of the San Juan Basin of northern New Mexico.

The proposed projects would be assessed individually based on the BLM's PFYC system, known paleontological locality information, existing reports, and data for the area. If preliminary analysis indicates that the proposed projects fall within a Paleontology SDA or have a high probability of impacting paleontological resources, additional surveys, reporting, and stipulations would be required.

The San Jose Formation, found within the proposed project areas, is not known to contain any paleontological resources. No fossils are known to occur within or proximate to the proposed project areas.

4.0 Environmental Consequences

Alternative A - No Action Alternative

Under the No Action Alternative, the proposed powerline extensions would not be constructed. The No Action Alternative would result in the continuation of the current land and resource uses in the project area. This alternative would result in no effects to the resources within the proposed project areas or potential impacts from the proposed actions.

Alternative B - Proposed Action

Under Alternative B (the proposed actions), all proposed actions listed, including site-specific mitigation measures, would occur. For a complete description of the proposed actions see Section 2.2, Alternative B – Proposed Action.

Effects or impacts can either be long term (permanent or residual) or short term (incidental or temporary). Short-term impacts affect the environment for only a limited period of time; the environment reverts to pre-action conditions (usually within one (1) to three (3) years). Long-term effects are substantial and permanent alterations to the pre-existing environmental condition; the effects last longer than three (3) years.

Disturbance resulting from the construction of the proposed powerline extensions consists primarily of vehicles temporarily driving on vegetation. Less than .01 acre of long-term surface disturbance is expected to result from the direct installation of poles and anchors. Following construction of the two (2) powerline extensions, a permanent, 25-foot-wide ROW would remain for occasional maintenance activities. This permanent ROW would experience periodic short-term disturbance.

TABLE 4.0 SUMMARY OF SURFACE DISTURBANCE

PROPOSED PROJECT AREA	Acreage of Disturbance – Long-Term	Acreage of Potential Disturbance – Short-Term (Construction Phase Only)	Acreage of Potentioal Disturbance – Short-Term (Periodic Maintenance Only)
COF 658 to NEBU No. 466A	<0.01	2.12	1.06
COF 679 to NEBU No. 417A	<0.01	2.10	0.93
TOTALS	**<.01**	**4.22**	**1.99**

Potential disturbance resulting from the proposed action has been divided into three categories:

High As defined in CEQ guidelines (40 CFR 1500-1508), effects that are substantial in severity and therefore should receive the greatest attention in decision-making.

Moderate Effects that cause a degree of change that is easy to detect, but do not meet the criteria for significant impacts.

Low Effects that cannot be easily detected and that cause little change in the existing environment.

4.1 Air Resources

4.1.1 Direct and Indirect Effects

Air Quality

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

Climate

No impacts to the climate are anticipated as a result of this project.

4.1.2 Mitigation

The FFO has been a participant of the Four Corners Air Quality Task Force (FCAQTF) since its inception back in 2002 when it was known as the Four Corners Ozone Task Force. Because of the unanswered questions raised by these modeling efforts, the FCAQTF has continued to look at air quality issues in the Four Corners region. The FCAQTF is comprised of a broad base of representatives including federal, state, Indian, and local governments, as well as industry, interest groups, and concerned community members. The FCAQTF has several working groups, which worked on the development of a mitigation options report (completed December 2007), to serve as a resource and guide to the regulatory agencies. The responsible agencies may use the report as the basis for developing air quality management plans for the region. This may include developing new and revising existing regulations, supporting new legislation, developing new outreach and information programs, and developing and/or expanding voluntary programs for emission reductions.

The BLM's regulatory jurisdiction over authorized activities on federal lands has resulted in the development of "Best Management Practices" (BMPs) designed to reduce impacts to air quality. Typical measures may include: require that vapor recovery systems be maintained and functional in areas where petroleum liquids are stored; revegetate areas of disturbed land, and water dirt roads during periods of high use in order to reduce fugitive dust emission. The significant threshold for particulate matter of 35 ug/m^3 daily PM2.5 NAAQS is not expected to be exceeded under the proposed action alternative.

4.2 Surface and Groundwater Quality and Quantity

4.2.1 Direct and Indirect Effects

The proposed projects may temporarily affect surface hydrology. Disruption of area soils would occur at the location of pole and anchor installation and throughout the ROW from vehicle travel. The quality and quantity of this surface sedimentation increase would be dependent upon wind and water events in relation to soil disturbance. Short-term impacts to the surface hydrology quality and quantity would be low. With rapid implementation of mitigation measures, long-term impacts to water quality and quantity would be low.

Under the No Action Alternative, the current rates of erosion would continue.

4.2.2 Mitigation

Best Management Practices (BMPs) implemented during the construction and operation of the proposed projects would minimize the impacts of soil erosion on and from the sites.

4.3 Environmental Justice/Socio-Economics

4.3.1 Direct and Indirect Effects

In the region around the proposed project areas, statistically significant populations include Native Americans, Hispanics, and white Euro-Americans. Some members of these populations are within financially low-income groups. FEUS may employ some of these individuals during construction activity. This employment would result in an economic benefit to the local and regional community. Otherwise, the proposed project would not disrupt or impact any of these communities or groups. A low short-term effect to socio-economics is anticipated. The long-term effect to socio-economics is expected to be low. No direct or indirect impacts to environmental justice issues are anticipated under the proposed action.

Under the No Action Alternative, there would be no change in current socioeconomic levels or impacts to environmental justice issues within the proposed project area.

4.3.2 Mitigation

No disproportionate negative effects to these communities or groups are anticipated; therefore, no mitigation measures are proposed at this time.

4.4 Cultural Resources

4.4.1 Direct and Indirect Effects

No direct effects to known cultural resources are anticipated from the proposed, new powerline extensions.

A beneficial impact to cultural resources from the proposed action is the added information and knowledge provided by the site-specific survey and inventory.

After thorough review, the BLM has determined that the proposed action, with mitigation, would have no significant impact to any cultural resources (BLM Reports 2008(III)028F and 2009(II)022F).

Under the No Action Alternative, there would be no additional impacts to cultural resources because there would be no additional surface disturbance and no increase in vehicle and construction activities.

4.4.2 Mitigation

Project mitigation measures are designed as part of the proposed action in order to avoid adverse impacts to protected resources, including cultural resources. In some cases this may include COAs such as protective fencing or site monitoring during construction.

Under the proposed action (Alternative B), if any new sites were encountered during construction, all work in the immediate vicinity would stop and the BLM-FFO archaeologist would be notified immediately.

4.5 Native American Religious Concerns

4.5.1 Direct and Indirect Effects

The proposed action is not known to physically threaten the integrity of 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 threats to remains that fall within the purview of NAGPRA or ARPA. Although none have been identified, any heretofore unidentified effect of the proposed action to Native American Religious concerns is expected to be negligible in both the short and long term.

Under the No Action alternative, there would be no additional impacts to Native American Religious concerns.

4.5.2 Mitigation

No mitigation measures have been recommended for the proposed project under Alternative B (proposed action).

4.6 Federally Listed Threatened or Endangered Species

4.6.1 Direct and Indirect Effects

No federally listed species were observed during the field surveys of the proposed project areas. As required under Section 7 of the Endangered Species Act of 1973, the BLM-FFO submitted a Biological Assessment (BA) to the U.S. FWS in association with the FFO 2003 Draft RMP/Draft EIS. This assessment described the potential impacts on threatened and endangered species, as a result of management actions presented in the FFO Draft RMP/Draft EIS. In a letter dated October 2, 2002, the letter of concurrence (Consultation No. 2-22-01-389) from the USFWS states:

> "The U.S. Fish and Wildlife Service (Service) concurs with the BLM's determination in the BA of "may affect, not likely to adversely affect" Knowlton cactus, Mesa Verde cactus, Mancos milkvetch, Colorado pikeminnow and its critical habitat, razorback sucker, bald eagle, mountain plover, Mexican spotted owl and its critical habitat, and the southwestern willow flycatcher."

Under Alternative B (the proposed actions), no further consultation with the Service would be required.

Under the No Action alternative, there would be no direct or indirect effects to listed species.

4.6.2 Mitigation

Construction activities would be confined to the proposed ROWs and TUAs to avoid potential impacts to threatened, endangered, and sensitive species possibly

occurring outside the areas surveyed during the biological surveys. Should any Threatened, Endangered, or sensitive species be identified during the construction and operation of the proposed project, the appropriate BLM-FFO Realty Specialist or Wildlife Biologist would be contacted immediately.

The proposed power line would be constructed in accordance with the standards outlined in Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006, Avian Power Line Interaction Committee, 2006. FEUS would assume the burden and expense of proving that pole designs not shown in the referenced publication are safe for use by avian species. The BLM reserves the right to require modifications or additions to all powerline structures placed in the ROW, should they be necessary, to protect avian species, including any Threatened, Endangered, or sensitive species.

4.7 Invasive, Non-Native Species

4.7.1 Direct and Indirect Effects

Under the proposed actions, indirect effects of increased human traffic in the area, especially any interstate traffic, may result in establishment of invasive/noxious weeds. Invasive/noxious plants generally outcompete native species where bare ground is created. Given successful mitigation measures, effects from invasive, non-native species are expected to be low for both the short and long term for the proposed project areas.

Under the No Action Alternative, there would be no direct or indirect effects to invasive species.

4.7.2 Mitigation

FEUS would be required to clean all construction equipment prior to entry into the proposed project areas to reduce the potential for invasive species introduction. It would be FEUS's responsibility to monitor, control, and eradicate all noxious/invasive weeds within the proposed project areas during the term of the ROW grant.

4.8 Areas of Critical Environmental Concern

4.8.1 Direct and Indirect Effects

The southwestern portion of the proposed COF 658 powerline extension falls within the San Juan No. 1 Bald Eagle ACEC buffer zone. With mitigation, short-term and long-term effects are anticipated to be low within the ACEC.

Under the No Action Alternative, there would be no direct or indirect effects to ACECs.

4.8.2 Mitigation

The following management prescriptions in the San Juan No. 1 Bald Eagle ACEC buffer zone are applicable to the proposed project:

- Existing oil and gas leases are managed under Controlled Surface Use constraints, including timing limitations from November 1 through March 31 in buffer areas.
- New oil and gas leases are managed under Controlled Surface Use constraints, including timing limitations from November 1 through March 31 in buffer areas.
- ROWs are permitted on a case-by-case basis with special management constaints and migitation in buffer areas.
- The Animas Units and Navajo Lake Units are designated as Class II VRM Areas.

4.9 Soils

4.9.1 Direct and Indirect Effects

Soils would be compacted along travel routes by vehicles. Soils that would be disturbed by pole installation would be structurally mixed, displaced, and exposed to the elements of wind and water erosion.

Once disturbed, soils can be subject to increased erosion, dependent upon storm events of water and/or wind. Disturbed areas would be susceptible to wind and water erosion until natural revegetation has been achieved. The heaviest amounts of sediment (silt-loading) would occur for the short term, primarily during construction activity. The heaviest amounts of wind and water erosion would be moderate for the short term as well. Following project completion, long-term effects to soils would be low. Some continual effects would occur when vehicles access the sites for routine maintenance and inspection. The proposed projects would result in the potential of 4.22 acres of short-term disturbance and less than 0.01 acre of long-term disturbance. However, the actual disturbance acreage would likely be substantially smaller than the maximum permitted.

Under the No Action Alternative, the current level of soil erosion would continue.

4.9.2 Mitigation

Following construction, vehicular activity would be restricted to the permanent powerline ROW. The utilization of BMPs prior to and during construction would lessen wind and water soil erosion impacts.

4.10 Watershed/Hydrology

4.10.1 Direct and Indirect Effects

Alternative B (the proposed actions) would affect the Navajo Reservoir Watershed and its hydrology, as discussed in Section 4.2.1 Surface and Groundwater Quality and Quantity - Direct and Indirect Effects. Under Alternative B (the proposed actions), with the implementation of mitigation measures described in Section 4.2.2 Surface and Groundwater Quality and

Quantity – Mitigation, impacts to the Watershed and its hydrology would be low for the short term and long term.

Under the No Action Alternative, the current rates of erosion would continue.

4.10.2 Mitigation

Mitigation measures described in Section 4.2.2 Surface and Groundwater Quality and Quantity – Mitigation would be applied to curtail impacts to the Watershed and its hydrology.

4.11 Vegetation/Forestry

4.11.1 Direct and Indirect Effects

The proposed projects (Alternative B) would result in the potential surface disturbance of 4.22 acres. However, actual disturbance acreage would likely be substantially smaller than the maximum permitted. Less than 0.01 acre of vegetation removal would result from direct power pole and anchor installation. Remaining surface disturbance, mainly trampling and crushing of vegetation, would result from vehicle travel and wire stringing during construction and subsequent maintenance within the ROW. Disturbed vegetation within the two (2) proposed project areas would consist mainly of shrub and grassland species; no trees are expected to be removed or damaged during construction or maintenance activities. The effect on vegetation is expected to be low for both the short and long term under the proposed action.

Under the No Action Alternative, the existing vegetative community would continue to exist.

4.11.2 Mitigation

Power poles would be placed to eliminate the need for tree removal within the proposed project areas. Following construction, vehicle travel would be restricted to the 25-foot-wide permanent ROW. FEUS would adhere to any stipulations regarding control and eradication of noxious and invasive weeds.

4.12 Wildlife

4.12.1 Direct and Indirect Effects

Effects of development on terrestrial flora and fauna can result from dust, noise, increased human activity due to greater road access, and habitat fragmentation (BLM 2003b). Some wildlife species react positively to vegetation changes, soil loss, increased traffic and/or human intrusions; some react negatively; and some show no reaction at all. Species would continue to inhabit the area or conversely move out of the area, and populations may increase or decrease depending on the available adjacent forage and habitat present.

The proposed actions are located in the Rosa Mesa Wildlife Area SDA and the Mule Deer Winter Concentration area. The proposed actions would remove less than .01 acre of habitat within these areas. Light truck traffic would continue at approximately the present level following construction of the powerline extensions. There are no published studies of effects of development on deer or elk in the San Juan Basin. However, the proposed powerline configuration

would not alter the terrain or vegetation significantly and therefore would not be expected to alter the movement of big game species. Wildlife species may be temporarily dislocated by noise and activity during the construction phase of the proposed project. Some burrowing species (mainly rodents) may be killed or their burrows destroyed during construction.

With implementation of proposed mitigation measures, direct and indirect wildlife effects are anticipated to be low for both the short term and long term under the proposed actions.

Under the No Action Alternative, there would be no change in wildlife resources.

4.12.2 Mitigation

Project activities would be confined to the proposed permanent ROW and TUAs during construction, and confined to the proposed permanent ROW during operation, to avoid further disruption to wildlife species and their associated habitats. The proposed project would be constructed in accordance with Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006, as referenced in 4.6.2 above.

The proposed project is located within the Rosa Mesa Wildlife Area SDA, north of Frances Canyon Wash and south of Cabresto and Bancos Canyons. The management goal of Rosa Mesa Wildlife Area SDA is "to preserve and protect local wildlife and their habitat" (BLM 2003b). Management prescriptions related to ROW development in this SDA include the following:

- For new and current oil and gas leases, seasonal timing limitations exist on drilling and construction from December 1 through March 31 in the area north of Frances Canyon Wash and south of Cabresto/Bancos Canyons.
- New oil and gas leases are managed under Controlled Surface Use constraints.
- Leasable and salable minerals are managed under Controlled Surface Use constraints.
- Right-of-ways are allowed on a case-by-case basis with special management constraints and mitigation.
- Visual Resource Management Class II and IV designations are implemented.
- Key browse species are managed to meet the needs of wintering deer. This includes big sagebrush, antelope bitterbrush, and mountain mahogany.

The proposed project areas are also within the "Mule Deer Winter Concentration" area identified in the Navajo Reservoir Resource Management Plan, Final Environmental Assessment, and Finding Of No Significant Impact (Navajo Reservoir RMP/FEA, FONSI 2008). The following management prescriptions in this area are applicable to the proposed project:

- No construction, surface disturbing, drilling, completion, reclamation, or revegetation activities shall be conducted between December 1 and March 31 within elk and deer winter range.
- The operator/holder shall schedule regular facility maintenance outside of any crucial wildlife use periods.

4.13 Migratory Birds

4.13.1 Direct and Indirect Effects

Based on information available from the North American Breeding Bird Survey routes, it appears that the likelihood of more than one (1) migratory bird nest in the 4.22 acres of potential new disturbance is low. No old nests left from the previous breeding season or other evidence of these species were detected during the biological surveys. The <.01 acres of projected habitat removal is negligible when compared to the total amount of available habitat.

With implementation of proposed mitigation measures, direct and indirect wildlife effects are anticipated to be low for both the short term and long term under the proposed actions.

Under the No Action Alternative, there would be no change in migratory bird resources.

4.13.2 Mitigation

Project activities would be confined to the proposed permanent ROW and TUAs during construction, and confined to the proposed permanent ROW during operation, to avoid further disruption to migratory bird species and their associated habitats. The proposed project would be constructed in accordance with Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006, as referenced in 4.6.2 above.

4.14 Range

4.14.1 Direct and Indirect Effects

One grazing allotment with two authorizations is associated with the two (2) proposed project areas under Alternative B. Under the proposed action, new surface disturbance would result in a total loss of less than .01 acre of grazing area. Given implementation of mitigation measures, effects to rangeland and grazing livestock are anticipated to be negligible for both the short and long term under the proposed action.

Under the No Action Alternative, there would be no change in range resources.

4.14.2 Mitigation

All hazards to livestock and wildlife would be fenced or contained as necessary. FEUS would be required to maintain all existing fencing and gates in the project areas to prevent livestock from entering the project site. All project activities would be confined to the permitted areas only. No livestock improvements would be effected.

4.15 Special Management Species

4.15.1 Direct and Indirect Effects

Peregrine falcons, prairie falcons, bald eagles, and golden eagles are located within the BLM-FFO administrative area, and could potentially utilize the proposed project areas for foraging. The southwestern portion of the COF 658 to the Devon NEBU No. 466A well falls within the San Juan No. 1 Bald Eagle ACEC buffer zone. Prey from the immediate area may be displaced during construction due to impacts from the proposed actions (changes in habitat composition and a temporary increased human intrusion into the area with associated increased noise, dust, and vehicles). No BLM-FFO SMS were observed during the field surveys of the proposed project areas.

Under the No Action Alternative, there would be no change to any SMS.

4.15.2 Mitigation

As discussed in Section 4.8, Areas of Critical Environmental Concern, the following management prescriptions in the buffer zone of the San Juan No. 1 Bald Eagle ACEC are applicable to the proposed project:

- Existing oil and gas leases are managed under Controlled Surface Use constraints, including timing limitations from November 1 through March 31 in buffer areas.
- New oil and gas leases are managed under Controlled Surface Use constraints, including timing limitations from November 1 through March 31 in buffer areas.
- ROWs are permitted on a case-by-case basis with special management constaints and migitation in buffer areas.
- The Animas Units and Navajo Lake Units are designated as Class II VRM Areas.

Additional mitigation measures may be required. If any BLM-FFO SMS or their habitats were encountered during proposed action activities, all activity would cease and the BLM-FFO would be immediately contacted.

4.16 Visual Resources

4.16.1 Direct and Indirect Effects

The proposed project would result in temporary visual scars on the landscape, and a permanent change in the visual character of the areas. During construction, vehicles and construction equipment would be highly visible. Long term, the powerlines would represent a visual impact for the length of each of the extension segments. The proposed projects include the installation of nine (9) power poles, approximately 40 to 45 feet high each, and 3473.90 feet of electric powerline. However, the area of the proposed actions is already visually disturbed by other powerline extensions, utility ROWs, well pads, and access roads.

The proposed projects would meet VRM Class II objectives. Given implementation of FFO-BLM standard and site-specific visual resource mitigation measures, effects from the proposed project are anticipated to be moderate for the short and long term.

Under the No Action Alternative, there would be no change to the visual resources of the area.

4.16.2 Mitigation

For all locations, rapid construction would decrease the period of greatest visual impact. All VRM requirements would be implemented and achieved by the proposed action.

4.17 Noise

4.17.1 Direct and Indirect Effects

During construction of the proposed project, there would be short-term increases in project area ambient noise levels. Operation of heavy equipment during construction would generate the most noise. It is anticipated that the short-term noise increase in the proposed project areas from traffic on existing roads and construction of the powerline would be low relative to current ambient noise levels. It is anticipated that the long-term effects from noise would be low.

Under the No Action Alternative, the current noise levels would remain unchanged.

4.17.2 Mitigation

Heavy equipment would be required to maintain engine mufflers during construction. Otherwise, no specific mitigation measures are proposed to minimize impacts from noise during construction.

4.18 Paleontology

4.18.1 Direct and Indirect Effects

Although no paleontological resources are known to occur within the proposed project areas, impacts to paleontological resources from the proposed projects' implementation could possibly occur. Direct impacts from the proposed projects to fossil localities could result from ground-disturbing activities or the disturbance of the stratigraphic context in which they are located. The projects could also create indirect impacts to areas by changing erosion patterns. Additionally, there could be an increase in off-road vehicular access from the project areas for recreational activities. An increase in human activity in the area could increase the possibility of unauthorized removal or other alterations to paleontological resources in the area. Potential impacts to paleontological resources as a result of the proposed actions would be low and long term.

Under the No Action Alternative, paleontological resources would be unaffected.

4.18.2 Mitigation

All BLM-FFO paleontological resources stipulations will be followed. These stipulations may include, but are not limited to, temporary or permanent fencing or other physical barriers, monitoring of earth-disturbing construction, project area reduction, and/or specific construction avoidance zones, and employee education. Upon review, a determination for final project clearance and stipulations shall be issued by the BLM-FFO.

If previously undocumented paleontological sites are encountered during construction, all activities shall stop in the vicinity of the discovery and the BLM-FFO will be immediately notified. The site will then be evaluated. Mitigation measures, such as data recovery, may be required by the BLM-FFO to prevent impacts to newly identified paleontological resources.

4.19 Residual Effects

The effects of the proposed actions (Alternative B) that remain after mitigation are residual impacts. Residual impacts of the proposed projects include the permanent change in land use by powerline extension segments. Visual impacts of the powerlines would remain for the duration of their existence, especially in areas of extreme topography.

The proposed projects could result in the long-term disturbance of less than 0.01 acre and the potential short-term disturbance of 4.22 acres. However, actual disturbance is anticipated to be much less than this.

Under the No Action Alternative, there would be no residual effects.

4.20 Cumulative Effects

The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts of the proposed project. However, potential impacts to natural resources and plant and animal species due to climate change are likely to be varied, including those in the southwestern United States. For example, if global climate change results in a warmer and drier climate, increased particulate matter impacts could occur due to increased windblown dust from drier and less stable soils. Cool season plant species' spatial ranges are predicted to move north and to higher elevations, and extinction of endemic threatened/endangered plants may be accelerated.

The foremost past, present and potential future human activity resulting in environmental disturbance in the Navajo Reservoir sub-watershed is oil and gas development. Other human activities within the sub-watershed include big game hunting, general public recreation, and livestock grazing operations. Impacts from these activities on the Navajo Reservoir sub-watershed environment are categorized as low, for the present and future (long-term).

The short-term potential surface disturbance of 4.22 acres or less is expected to reclaim quickly and naturally. Long-term disturbance from this project, estimated at less than 0.01 acre, would add to the existing and future disturbance of the region by less than 0.01%. This additional impact can be considered low for the long-term cumulative impact to the watersheds.

The short-term use of the proposed project areas for the proposed actions is not expected to adversely impact or limit the long-term productivity of the land, or of nearby lands. There is no irreversible or irretrievable commitment of surface or subsurface resources that would occur from the proposed action.

5.0 Consultation/Coordination

The following agencies and individuals contributed to the preparation of this document:

John Kendall – BLM-FFO
Mary Jo Albin – BLM-FFO
Marcy Romero – BLM-FFO
Dale Smith – Farmington Electric Utility System
Steven Dye, Meredith Matthews, and Donna Colton – San Juan College Cultural Resources Management Program

Nelson Consulting, Inc. has prepared this environmental assessment document to the standards and guidelines set by the BLM-FFO. Selected sections and information within this document were specifically written by the Farmington Field Office, Bureau of Land Management. This document is property of the Farmington Field Office, Bureau of Land Management.

6.0 References

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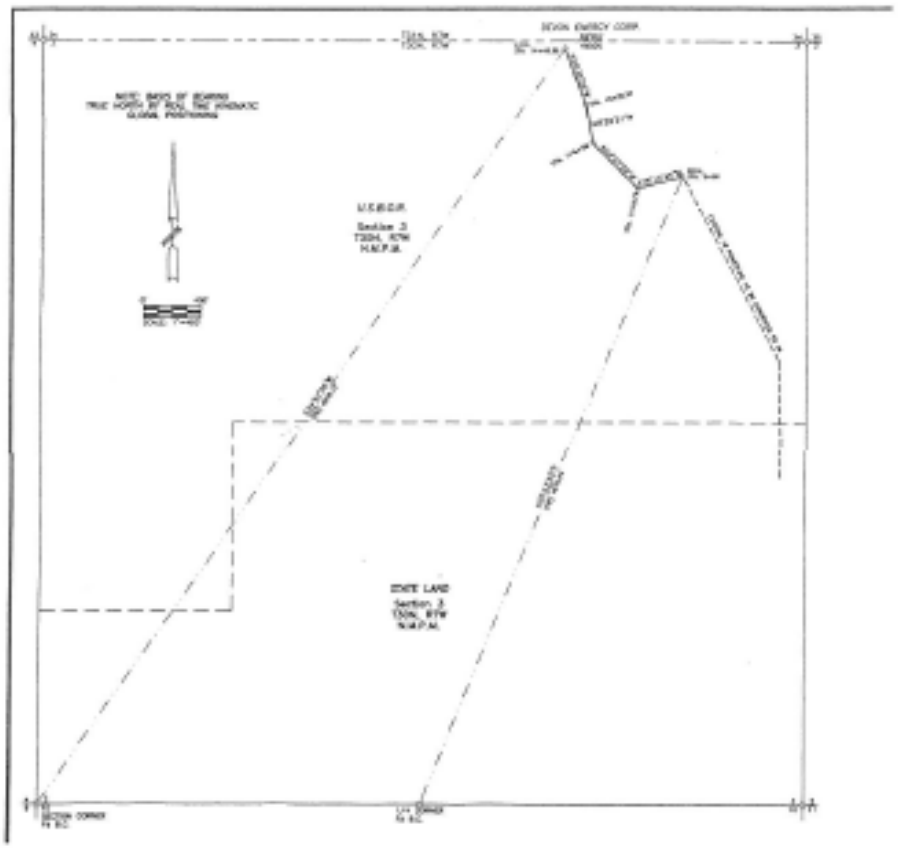
APPENDIX A

PLATS

COF 658



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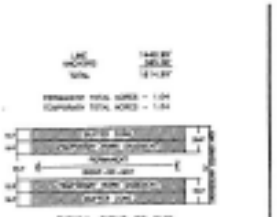
11/1/07

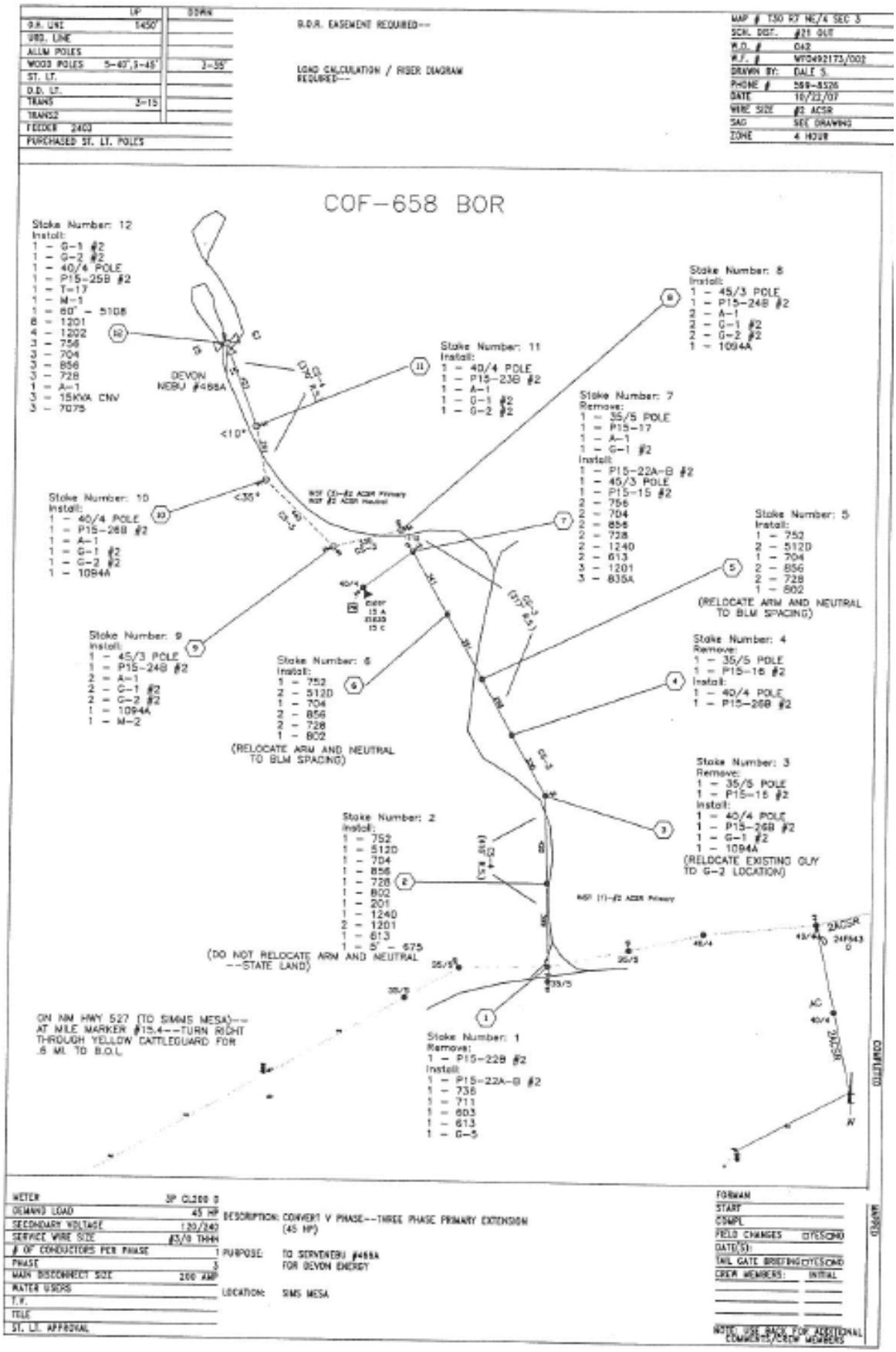


FARMINGTON ELECTRIC
UTILITY SYSTEM
City of Farmington, New Mexico

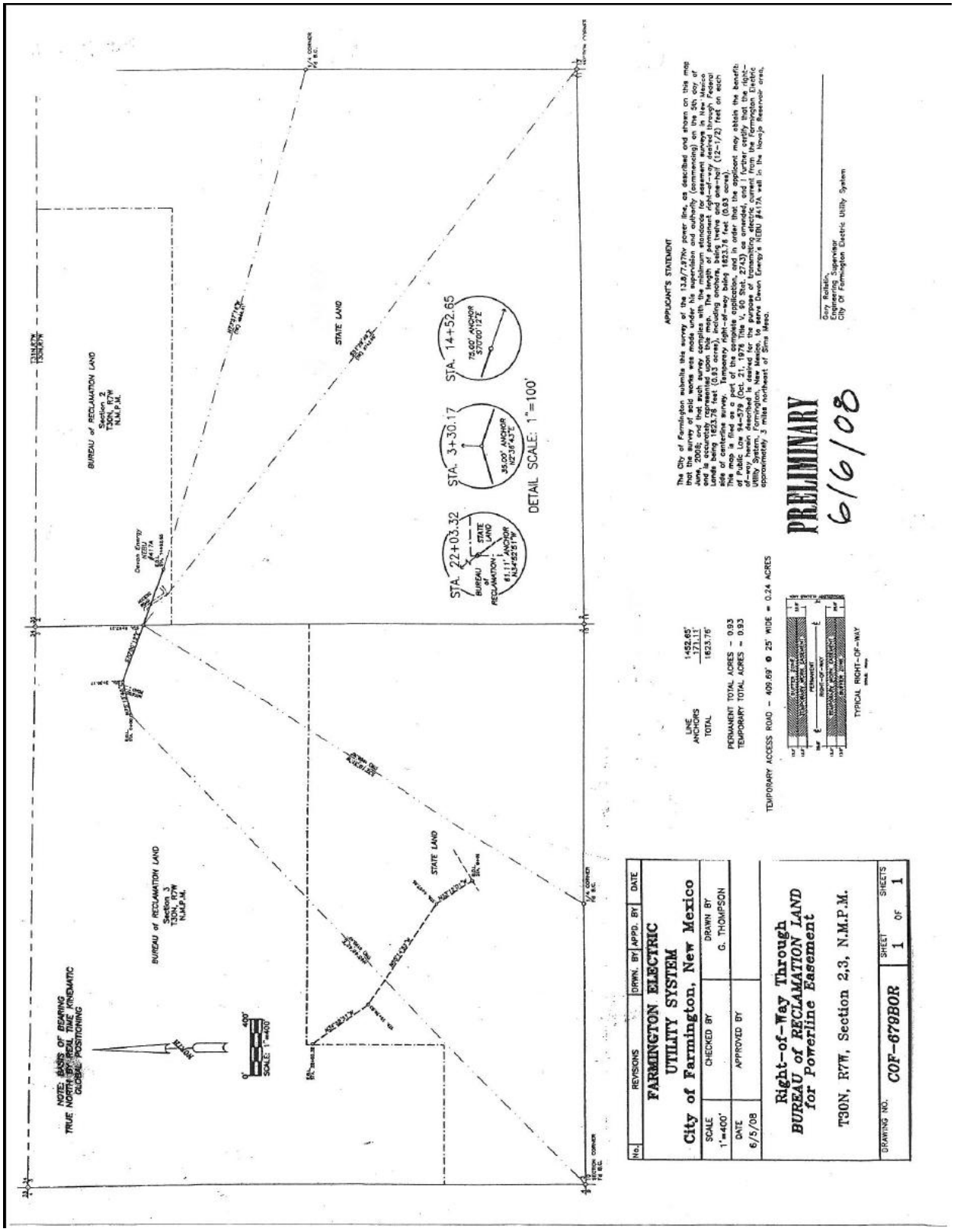
Right-of-Way Through
FEDERAL LAND
for Powerline Easement

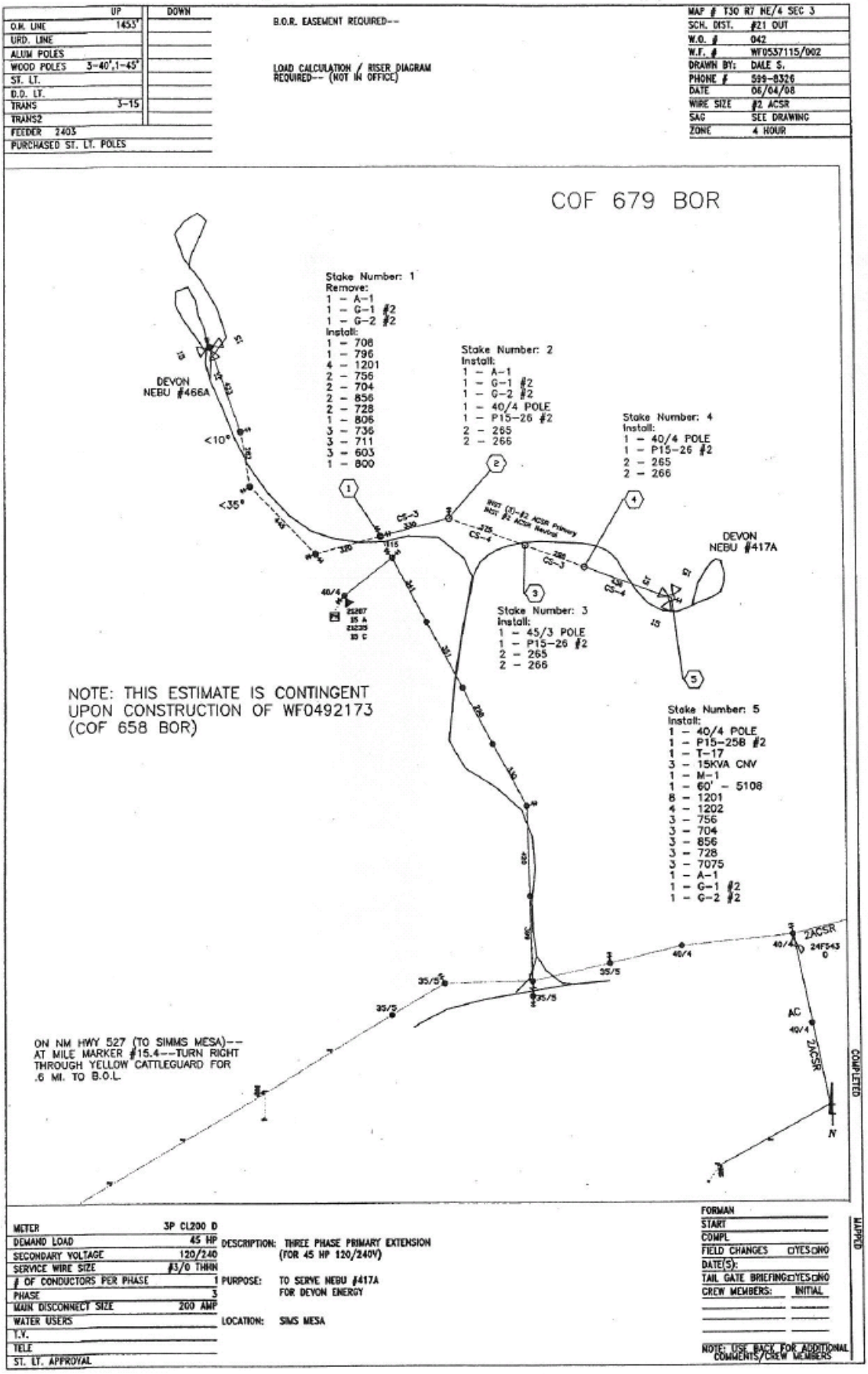
T30N, R7W, Section 3, N.M.P.M.

COF-658SOR


COF-658 BOR
Stake Number: 12
Install:
1 - G-1 #2
1 - G-2 #2
1 - 40/4 POLE
1 - P15-25B #2
1 - T-17
1 - M-1
1 - 60' - 5108
6 - 1201
4 - 1202
3 - 756
3 - 704
3 - 856
3 - 728
1 - A-1
3 - 15KVA CNV
3 - 7075
DEVON NEBU #468A
Stake Number: 11
Install:
1 - 40/4 POLE
1 - P15-23B #2
1 - A-1
1 - G-1 #2
1 - G-2 #2
Stake Number: 8
Install:
1 - 45/3 POLE
1 - P15-24B #2
2 - A-1
2 - G-1 #2
2 - G-2 #2
1 - 1094A
Stake Number: 7
Remove:
1 - 35/5 POLE
1 - P15-17
1 - A-1
1 - G-1 #2
Install:
1 - P15-22A-B #2
1 - 45/3 POLE
1 - P15-15 #2
2 - 756
2 - 704
2 - 856
2 - 728
2 - 1240
2 - 613
3 - 1201
3 - 835A
Stake Number: 10
Install:
1 - 40/4 POLE
1 - P15-26B #2
1 - A-1
1 - G-1 #2
1 - G-2 #2
1 - 1094A
Stake Number: 5
Install:
1 - 752
2 - 512D
1 - 704
2 - 856
2 - 728
1 - 802
(RELOCATE ARM AND NEUTRAL TO BLM SPACING)
Stake Number: 9
Install:
1 - 45/3 POLE
1 - P15-24B #2
2 - A-1
2 - G-1 #2
2 - G-2 #2
1 - 1094A
1 - M-2
Stake Number: 6
Install:
1 - 752
2 - 512D
1 - 704
2 - 856
2 - 728
1 - 802
(RELOCATE ARM AND NEUTRAL TO BLM SPACING)
Stake Number: 4
Remove:
1 - 35/5 POLE
1 - P15-16 #2
Install:
1 - 40/4 POLE
1 - P15-26B #2
Stake Number: 3
Remove:
1 - 35/5 POLE
1 - P15-16 #2
Install:
1 - 40/4 POLE
1 - P15-26B #2
1 - G-1 #2
1 - 1094A
(RELOCATE EXISTING GUY TO G-2 LOCATION)
Stake Number: 2
Install:
1 - 752
1 - 512D
1 - 704
1 - 856
1 - 728
1 - 802
1 - 201
1 - 1240
2 - 1201
1 - 613
1 - 5' - 675
(DO NOT RELOCATE ARM AND NEUTRAL --STATE LAND)
Stake Number: 1
Remove:
1 - P15-22B #2
Install:
1 - P15-22A-B #2
1 - 736
1 - 711
1 - 603
1 - 613
1 - G-5
ON NM HWY 527 (TO SIMMS MESA)-- AT MILE MARKER #15.4--TURN RIGHT THROUGH YELLOW CATTLEGUARD FOR .6 MI. TO B.O.L.
MAP # T30 R7 NE/4 SEC 3
SCH. DIST. #21 OUT
W.O. # 042
W.J. # WO2492173/002
DRAWN BY: DALE S.
PHONE # 599-8526
DATE 10/22/07
WIRE SIZE #2 ACSR
SAG SEE DRAWING
ZONE 4 HOUR
R.O.R. EASEMENT REQUIRED--
LOAD CALCULATION / RISER DIAGRAM REQUIRED---
METER 3P CL200 S
DEMAND LOAD 45 HP
SECONDARY VOLTAGE 120/240
SERVICE WIRE SIZE #3/0 THHN
OF CONDUCTORS PER PHASE 1
PHASE 3
MAIN DISCONNECT SIZE 200 AMP
WATER USERS
T.W.
TELE
ST. LT. APPROVAL
DESCRIPTION: CONVERT V PHASE--THREE PHASE PRIMARY EXTENSION (45 HP)
PURPOSE: TO SERVENEBU #468A FOR DEVON ENERGY
LOCATION: SIMS MESA
FOREMAN
START
COMPL
FIELD CHANGES
DATE(S):
TAIL GATE BRIEFING
CREW MEMBERS: INITIAL
NOTE: USE BACK FOR ADDITIONAL COMMENTS/CREW MEMBERS

COF 679


BUREAU of RECLAMATION LAND
Section 2
T30N, R7W
N.M.P.M.
STATE LAND
DETAIL SCALE: 1"=100'
STA. 22+03.32
STA. 3+30.17
STA. 14+52.65
APPLICANT'S STATEMENT
PRELIMINARY
6/6/08
Gary Rotelli,
Engineering Supervisor
City Of Farmington Electric Utility System
LINE ANCHORS 1452.65' 171.11'
TOTAL 1623.76'
PERMANENT TOTAL ACRES - 0.83
TEMPORARY TOTAL ACRES - 0.83
TEMPORARY ACCESS ROAD - 400.69' @ 25' WIDE = 0.24 ACRES
TYPICAL RIGHT-OF-WAY
NOTE: BASIS OF BEARING TRUE NORTH BASED ON REAL TIME KINEMATIC GLOBAL POSITIONING
SCALE: 1"=400'
FARMINGTON ELECTRIC UTILITY SYSTEM
City of Farmington, New Mexico
SCALE 1"=400'
DRAWN BY G. THOMPSON
DATE 6/5/08
Right-of-Way Through BUREAU of RECLAMATION LAND for Powerline Easement
T30N, R7W, Section 2,3, N.M.P.M.
DRAWING NO. COF-679BOR
SHEET 1 OF 1
SHEETS 1


COF 679 BOR
UP
O.H. LINE 1455'
URD. LINE
ALUM POLES
WOOD POLES 3-40',1-45'
ST. LT.
D.D. LT.
TRANS 3-15
TRANS2
FEEDER 2403
PURCHASED ST. LT. POLES
DOWN
B.O.R. EASEMENT REQUIRED--
LOAD CALCULATION / RISER DIAGRAM REQUIRED-- (NOT IN OFFICE)
MAP # T30 R7 NE/4 SEC 3
SCH. DIST. #21 OUT
W.O. # 042
W.F. # WF0537115/002
DRAWN BY: DALE S.
PHONE # 599-8326
DATE 06/04/08
WIRE SIZE #2 ACSR
SAG SEE DRAWING
ZONE 4 HOUR
Stake Number: 1
Remove:
1 - A-1
1 - G-1 #2
1 - G-2 #2
Install:
1 - 708
1 - 796
4 - 1201
2 - 756
2 - 704
2 - 856
2 - 728
1 - 808
3 - 736
3 - 711
3 - 603
1 - 800
Stake Number: 2
Install:
1 - A-1
1 - G-1 #2
1 - G-2 #2
1 - 40/4 POLE
1 - P15-26 #2
2 - 265
2 - 266
Stake Number: 4
Install:
1 - 40/4 POLE
1 - P15-26 #2
2 - 265
2 - 266
Stake Number: 3
Install:
1 - 45/3 POLE
1 - P15-26 #2
2 - 265
2 - 266
Stake Number: 5
Install:
1 - 40/4 POLE
1 - P15-258 #2
1 - T-17
3 - 15KVA CNV
1 - M-1
1 - 60' - 5108
8 - 1201
4 - 1202
3 - 756
3 - 704
3 - 856
3 - 728
3 - 7075
1 - A-1
1 - G-1 #2
1 - G-2 #2
DEVON NEBU #466A
DEVON NEBU #417A
NOTE: THIS ESTIMATE IS CONTINGENT UPON CONSTRUCTION OF WF0492173 (COF 658 BOR)
ON NM HWY 527 (TO SIMMS MESA)-- AT MILE MARKER #15.4--TURN RIGHT THROUGH YELLOW CATTLEGUARD FOR .6 MI. TO B.O.L.
METER 3P CL200 D
DEMAND LOAD 45 HP
SECONDARY VOLTAGE 120/240
SERVICE WIRE SIZE #3/0 THHN
OF CONDUCTORS PER PHASE 1
PHASE 3
MAIN DISCONNECT SIZE 200 AMP
WATER USERS
T.V.
TELE
ST. LT. APPROVAL
DESCRIPTION: THREE PHASE PRIMARY EXTENSION (FOR 45 HP 120/240V)
PURPOSE: TO SERVE NEBU #417A FOR DEVON ENERGY
LOCATION: SIMS MESA
FORMAN
START
COMPL
FIELD CHANGES ☐YES ☐NO
DATE(S):
TAIL GATE BRIEFING ☐YES ☐NO
CREW MEMBERS: INITIAL
NOTE: USE BACK FOR ADDITIONAL COMMENTS/CREW MEMBERS
COMPLETED
MARKED

APPENDIX B

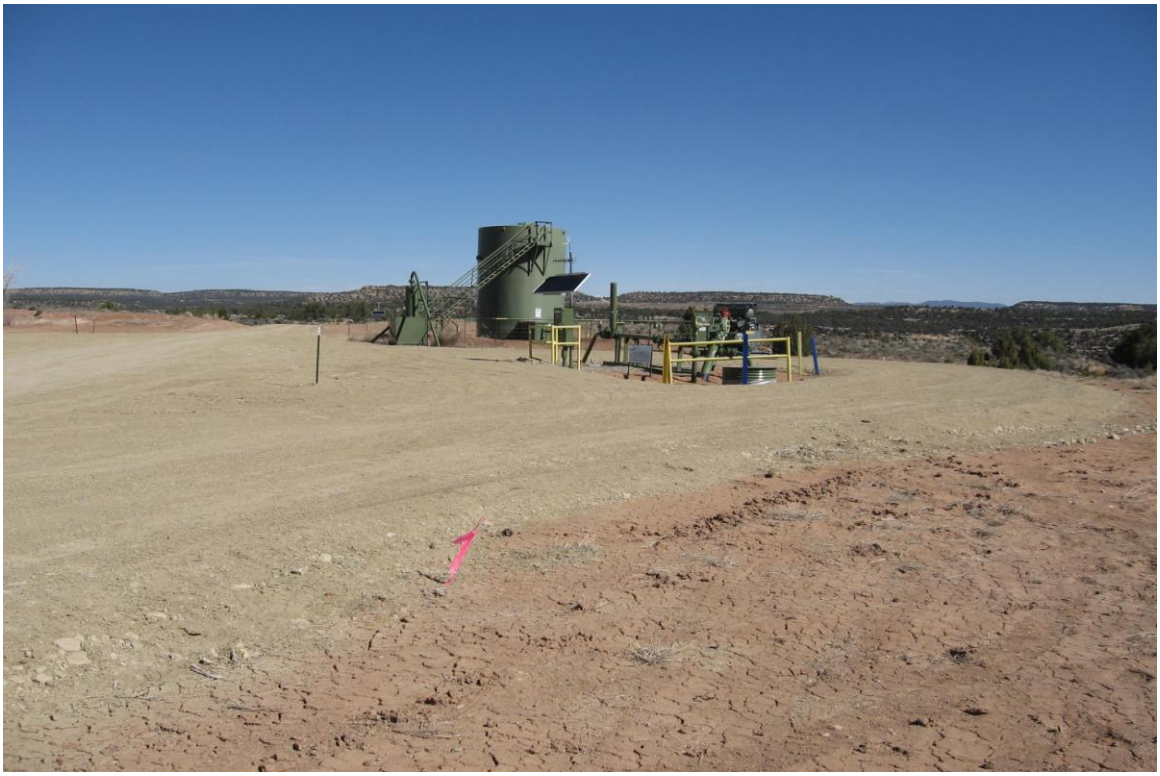
PHOTOGRAPHS OF THE PROPOSED PROJECT AREAS

COF 658

View from Pole No. 8 (start of new construction) southeast to Pole No. 7 (end of upgrade section)

View from Pole No. 9 east-northeast to Pole No. 8

View from Pole No. 12 (Devon NEBU No. 466A) south to Pole No. 11



View from Pole No. 12 north to Devon NEBU No. 466A

COF 679

View from Pole No. 1 (BOL) east-northeast to Pole No. 2

View from Pole No.2 east-southeast to Pole No.3

View from Pole No.3 northwest along access road crossing and southwest-flowing drainage to Pole No.2

View from Pole No.3 southeast up wooded ridge with large surface rock and deadfall, to Pole No.4

View of flagged, temporary access road to Pole No. 4; looking northwest across wooded ridge

View from Pole No. 5, looking west to Pole No. 4

APPENDIX C

BIOLOGICAL SPECIES REPORTS

(*Separate attachment for electric file only)*

APPENDIX D

SELECTED LAWS & REGULATIONS GOVERNING FEDERAL RIGHTS-OF-WAY

Selected Laws and Regulations Governing Federal Rights-of-Way

LAW/REGULATION	RESOURCE PROTECTED	AUTHORITY
Clean Air Act (CAA)	Air Quality, Air Emissions and Permits.	New Mexico Environment Department (NMED)
Clean Water Act (CWA) 1977, as amended. Section 404 Permits.	Surface waters of the U.S., crossing/diversion of ephemeral washes	U.S. Army Corps of Engineers
Federal Water Pollution Control Act and Section 404 of the CWA.	Discharges into surface waters from point sources	New Mexico Water Quality Control Commission (NMWQCC)
Storm Water Pollution Prevention Plan (SWPPP), Section 402 of the CWA	Construction projects disturbing greater than 5 acres. Minimize erosion	USEPA
Safe Drinking Water Act 1974, as amended.	Surface and ground water	U.S. Environmental Protection Agency (USEPA)
Colorado River Salinity Control Act 1974, amendment of 1984: Public Law 93-320	Mandated Control of Salinity Runoff into the Colorado River Basin	BLM
Federal Land Management and Policy Act (FLPMA) of 1976.	BLM unique areas, ACECs. Issuing of energy related ROWS. Wilderness Areas	BLM
Surface Mining Control and Reclamation Act (SMCRA) of 1977.	Prime and Unique Farm Lands.	Natural Resource Conservation Service (NRCS)
Executive Order 11988 as amended.	Floodplains	All Agencies
Executive Order 11990.	Wetlands/Riparian Zones	All Agencies
Wild and Scenic Rivers Act of 1968 as amended.	Wild and Scenic Rivers	All Agencies
National Historic Preservation Act of 1966 as amended. Antiquities Act of 1906.	Cultural resources	All Agencies
American Indian Religious Freedom Act 1978. Native American Graves Protection and Repatriation Act (NAGPRA) 1990.	Native American Religious Concerns	All Agencies
Endangered Species Act (ESA) 1973 as amended. (Section 7)	Threatened and Endangered plant and animal species	U. S. Fish and Wildlife Service (U.S. FWS)
Bald and Golden Eagle Protection Act	Protection of Eagles	
Migratory Bird Treaty Act	Protection to Migratory Birds, Nests and Eggs.	U.S. FWS
National and New Mexico BLM Instruction Memoranda	BLM and New Mexico State Sensitive Species and Habitat.	BLM
Resource Conservation and Recovery Act (RCRA) of 1976	Use of Hazardous Materials	USEPA
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 660 as amended.	Use and Disposal of listed Hazardous Materials.	USEPA
Executive Order No.22898, February 1994.	Environmental Justice for environmental and health conditions in minority and low-income communities.	All Agencies
Federal Noxious Weed Act 1974, as amended and Executive Order 13112.	Designated Certain Plants as Noxious Weeds.	All Agencies
New Mexico Noxious Weed List	Noxious weeds for the State of New Mexico.	New Mexico Department of Agriculture.
NMAC 19.15.17	Surface and Ground Water	New Mexico Energy, Minerals and Natural Resources Department
Mineral Leasing Act (MLA) 1929, as amended. Associated Onshore Orders; National, State and Local.	Issue and managed federal oil and gas leases and related transportation pipelines.	BLM